AIR EMISSION PERMIT NO. 12300012-004

IS ISSUED TO

Northern States Power Company d/b/a Xcel Energy

Xcel Energy - High Bridge Generating Plant
501 Shepard Road
St. Paul, Ramsey County, MN 55102

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	Issuance Date	Action Number
Total Facility Operating Permit - Reissuance	01/13/2003	See Below	PER 004
Major Amendment	01/24/2005		

This permit authorizes the permittee to operate and construct 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.

Permit Type: Federal; Part 70 Operating Permit Re-issuance w/NSR Construction Authorization
Issue Date: August 12, 2005
Expiration: August 12, 2010
Title I Conditions do not expire.

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

for Sheryl A. Corrigan
Commissioner
Minnesota Pollution Control Agency

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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:

This facility is a coal-fired steam electric power plant. The permit action is a combined part 70 reissuance and a PSD construction permit to replace the four existing coal-fired boilers with twin natural gas-fired combined cycle combustion turbine generators. This permit requires shutdown of the existing plant after completion of shakedown of the combustion turbines.

The activities authorized by this permit action are part of Xcel Energy's (Permittee) Metropolitan Emissions Reduction Project (MERP). Other facilities that are part of the MERP are the Permittee's A.S. King plant in Oak Park Heights, Minnesota, and Riverside Plant in Minneapolis, Minnesota.

The Permittee will construct a new electric generating facility to replace the existing coal-fired boiler facility. The new facility will be composed of twin combined cycle natural gas-fired combustion turbines with supplemental duct firing. The turbines will use dry low-NO_X combustors and selective catalytic reduction (SCR) with ammonia injection for NO_X control. The SCR will also reduce NO_X from the duct burners. The combustion turbines will 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 will be routed to a common steam turbine electric generator.

An auxiliary boiler and emergency fire pump diesel engine will also be installed. One of the existing emergency generators will be retained at the site to provide emergency power. Electric power will be 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 will be 665 megawatts.

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 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
A. CONSTRUCTION AUTHORIZATION	hdr
Replacement Of Existing Facility: This permit authorizes construction of a new facility to replace the existing electric power generating facility. The existing facility is composed of four coal-fired boilers and related support equipment. The new facility will be composed of twin natural gas-fired combined cycle combustion turbine generators with duct firing (EU 013/EU 014 and EU 015/EU 016, respectively), an auxiliary boiler (EU 017), and a diesel engine fire pump (EU 018). An existing emergency generator (EU 010) will be retained and become part of the new facility. Requirements pertaining to existing facility shutdown, overlapping operations of the existing and new facilities, and combustion turbine shakedown are located on page A-14 in TABLE A GP 005, and on page B-2 in TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS.	hdr
Combustion Turbine Shakedown: Combustion turbine shakedown is defined as the period of time commencing on the day prior to the date of the first of the two combustion turbines (EU 013 and EU 014) to go through initial startup and terminating on the date of the first of the two combustion turbines to engage in commercial dispatch or 180 days after the date of the first combustion turbine to go through initial startup, whichever is earlier. Commercial dispatch occurs when the Midwest Independent System Operator is notified that the combustion turbine is available for commercial electric power generation. A duplicate of this requirement is listed in GP 005 on page A-14.	Title I Condition: To avoid major modification as defined in 40 CFR 52.21(b)(2)(i) for PM, PM10, and NOx; Minn. R. 7007.3000
The authorization to commence construction of EU 013, EU 014, EU 015, EU 016, EU 017, EU 018, and associated control and support equipment expires 18 months after permit issuance. The Permittee must keep a record of the dates of installation and startup on-site. The Permittee may apply for an extension of the construction authorization deadline by following the Administrative Amendment provisions in Minn. R. 7007.1400.	40 CFR Section 52.21(r)(2)
Permitted Installation and Operation: This permit allows installation and operation of the Mitsubishi M501F (or equivalent) combustion turbine generator (CTG). For the purposes of this permit, 'equivalent' is any combustion turbine capable of firing only natural gas, with similar (approximately +/-5%) fuel-specific heat input capacity at a given ambient operating temperature and 60% relative humidity, and similar gross electric output. Equivalent turbines would include the Siemens-Westinghouse 501F and the General Electric MS7001F series.	Minn. R. 7007.0800, subp. 2
B. DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW	hdr
These requirements apply where there is a reasonable possibility that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test 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. 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.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following information: 1. A description of the project; 2. Identification of the emission unit(s) whose emissions of an NSR pollutant could be affected; 3. 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 potential emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the unit(s) 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. The Permittee shall maintain records of this documentation.	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. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if 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
The Permittee must submit a report to the Agency if the annual summed (actual plus potential, if applicable) 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: 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 potential emissions) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded. c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
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 1-3 under Preconstruction Documentation, above) to the Agency.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
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: a. The name and ID number of the facility, and the name and telephone number of the facility contact person b. The quantified annual emissions analyzed using the ATPA test, plus the potential emissions associated with the same project and analyzed using potential emissions c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection, if that is the case.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
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, if applicable) 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: 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 potential emissions) 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.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
C. OPERATIONAL REQUIREMENTS	hdr
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Operating Practices: Clean up all coal spilled on roads or access areas as soon as practicable using methods that minimize the amount of dust suspended. This requirement terminates after removal of all coal from the facility following shutdown of the existing facility.	Minn. R. 7011.1105 (I)
Access areas, roads, parking facilities: (1) Install asphalt or concrete surfaces or apply chemical agents on all active truck haul roads of the coal handling facility when the coal throughput by truck is 200,000 tons per year or greater. All paved roads and areas shall be cleaned to minimize the discharge to the atmosphere of fugitive particulate emissions. Such cleaning shall be accomplished in a manner which minimizes resuspension of particulate matter. Access areas surrounding coal stockpiles and parking facilities which are located within a coal handling facility shall be treated with water, oils, or chemical agents. This requirement terminates after removal of all coal from the facility following shutdown of the existing facility.	Minn. R. 7011.1105 (A)
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
Comply with Fugitive Emission Control Plan: The Permittee shall follow the actions and recordkeeping (if required) specified in the control plan. The plan may be amended by the Permittee with the Commissioner's approval. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the fugitive control plan, then the Permittee may be required to amend the control plan and/or to install and operate particulate matter ambient monitors as requested by the Commissioner. This requirement terminates after removal from the facility of all fugitive emission sources identified in the plan, following shutdown of the existing facility.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2
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
D. POLLUTION CONTROL EQUIPMENT REQUIREMENTS	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)
E. TESTING REQUIREMENTS	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. Note: the performance test report due 45 days after each performance test meets the EU 017 requirement for submittal of performance test results 60 days after each test required by 40 CFR Section 63.10(d)(2).	Minn. R. 7017.2030, subp. 1 - 4; Minn. R. 7017.2018, and Minn. R. 7017.2035, subp. 1 and 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

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. This requirement does not apply to EU 003, and EU 004. For operating limit requirements applicable to EU 003, and EU 004, see requirements pertaining to Short Term Emergency and Testing (STET) and Boiler Operating Conditions in EU 003, and EU 004. This exemption for EU 003 and EU 004 expires upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	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
F. MONITORING REQUIREMENTS	hdr
Monitoring Activities and Equipment: Where applicable, initiate monitoring activities and install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring activities are not performed or monitoring equipment is not installed and operational prior to permit issuance.	Minn. R. 7007.0800, subp. 4(D)
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)
G. 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)
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)
H. REPORTING	hdr
Notification: due 90 days after Permit Issuance. This notification shall specify the final combustion turbine selection and shall be made regardless if the Mitsubishi 501F combustion turbine is selected. The notification shall include the manufacturer and model number of the selected turbine, and appropriate documentation of the emission rates and emission stack parameters if the Mitsubishi 501F is not selected. (continued below)	Minn. R. 7007.0800, subp. 2
Notification: due 90 days after Permit Issuance. (continued from above) If the emission rate (in pounds per hour) of any pollutant will be greater than that determined by MPCA staff for the Mitsubishi 501F combustion turbine, or stack parameters will produce higher receptor or ambient concentrations than those predicted for the Mitsubishi 501F combustion turbine, the Permittee shall obtain a major amendment to this permit, and shall indicate in the notification the date by which an application for a major amendment will be submitted to revise this permit. Any necessary revisions shall meet the requirements of 40 CFR Sections 52.21(j) and (k). If a major amendment is required, the Permittee shall not commence operation of the combustion turbine generator until the major amendment is issued.	Minn. R. 7007.0800, subp. 2
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

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

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. Notification is not required for breakdown of electrostatic precipitator (ESP) sections in CE 001, CE 002, CE 003, CE 004, CE 005, CE 006, CE 007, and CE 008, if the number of remaining operating sections for each ESP is equal to or greater than the number of operating sections during the most recent performance test during which limits for particulate matter and opacity were met, and, the opacity measured by the COM on SV 001 does not exceed the opacity limit in EU 001, EU 002, EU 003, and EU 004. This exemption expires upon shutdown of the existing facility. 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 91 days after end of each calendar year following permit issuance (April 1). 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

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **GP 001 Emergency Generators**

Associated Items: EU 010 Emergency Diesel Generator #1

EU 011 Emergency Diesel Generator #2

What to do	Why to do it
See GP 005 for requirements related to shutdown of EU 011. These requirements become inapplicable to EU 011 upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
Operating Hours: less than or equal to 816 hours/year on a 12-month rolling sum basis as a total for GP 001. After removal of EU 011, this limit applies to EU 010 only.	Title I Condition: Previously permitted limit to avoid classification of past modification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 0.8 lbs/hour . This limit applies individually to each generator.	Minn. R. 7009.0020
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input . This limit applies individually to each generator.	Minn. R. 7011.2300, subp. 2
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained. This limit applies individually to each generator.	Minn. R. 7011.2300, subp. 1
Permitted Fuel: diesel fuel only.	Minn. R. 7007.0800, subp. 2
Recordkeeping: By the last day of each month, calculate and record the GP 001 operating hours for the previous month and the previous 12-month period.	Title I Condition: Recordkeeping to avoid classification of a past modification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5
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

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

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

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

SV 012 #8 Combustion Turbine & Duct Burners; CE 018 (SCR) & 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 Parts 72, 73, and 75. Each combustion turbine and 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 Parts 72, 73, and 75
A. LIMITS These limits apply individually to each stack and only when the combustion turbines are operating in normal mode. These limits do not apply during startup, shutdown, malfunction, and combustion turbine shakedown (as defined in Table A Subject Items Total Facility and GP 005). 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 using 30-day Rolling Average by volume at 15% oxygen and on a dry basis, with or without duct firing. 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
B. OPERATING RESTRICTIONS	hdr
Permitted Fuel: Pipeline natural gas only for the combustion turbines and duct burners.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

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. During the initial 11 months after completion of combustion turbine shakedown, the applicable cumulative limit shall be: Month SUSD Hours 1 300 2 500 3 600 4 700 5 800 6 900 7 1000 8 1100 9 1195 10 1288 11 1378	Title I Condition: 40 CFR Section 52.21(j) CO and VOC BACT Operating Limit; Minn. R. 7007.3000
Startup, Shutdown, and Malfunction: The terms "startup", "shutdown", and "malfunction" shall have the same meanings as defined in 40 CFR Section 60.2. 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%. On-line operations of less than 45 minutes duration are considered off-line for startup determination purposes.	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 is physically possible.	Minn. R. 7007.0800, subp. 2
C. MONITORING	hdr
Emissions Monitoring: The Permittee shall measure or calculate SO2, NOx, and CO2 emission rates for each affected unit in accordance with 40 CFR part 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 Part 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 part 75.	40 CFR Section 60.47a(c); 40 CFR Section 60.334(e); 40 CFR Section 75.10; Minn. R. 7007.0800, subp. 4; Minn. R. 7011.0560 and 7011.2350
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; Minn. R. 7011.0560 and 7011.2350
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 Part 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 (CEM) REQUIREMENTS CO CEM requirements apply individually to the CO CEM system on each stack. NOx CEM requirements apply individually to the NOx CEM system on each stack.	hdr
Installation Notification: due 60 days before installing any continuous emissions monitoring system.	Minn. R. 7017.1040, subp. 1
CO CEMS Certification Test: due within 90 days after the due-date of the first excess emissions report required for the CO CEMS. Follow the Performance Specifications listed in 40 CFR part 60, Appendix B.	Minn. R. 7017.1050, subp. 1
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 part 75, Appendix A.	40 CFR Section 75.4(b)
NOx and CO CEMS Certification Test Plans: due 45 days before the corresponding CEMS Certification Test.	40 CFR Section 75.62; 40 CFR Section 75.20; Minn. R. 7017.1060, subps. 1 & 2
NOx and CO CEMS Certification Test Pretest Meeting: due 7 days before the corresponding CEMS Certification Test.	Minn. R. 7017.1060, subp. 3
NOx and CO CEMS Certification Test Reports: due 45 days after the corresponding CEMS Certification Test.	40 CFR Section 75.63; Minn. R. 7017.1080, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

NOx and CO CEMS Certification Test Report - Microfiche Copy: due 105 days after the corresponding CEMS Certification Test. This report may be submitted in alternate format such as CD-ROM, as allowed by Minn. R. 7017.1120, subp. 2.	Minn. R. 7017.1080, subp. 3 and 7017.1120, subp. 2
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 part 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 part 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 CEM 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 part 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 part 60, Appendix B. 40 CFR part 60, Appendix F shall be used to determine out-of-control periods for the CO CEMS. Follow the procedures in 40 CFR part 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 part 75, Appendix B.	40 CFR part 75, Appendix B, section 2.2
NOx CEMS Linearity Test Results Summary: due 30 days after end of each calendar quarter following Linearity and Leak Check Test if performed.	Minn. R. 7017.1180, subp. 4
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 part 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 part 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
NOx and CO CEMS RATA Results Summary: due 30 days after end of each calendar quarter in which the corresponding CEMS RATA was conducted.	Minn. R. 7017.1180, subp. 3
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
CO CEMS CGA Results Summary: due 30 days after end of each calendar half-year following CGA.	Minn. R. 7017.1180, subp. 1
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
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

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

F. PERFORMANCE TESTING See Table A GP 003 and GP 004 for additional performance testing requirements for the combustion turbines and duct burners, respectively. See Table A page A-3 for additional requirements regarding performance test notifications and submittals.	hdr
Initial Performance Test: due 180 days after Initial Startup but no later than 60 days after achieving the maximum production rate, to measure NOx emissions from SV 011 and SV 012. Duct burners shall be operated during testing. Separate tests shall be conducted on each stack/vent.	Minn. R. 7017.2020, subp. 1
Initial Performance Test: due 180 days after Initial Startup of each combined cycle combustion turbine to measure VOC emissions as methane. Separate tests shall be conducted with and without duct firing.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **GP 003 Combustion Turbines**

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

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

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

What to do	Why to do it
The Following Requirements Apply Individually to Each Combustion Turbine	hdr
Nitrogen Oxides: less than or equal to the concentration determined according to the following equation on a 4-hour rolling average basis: STD = 0.0075*(14.4/Y) + F where: STD = allowable NOx emissions in percent by volume at 15% O2 on a dry basis Y = manufacturer's rated heat input at manufacturer's rated load in kilojoules/W-hr, not to exceed 14.4 kilojoules/W-hr F = NOx emission allowance for fuel-bound nitrogen (Permittee can elect to not take a fuel-bound nitrogen allowance and F is then equal to zero)	40 CFR Sections 60.332(a)(1) and 60.334(j)(1)(iii)(A); Minn. R. 7011.2350
Sulfur Dioxide: less than or equal to 150 parts per million by volume at 15% oxygen on a dry basis.	40 CFR Section 60.333(a); meets requirements of Minn. R. 7011.2300, subp. 2; Minn. R. 7011.2350
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
NOx Monitoring: The Permittee may use a CEM to measure NOx emissions according to 40 CFR Sections 60.334(e). (Note this requirement is met by the GP 002 requirement that the Permittee shall use a NOx CEMS to measure total NOx emissions from the combustion turbine and duct burner for each combined cycle stack/vent.)	40 CFR Sections 60.334(e); Minn. R. 7011.2350
Fuel Monitoring: The Permittee shall follow the applicable fuel sulfur and nitrogen content monitoring requirements in Section 60.334(h) and shall monitor at the frequency specified in 60.334(i).	40 CFR Sections 60.334(h) and (i); Minn. R. 7011.2350
Excess Emission Reports: The Permittee shall submit reports of excess emissions required by Section 60.334(j) with the EER required for SV 001 and SV 002 listed in Table B of this permit.	40 CFR Section 60.334(j); Minn. R. 7011.2350
Initial Performance Test: due 180 days after Initial Startup to measure NOx and SO2 from each combustion turbine as required by 40 CFR Section 60.335, unless the Permittee obtains approval from the Administrator to use alternate test methods according to Section 60.8(b).	40 CFR Sections 60.8(a) and 60.335; Minn. R. 7011.2350

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **GP 004 Duct Burners**

Associated Items: CE 017 SCR (Selective Catalytic Reduction)

CE 018 SCR (Selective Catalytic Reduction)

EU 015 Duct Burners #7

EU 016 Duct Burners #8

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

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

What to do	Why to do it
The Following Limits and Operating Requirements Apply Individually to Each Set of Duct Burners for Each Combustion Turbine Generator	hdr
Total Particulate Matter: less than or equal to 0.03 lbs/million Btu heat input except during startup, shutdown, or malfunction.	40 CFR Sections 60.42a(a)(1) and 60.46a(c); Minn. R. 7011.0560
Sulfur Dioxide: less than or equal to 0.20 lbs/million Btu heat input using 30-day Rolling Average except during startup, shutdown, or malfunction.	40 CFR Sections 60.43a(b)(2) and 60.46a(c); Minn. R. 7011.0560
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.	40 CFR Sections 60.42a(b); Minn. R. 7011.0560
Nitrogen Oxides: less than or equal to 1.6 lbs/megawatt-hour except during startup, shutdown, or malfunction. This limit is based on a 30-day rolling average except as provided under Section 60.46a(k)(1).	40 CFR Sections 60.44a(d)(1) and 60.46a(c); Minn. R. 7011.0560
Duct Burner Compliance and Monitoring Provisions: The Permittee shall follow the compliance provisions in 40 CFR Sections 60.46a(k)(1) or 60.46a(k)(2) to determine duct burner compliance with the NOx limit in Section 60.44a(d)(1). The Permittee shall also follow the additional requirements of 40 CFR Section 60.46a(k)(3) for determining duct burner compliance with the NOx limit in 40 CFR Section 60.44a(d)(1).	40 CFR Section 60.46a(k); Minn. R. 7011.0560
Initial Performance Test: due 180 days after Initial Startup to measure PM, NOx, SO2, and opacity from each set of duct burners, as required by 40 CFR Section 60.48a, unless the Permittee obtains approval from the Administrator to use alternate test methods according to Section 60.8(b).	40 CFR Sections 60.8(a) and 60.48a; Minn. R. 7011.0560
Reporting: Follow reporting requirements in Section 60.49a as applicable.	40 CFR Section 60.49a; Minn. R. 7011.0560

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **GP 005 Existing Facility Requirements During And After Combustion Turbine Shakedown**

Associated Items:

CE 001 Electrostatic Precipitator - High Efficiency

CE 002 Electrostatic Precipitator - High Efficiency

CE 003 Electrostatic Precipitator - High Efficiency

CE 004 Electrostatic Precipitator - High Efficiency

CE 005 Electrostatic Precipitator - High Efficiency

CE 006 Electrostatic Precipitator - High Efficiency

CE 007 Electrostatic Precipitator - High Efficiency

CE 008 Electrostatic Precipitator - High Efficiency

CE 009 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 010 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 011 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 012 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 013 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 014 Dust Suppression by Water Spray

CM 001 Boilers 3-6: 7439 lbs SO2/hr, SV001, 1-hr ave.

CM 002 Boilers 3-6: 1.95 lbs SO2/mmBtu, SV001, 1-hr ave.

CM 003 Boilers 3-6: 20% Opacity, SV001, 1-min ave.

DA 001 DAS for SV 001 Monitors

EU 001 Boiler 3

EU 002 Boiler 4

EU 003 Boiler 5

EU 004 Boiler 6

EU 005 Railcar Unloading

EU 006 #5 Feeder Area (Weightometer)

EU 007 Bunker Room Conveying

EU 008 Fly Ash Transfer System

EU 009 Fly Ash Silo

EU 011 Emergency Diesel Generator #2

FS 002 Coal Yard Traffic

FS 003 Coal Storage Pile - Erosion

FS 004 Scraper Building Hopper

FS 005 Coal Storage Pile - Placement

FS 006 Coal Storage Pile - Reclaim

FS 007 Coal Reclaim Hopper

FS 008 Ash Hauling Traffic - Industrial Paved

FS 010 Ash Hauling Traffic - Paved

MR 001 SV 001 SO2

MR 002 SV 001 SO2

MR 003 SV 001 NOx

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Associated Items: MR 004 SV 001 O2

MR 005 SV 001 Flow

MR 006 SV 001 Opacity

SV 001 Coal boiler common stack

SV 002 Railcar unload

SV 003 Railcar unload

SV 004 #5 feeder area (weightometer)

SV 005 bunker room conveying

SV 006 fly ash transfer system

SV 007 fly ash silo

SV 009 Emergency diesel generator #2

SV 010 Temporary Emergency Engine

What to do	Why to do it
Overlapping Operation of Existing and New Facilities: This permit authorizes limited overlapping operation of the existing and new facilities during the new facility combustion turbine shakedown. The existing facility is all associated items in GP 005. The new facility is EU 010, EU 013, EU 014, EU 015, EU 016, EU 017, EU 018, and all associated control equipment, stacks, and monitors.	hdr
Combustion Turbine Shakedown: Combustion turbine shakedown is defined as the period of time commencing on the day prior to the date of the first of the two combustion turbines (EU 013 and EU 014) to go through initial startup and terminating on the date of the first of the two combustion turbines to engage in commercial dispatch or 180 days after the date of the first combustion turbine to go through initial startup, whichever is earlier. Commercial dispatch occurs when the Midwest Independent System Operator is notified that the combustion turbine is available for commercial electric power generation.	Title I Condition: To avoid major modification as defined in 40 CFR 52.21(b)(2)(i) for PM, PM10, and NOx; Minn. R. 7007.3000
Total Heat Input - Existing Boilers During Combustion Turbine Shakedown: less than or equal to 6,470,000 million Btus. This limit becomes effective on the first day of combustion turbine shakedown.	Title I Condition: To avoid major modification as defined in 40 CFR 52.21(b)(2)(i) for PM, PM10, and NOx; Minn. R. 7007.3000
Total Heat Input Monitoring and Recordkeeping: Use part 75 Appendix F to calculate EU 001, EU 002, EU 003, and EU 004 heat input on an hourly basis using the continuous emission monitoring system during the combustion turbine shakedown period. By the last day of each month, the Permittee shall calculate the cumulative heat input for the previous month and the cumulative heat input for the combustion turbine shakedown period (shakedown starts with the initial startup of EU 013 or EU 014, whichever is earlier). This recordkeeping requirement expires on the last day of the month following the month that the last of the four boilers (EU 001, EU 002, EU 003, or EU 004) is shutdown/retired.	Title I Condition: Recordkeeping to avoid major modification as defined in 40 CFR 52.21(b)(2)(i) for PM, PM10, and NOx; Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5
Existing Facility Shutdown: The Permittee shall permanently shut down the existing facility (all GP 005 Associated Items) including the coal-fired boilers (EU 001, EU 002, EU 003, and EU 004), electrostatic precipitators, coal handling equipment, dust collectors, and coal yard activities on the day following the date of completion of combustion turbine shakedown. Upon existing facility shutdown, all requirements applicable to the existing facility become obsolete, except for this shutdown requirement.	Minn. R. 7007.0800, subp. 2
Retired Unit Exemption Requirements For EU 001, EU 002, EU 003, and EU 004: The Permittee shall comply with all requirements in 40 CFR Section 72.8.	40 CFR Section 72.8
Retired Unit Exemption Form: By December 31 of the first full calendar year during which each coal-fired boiler is permanently retired, submit a complete EPA Retired Unit Exemption form for each coal-fired boiler (EU 001, EU 002, EU 003, and EU 004) to the MPCA with a copy to the EPA .	40 CFR Section 72.8(b)(2)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **GP 006 Existing Facility Electrostatic Precipitators**

Associated Items: CE 001 Electrostatic Precipitator - High Efficiency

CE 002 Electrostatic Precipitator - High Efficiency

CE 003 Electrostatic Precipitator - High Efficiency

CE 004 Electrostatic Precipitator - High Efficiency

CE 005 Electrostatic Precipitator - High Efficiency

CE 006 Electrostatic Precipitator - High Efficiency

CE 007 Electrostatic Precipitator - High Efficiency

CE 008 Electrostatic Precipitator - High Efficiency

What to do	Why to do it
Requirements apply individually to each piece of control equipment. See GP 005 for requirements related to shutdown of CE 001 through CE 008. Each boiler is controlled by two electrostatic precipitators as follows: Emission Unit — Associated Control Equipment EU 001 (boiler 3) — CE 001 and CE 002 EU 002 (boiler 4) — CE 003 and CE 004 EU 003 (boiler 5) — CE 005 and CE 006 EU 004 (boiler 6) — CE 007 and CE 008 The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
Operate control equipment when the associated boiler is operating except while burning only natural gas.	Minn. R. 7007.0800, subp. 2
Each ESP must be operated with no less than the specific collection area (SCA) in service determined during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit. If the sections an the ESP are physically and electrically equivalent, the Permittee can meet this requirement by operating the ESP with no less than the number of sections that were operating during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit.	Minn. R. 7007.0800, subp. 14
Monitor and record the SCA, or the identity and minimum number of ESP sections if sections are equivalent, in service each day that each ESP is operating. Refer to the ESP diagram in the appendix of this permit for the SCA of each ESP field.	40 CFR Sections 64.6 and 64.9; Minn. R. 7007.0800, subp. 4 and 5
Upon detecting an exceedance of the opacity limit (listed in EU 001, EU 002, EU 003, and EU 004), or operation of any ESP with SCA that is less than the amount during the most-recent performance test when compliance was demonstrated for PM emissions, the Permittee follow the requirements of 40 CFR Section 64.7(d) to restore the ESP and/or boiler to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Refer to CAM requirements for the continuous opacity monitor on SV 001 in subject item SV 001 in Table A of this permit.	40 CFR Section 64.7(d)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **GP 007 Existing Facility Fugitive Emission Sources**

Associated Items: FS 002 Coal Yard Traffic

FS 003 Coal Storage Pile - Erosion

FS 004 Scraper Building Hopper

FS 005 Coal Storage Pile - Placement

FS 006 Coal Storage Pile - Reclaim

FS 007 Coal Reclaim Hopper

FS 008 Ash Hauling Traffic - Industrial Paved

FS 010 Ash Hauling Traffic - Paved

What to do	Why to do it
See GP 005 for requirements related to shutdown of these associated items in GP 007. The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
Control FS 002, FS 008, and FS 010 dust by watering, achieving at least 40% control efficiency.	Minn. R. 7009.0020
Control FS 003, FS 005, and FS 006 dust by watering, achieving at least 40% control efficiency. Stockpiles, Stockpile Construction, and Reclaiming: (1) Control fugitive particulate emissions by dust suppression methods on such operations so that fugitive particulate emissions are minimized. Total Particulate Matter: less than or equal to 0.02 grains/dry standard cubic foot.	Minn. R. 7011.1105(F) and Minn. R. 7009.0020
Coal Pile Area (FS 003): The total exposed surface area of all coal piles shall be less than or equal to 7.5 acres or 190,000 tons.	Minn. R. 7009.0020
Monitoring And Recordkeeping - Exposed Coal Pile Surface Area (FS 003): Once each month by the last day of the month the Permittee shall calculate and record the total exposed surface area of all coal piles.	Minn. R. 7007.0800, subp. 4 and 5
Control FS 004 fugitive dust emissions by 50% through the use of a partial enclosure and an additional 40% through use of water sprays. Coal Loading Stations (FS 004): Control fugitive particulate emissions from the loading of trucks or haulers by dust suppression methods so that emissions from such sources are minimized.	Minn R. 7009.0020 and meets the requirements of Minn. R. 7011.1105(B)
Control FS 007 fugitive dust emissions by 50% through the use of a partial enclosure. Coal Loading Stations: Control fugitive particulate emissions from the unloading of trucks or haulers by dust suppression methods so that emissions from such sources are minimized.	Minn. R. 7009.0020 and meets requirements of Minn. R. 7011.1105(F)

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **SV 001 Coal boiler common stack**

Associated Items: EU 001 Boiler 3

EU 002 Boiler 4

EU 003 Boiler 5

EU 004 Boiler 6

GP 005 Existing Facility Requirements During And After Combustion Turbine Shakedown

MR 001 SV 001 SO2

MR 002 SV 001 SO2

MR 003 SV 001 NOx

MR 004 SV 001 O2

MR 005 SV 001 Flow

MR 006 SV 001 Opacity

What to do	Why to do it
See GP 005 for requirements related to shutdown of this subject item. The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 7439 lbs/hour using 1-Hour Average	Minn. R. 7009.0020
Particulate Matter < 10 micron: less than or equal to 1526 lbs/hour	Minn. R. 7009.0020
B. MONITORING REQUIREMENTS	hdr
Emissions Monitoring: The owner or operator shall use a CEMS to measure SO2, NOx, and CO2 emissions and flow rate for each affected unit in accordance with 40 CFR Section 75.10.	40 CFR pt. 75
Emissions Monitoring: The owner or operator shall use a COMS to measure opacity emissions from SV 001.	40 CFR Sections 64.6 and 64.9; Minn. R. 7017.1000, subp. 1
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
Linearity and Leak Check Test (Acid Rain Program): due before end of each calendar quarter starting 07/20/1998 . Conduct a quarterly linearity test on CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B.	40 CFR pt. 75, Appendix B, Section 2.2
Linearity Test Results Summary: due 30 days after end of each calendar quarter following Linearity and Leak Check Test (Acid Rain Program) if performed.	Minn. R. 7017.1180, subp. 4
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year starting 07/20/1998 . Conduct a RATA 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 2.3
RATA Notification: due 30 days before CEMS RATA	Minn. R. 7017.1180, subp. 2
RATA Results Summary: due 30 days after end of each calendar quarter in which the CEMS RATA was conducted.	Minn. R. 7017.1180, subp. 3
CEMS QA/QC: The owner or operator of an affected facility shall operate, calibrate, and maintain each CEM according to the QA/QC procedure in 40 CFR pt. 75, Appendix B as amended.	40 CFR Section 75.21
COMS Continuous Operation: A COMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction. This requirement to operate the monitor applies whether or not a numerical emission limit applies during these periods. A COMS must not be bypassed except in emergencies where failure to bypass the COMS would endanger human health, safety, or plant equipment.	40 CFR Section 64.7; Minn. R. 7017.1090, subp. 1
COMS Daily Calibration Drift (CD) Check: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) opacity at least once daily. The COMS must be adjusted whenever the calibration drift (CD) exceeds twice the specifications of PS-1 of 40 CFR pt. 60, Appendix B. Daily CD Checks are required only during periods of operation.	40 CFR Section 64.7; Minn. R. 7017.1210, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

COMS Calibration Error Audit: due before end of each calendar half-year following Permit Issuance. Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart. Conduct audits in accordance with Minn. R. 7017.1210, subp. 3.	40 CFR Section 64.7; Minn. R. 7017.1210, subp. 3
COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar half-year following COMS Calibration Error Audit	40 CFR Section 64.9; Minn. R. 7017.1220
All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data for each successive 6-minute period.	40 CFR Section 64.7; Minn. R. 7017.1200, subp. 1, 2, and 3
C. RECORDKEEPING	hdr
Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support the information for a period of five (5) years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7017.1130
Recordkeeping: The owner or operator must retain records of all COMS monitoring data and support information for a period of five (5) years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	40 CFR Section 64.9(b); Minn. R. 7017.1130

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **EU 001 Boiler 3**

Associated Items: CE 001 Electrostatic Precipitator - High Efficiency

CE 002 Electrostatic Precipitator - High Efficiency

GP 005 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 001 Coal boiler common stack

What to do	Why to do it
See GP 005 for requirements related to shutdown of this subject item. The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 1.95 lbs/million Btu heat input using 1-Hour Average	Minn. R. 7009.0020; 40 CFR Section 50.6; meets requirements of Minn. R. 7011.0510, subp. 1
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1; meets requirements of Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity using 6-minute Average except that a maximum of 60 percent opacity shall be allowable for one six minute period in any 60-minute period.	Minn. R. 7011.0510, subp. 2
Comply with the applicable Acid Rain emissions limitation of sulfur dioxide.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
NOx Averaging Plan Beginning January 1, 2000 either: Maintain an annual average NOx emission rate of 0.60 lbs/MMBtu and limit the annual heat input to less than or equal to 1,771,500 MMBtu per year. OR Maintain a Btu-weighted annual average emission rate in lbs/MMBtu, averaged over the units specified in the NOx averaging plan, that is less than or equal to the Btu-weighted annual average emission rate averaged over the same units had they each been operated during the same period of time in compliance with the applicable emission limitations in 40 CFR Sections 76.5, 76.6, or 76.7. Units covered in the plan are: Plant — Boiler ID# Allen S. King — 1 Black Dog — 1,3,4 High Bridge — 3,4,5,6 Minnesota Valley — 4 Riverside — 6,7,8 Sherburne County — 1,2,3	40 CFR Section 76.11
B. OPERATIONAL REQUIREMENTS	hdr
Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
Allowed fuel types: bituminous coal, subbituminous coal, distillate fuel oil, natural gas, used oil, non-hazardous spill clean-up materials, non-hazardous parts cleaning agents and non-hazardous boiler cleaning agents.	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for distillate fuel oil.	Minn. R. 7007.0800, subp 2; meets SO2 emission limit requirement in Minn. R. 7011.0510, subp. 1
Combust used oil in accordance with used oil regulations in Minn. R. ch. 7045. Limit used oil combustion to 5% of total fuel mass input on an hourly basis.	Minn. R. 7007.0800, subp. 2; Minn. R. ch. 7045
Boiler chemical cleaning waste limited to: 8.5 gpm per 100,000 lbs/hr steam flow, unless good combustion is demonstrated at a higher flow rate; cleaning waste shall be introduced into the boiler when the boiler is operating at a level of at least 75 percent of rated capacity; records of boiler cleaning agent incineration shall be kept on file, including dates, amounts, origin of material, cleaning agent boiler feed rate, and operating capacity of the boiler during incineration, including steam flow.	Minn. R. 7007.0800, subp. 2
C. TESTING REQUIREMENTS	hdr
Performance Test: due before 12/31/2005 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

D. RECORD KEEPING	hdr
Keep on site at the source each of the following documents for a period of five (5) years from the date the document was created: The certificate of representation, all emissions monitoring information, copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program, copies of all documents used to complete an acid rain permit application.	40 CFR Section 72.9(f)(l)
E. REPORTING	hdr
Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.	40 CFR Section 72.21
If the unit has excess emissions, the designated representative shall submit a proposed offset plan in accordance with 40 CFR Section 72.9(e).	40 CFR Section 72.9(e)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **EU 002 Boiler 4**

Associated Items: CE 003 Electrostatic Precipitator - High Efficiency

CE 004 Electrostatic Precipitator - High Efficiency

GP 005 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 001 Coal boiler common stack

What to do	Why to do it
See GP 005 for requirements related to shutdown of this subject item. The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 1.95 lbs/million Btu heat input using 1-Hour Average	Minn. R. 7009.0020; 40 CFR Section 50.6; meets requirements of Minn. R. 7011.0510, subp. 1
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1; meets requirements of Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity using 6-minute Average except that a maximum of 60 percent opacity shall be allowable for one six minute period in any 60-minute period.	Minn. R. 7011.0510, subp. 2
Comply with the applicable Acid Rain emissions limitation of sulfur dioxide.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
NOx Averaging Plan Beginning January 1, 2000 either: Maintain an annual average NOx emission rate of 0.60 lbs/MMBtu and limit the annual heat input to less than or equal to 1,771,500 MMBtu per year. OR Maintain a Btu-weighted annual average emission rate in lbs/MMBtu, averaged over the units specified in the NOx averaging plan, that is less than or equal to the Btu-weighted annual average emission rate averaged over the same units had they each been operated during the same period of time in compliance with the applicable emission limitations in 40 CFR Sections 76.5, 76.6, or 76.7. Units covered in the plan are: Plant — Boiler ID# Allen S. King — 1 Black Dog — 1,3,4 High Bridge — 3,4,5,6 Minnesota Valley — 4 Riverside — 6,7,8 Sherburne County — 1,2,3	40 CFR Section 76.11
B. OPERATIONAL REQUIREMENTS	hdr
Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
Allowed fuel types: bituminous coal, subbituminous coal, distillate fuel oil, natural gas, used oil, non-hazardous spill clean-up materials, non-hazardous parts cleaning agents and non-hazardous boiler cleaning agents.	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for distillate fuel oil.	Minn. R. 7007.0800, subp 2; meets SO2 emission limit requirement in Minn. R. 7011.0510, subp. 1
Combust used oil in accordance with used oil regulations in Minn. R. ch. 7045. Limit used oil combustion to 5% of total fuel mass input on an hourly basis.	Minn. R. 7007.0800, subp. 2; Minn. R. ch. 7045
Boiler chemical cleaning waste limited to: 8.5 gpm per 100,000 lbs/hr steam flow, unless good combustion is demonstrated at a higher flow rate; cleaning waste shall be introduced into the boiler when the boiler is operating at a level of at least 75 percent of rated capacity; records of boiler cleaning agent incineration shall be kept on file, including dates, amounts, origin of material, cleaning agent boiler feed rate, and operating capacity of the boiler during incineration, including steam flow.	Minn. R. 7007.0800, subp. 2
C. TESTING REQUIREMENTS	hdr
Performance Test: due before 12/31/2005 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

D. RECORD KEEPING	hdr
Keep on site at the source each of the following documents for a period of five (5) years from the date of permit issuance: The certificate of representation, all emissions monitoring information, copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program, copies of all documents used to complete an acid rain permit application.	40 CFR Section 72.9(f)(l)
E. REPORTING	hdr
Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.	40 CFR Section 72.21
If the unit has excess emissions, the designated representative shall submit a proposed offset plan in accordance with 40 CFR Section 72.9(e).	40 CFR Section 72.9(e)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **EU 003 Boiler 5**

Associated Items: CE 005 Electrostatic Precipitator - High Efficiency

CE 006 Electrostatic Precipitator - High Efficiency

GP 005 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 001 Coal boiler common stack

What to do	Why to do it
See GP 005 for requirements related to shutdown of this subject item. The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 1.95 lbs/million Btu heat input using 1-Hour Average	Minn. R. 7009.0020; 40 CFR Section 50.6; meets requirements of Minn. R. 7011.0510, subp. 1
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1; meets requirements of Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity using 6-minute Average except that a maximum of 60 percent opacity shall be allowable for one six minute period in any 60-minute period.	Minn. R. 7011.0510, subp. 2
Comply with the applicable Acid Rain emissions limitation of sulfur dioxide.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
NOx Averaging Plan Beginning January 1, 2000 either: Maintain an annual average NOx emission rate of 0.60 lbs/MMBtu and limit the annual heat input to less than or equal to 5,037,000 MMBtu per year. OR Maintain a Btu-weighted annual average emission rate in lbs/MMBtu, averaged over the units specified in the NOx averaging plan, that is less than or equal to the Btu-weighted annual average emission rate averaged over the same units had they each been operated during the same period of time in compliance with the applicable emission limitations in 40 CFR Sections 76.5, 76.6, or 76.7. Units covered in the plan are: Plant — Boiler ID# Allen S. King — 1 Black Dog — 1,3,4 High Bridge — 3,4,5,6 Minnesota Valley — 4 Riverside — 6,7,8 Sherburne County — 1,2,3	40 CFR Section 76.11
B. OPERATIONAL REQUIREMENTS	hdr
Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
Allowed fuel types: bituminous coal, subbituminous coal, distillate fuel oil, natural gas, used oil, non-hazardous spill clean-up materials, non-hazardous parts cleaning agents and non-hazardous boiler cleaning agents.	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for distillate fuel oil.	Minn. R. 7007.0800, subp 2; meets SO2 emission limit requirement in Minn. R. 7011.0510, subp. 1
Combust used oil in accordance with used oil regulations in Minn. R. ch. 7045. Limit used oil combustion to 5% of total fuel mass input on an hourly basis.	Minn. R. 7007.0800, subp. 2; Minn. R. ch. 7045
Boiler chemical cleaning waste limited to: 8.5 gpm per 100,000 lbs/hr steam flow, unless good combustion is demonstrated at a higher flow rate; cleaning waste shall be introduced into the boiler when the boiler is operating at a level of at least 75 percent of rated capacity; records of boiler cleaning agent incineration shall be kept on file, including dates, amounts, origin of material, cleaning agent boiler feed rate, and operating capacity of the boiler during incineration, including steam flow.	Minn. R. 7007.0800, subp. 2
C. TESTING REQUIREMENTS	hdr
Performance Test: due before 06/03/2008 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Boiler Alternative Operating Conditions for Performance Testing: Alternative Operating Conditions during testing are defined as 90 percent to 100 percent of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following: (1) If the results of the performance test are greater than 90 percent of any applicable emission limit for which emissions are measured, then the boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 90 percent of all applicable emission limits for which emissions are measured, boiler operation will be limited to 110 percent of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
STET (Short Term Emergency and Testing) Operating Hours Limit: The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Documentation of all STET operation shall be maintained. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, subp. 2
STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Conditions for Performance Testing: If performance test results measure emissions at 90 percent or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110 percent of the average operating rate achieved during that performance test. If performance test results measure emissions at greater than 90 percent of any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100 percent of the average operating rate achieved during that performance test. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
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
D. RECORD KEEPING	hdr
Keep on site at the source each of the following documents for a period of five (5) years from the date the document was created: The certificate of representation, all emissions monitoring information, copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program, copies of all documents used to complete an acid rain permit application.	40 CFR Section 72.9(f)(l)
E. REPORTING	hdr
Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.	40 CFR Section 72.21
If the unit has excess emissions, the designated representative shall submit a proposed offset plan in accordance with 40 CFR Section 72.9(e).	40 CFR Section 72.9(e)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **EU 004 Boiler 6**

Associated Items: CE 007 Electrostatic Precipitator - High Efficiency

CE 008 Electrostatic Precipitator - High Efficiency

GP 005 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 001 Coal boiler common stack

What to do	Why to do it
See GP 005 for requirements related to shutdown of this subject item. The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 1.95 lbs/million Btu heat input using 1-Hour Average	Minn. R. 7011.0510, subp. 1; meets requirements of Minn. R. 7009.0020 and 40 CFR Section 50.6
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1; meets requirements of Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity using 6-minute Average except that a maximum of 60 percent opacity shall be allowable for one six minute period in any 60-minute period.	Minn. R. 7011.0510, subp. 2
Comply with the applicable Acid Rain emissions limitation of sulfur dioxide.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
NOx Averaging Plan Beginning January 1, 2000 either: Maintain an annual average NOx emission rate of 0.60 lbs/MMBtu and limit the annual heat input to less than or equal to 10,313,000 MMBtu per year. OR Maintain a Btu-weighted annual average emission rate in lbs/MMBtu, averaged over the units specified in the NOx averaging plan, that is less than or equal to the Btu-weighted annual average emission rate averaged over the same units had they each been operated during the same period of time in compliance with the applicable emission limitations in 40 CFR Sections 76.5, 76.6, or 76.7. Units covered in the plan are: Plant — Boiler ID# Allen S. King — 1 Black Dog — 1,3,4 High Bridge — 3,4,5,6 Minnesota Valley — 4 Riverside — 6,7,8 Sherburne County — 1,2,3	40 CFR Section 76.11
B. OPERATIONAL LIMITS	hdr
Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
Allowed fuel types: bituminous coal, subbituminous coal, distillate fuel oil, natural gas, used oil, non-hazardous spill clean-up materials, non-hazardous parts cleaning agents and non-hazardous boiler cleaning agents.	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for distillate fuel oil.	Minn. R. 7007.0800, subp 2; meets SO2 emission limit requirement in Minn. R. 7011.0510, subp. 1
Combust used oil in accordance with used oil regulations in Minn. R. ch. 7045. Limit used oil combustion to 5% of total fuel mass input on an hourly basis.	Minn. R. 7007.0800, subp. 2; Minn. R. ch. 7045
Boiler chemical cleaning waste limited to: 8.5 gpm per 100,000 lbs/hr steam flow, unless good combustion is demonstrated at a higher flow rate; cleaning waste shall be introduced into the boiler when the boiler is operating at a level of at least 75 percent of rated capacity; records of boiler cleaning agent incineration shall be kept on file, including dates, amounts, origin of material, cleaning agent boiler feed rate, and operating capacity of the boiler during incineration, including steam flow.	Minn. R. 7007.0800, subp. 2
C. TESTING REQUIREMENTS	hdr
Performance Test: due before 06/03/2008 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Boiler Alternative Operating Conditions for Performance Testing: Alternative Operating Conditions during testing are defined as 90 percent to 100 percent of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following: (1) If the results of the performance test are greater than 90 percent of any applicable emission limit for which emissions are measured, then the boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 90 percent of all applicable emission limits for which emissions are measured, boiler operation will be limited to 110 percent of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
STET (Short Term Emergency and Testing) Operating Hours Limit: The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Documentation of all STET operation shall be maintained. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, subp. 2
STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Conditions for Performance Testing: If performance test results measure emissions at 90 percent or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110 percent of the average operating rate achieved during that performance test. If performance test results measure emissions at greater than 90 percent of any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100 percent of the average operating rate achieved during that performance test. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
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
D. RECORD KEEPING	hdr
Keep on site at the source each of the following documents for a period of five (5) years from the date the document was created: The certificate of representation, all emissions monitoring information, copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program, copies of all documents used to complete an acid rain permit application.	40 CFR Section 72.9(f)(l)
E. REPORTING	hdr
Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.	40 CFR Section 72.21
If the unit has excess emissions, the designated representative shall submit a proposed offset plan in accordance with 40 CFR Section 72.9(e).	40 CFR Section 72.9(e)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **EU 005 Railcar Unloading**

Associated Items: CE 009 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 005 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 002 Railcar unload

SV 003 Railcar unload

What to do	Why to do it
See GP 005 for requirements related to shutdown of this subject item. The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
Railcar Unloading: When the amount of coal unloaded by rail is 200,000 tons per year or greater, unload railcars only within a permanent building or structure. If exhaust gases from such building or structure exceed 20 percent opacity, then implement one of the following further controls: install an exhaust air system and control exhaust gases so that particulate matter emissions do not exceed 0.020 gr/dscf; or control exhaust gases using dust suppression methods so that particulate emissions do not exhibit Opacity: greater than or equal to 20 percent opacity	Minn. R. 7011.1105 (H)
Check for visible emissions (during daylight hours) from SV002 and SV003 (for CE009) once each calendar week during every week of operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5
Particulate Matter < 10 micron: less than or equal to 2.0 lbs/hour for each stack vent (SV 002 and SV 003).	Minn. R. 7009.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **EU 006 #5 Feeder Area (Weightometer)**

Associated Items: CE 010 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 005 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 004 #5 feeder area (weightometer)

What to do	Why to do it
See GP 005 for requirements related to shutdown of this subject item. The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
If exhaust gases from any enclosed coal handling facility exceed 20 percent opacity, then the owner or operator of such facility shall select and implement one of the following further controls: (1) install exhaust air system and control exhaust gases so that particulate emissions in such gases do not exceed 0.020 gr/dscf; (2) control exhaust gases using dust suppression methods so that particulate emissions do not exhibit greater than 20 percent opacity. Also note PM10 limit based on Minn. R. 7009.0020.	Minn. R. 7011.1105(G)
Particulate Matter < 10 micron: less than or equal to 1.8 lbs/hour	Minn. R. 7009.0020
Operating Hours: less than or equal to 12 hours/day	Minn. R. 7009.0020
Check for visible emissions (during daylight hours) from the control equipment (CE010) once each calendar week during every week of operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the operating start and stop times during every day of coal throughput operation.	Minn. R. 7007.0800, subp. 5
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **EU 007 Bunker Room Conveying**

Associated Items: CE 011 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 005 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 005 bunker room conveying

What to do	Why to do it
See GP 005 for requirements related to shutdown of this subject item. The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
If exhaust gases from any enclosed coal handling facility exceed 20 percent opacity, then the owner or operator of such facility shall select and implement one of the following further controls: (1) install exhaust air system and control exhaust gases so that particulate emissions in such gases do not exceed 0.020 gr/dscf; (2) control exhaust gases using dust suppression methods so that particulate emissions do not exhibit greater than 20 percent opacity. Also note PM10 limit based on Minn. R. 7009.0020.	Minn. R. 7011.1105 (G)
Particulate Matter < 10 micron: less than or equal to 2.7 lbs/hour	Minn. R. 7009.0020
Check for visible emissions (during daylight hours) from the control equipment (CE011) once each calendar week during every week of operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **EU 008 Fly Ash Transfer System**

Associated Items: CE 012 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 005 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 006 fly ash transfer system

What to do	Why to do it
See GP 005 for requirements related to shutdown of this subject item. The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
Particulate Matter < 10 micron: less than or equal to 0.02 grains/dry standard cubic foot and 0.4 lbs/hr.	Minn. R. 7009.0020 and meets requirement of Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Check for visible emissions (during daylight hours) from the control equipment (CE012) once each calendar week during every week of operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	40 CFR Section 64.9; Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **EU 009 Fly Ash Silo**

Associated Items: CE 013 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 005 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 007 fly ash silo

What to do	Why to do it
See GP 005 for requirements related to shutdown of this subject item. The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
Particulate Matter < 10 micron: less than or equal to 0.02 grains/dry standard cubic foot and 0.2 lbs/hr.	Minn. R. 7009.0020 and meets requirement of Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Check for visible emissions (during daylight hours) from the control equipment (CE012) once each calendar week during every week of operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Subject Item: **EU 012 Temporary Emergency Engine**

Associated Items: SV 010 Temporary Emergency Engine

What to do	Why to do it
See GP 005 for requirements related to shutdown of this subject item. The following requirements become obsolete upon shutdown of the existing facility as required in GP 005 of Table A of this permit.	hdr
Operating Hours: less than or equal to 7575 hours/year using 12-month Rolling Sum calculated monthly. During the first 11 months of operation, the cumulative operating hours are limited as follows: Month 1: 730 hours; Month 2: 1460 hours; Month 3: 2190 hours; Month 4: 2920 hours; Month 5: 3650 hours; Month 6: 4380 hours; Month 7: 5110 hours; Month 8: 5840 hours; Month 9: 6570 hours; Month 10: 7300 hours; Month 11: 7475 hours.	Title I Condition: Previously permitted limit to avoid classification of past modification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Capacity: less than or equal to 300 horsepower	Minn. R. 7007.0800, subp. 2
Particulate Matter < 10 micron: less than or equal to 0.66 lbs/hour	Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight	Minn. R. 7007.0800, subp. 2; meets requirements of Minn. R. 7011.2300, subp. 2
Calculate and record operating hours for each month and on a 12-month rolling sum basis. Complete the calculation and recording by the end of each month, for the previous month and for the previous 12-month period.	Title I Condition: Recordkeeping to avoid classification of a past modification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

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
Carbon Monoxide: less than or equal to 400 parts per million by volume on a dry basis at 3% oxygen, as measured by the average of 3 performance test runs. This standard applies at all times except during startup, shutdown, and malfunction.	40 CFR Sections 63.7500(a)(1) and 63.7505(a), and Table 1 of part 63, subpart DDDDD
Permitted Fuel: Pipeline natural gas only	Minn. R. 7007.0800, subp. 2
Startup, Shutdown, and Malfunction Plan (SSMP): Develop and implement a written SSMP according to the provisions in Section 63.6(e)(3), no later than the date of initial startup of EU 017.	40 CFR Section 63.7505(e)
B. MONITORING	hdr
Site-Specific Monitoring Plan: The Permittee shall develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of section 63.7505 for CO emissions.	40 CFR Section 63.7505(d)
C. RECORDKEEPING AND REPORTING	hdr
Fuel Usage Recordkeeping: Record and maintain records of the amounts fuel combusted on a monthly basis. These records may be in the form of fuel bills or meter readings.	40 CFR Section 60.13(i) and February 20, 1992, EPA memorandum to meet the requirements of 40 CFR Section 60.48c(g); Minn. R. 7011.0570
Immediate Startup, Shutdown, and Malfunction Report: Any time an action taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the SSMP and EU 017 exceeds an applicable emission limitation, the Permittee shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. Refer to 40 CFR Section 63.10(d)(5)(ii) for additional information regarding the requirements of this report.	40 CFR Section 63.10(d)(5)(ii)
D. PERFORMANCE TESTING See the 'Performance Test Notifications and Submittals' requirement in the Total Facility section of Table A of this permit for additional testing-related requirements.	hdr
Initial Performance Test: due 180 days after Initial Startup. Testing shall measure CO emissions according to Table 5 in part 63, subpart DDDDD.	Title I Condition: 40 CFR Section 52.21 BACT Limit; 40 CFR Sections 63.7(a)(2), 63.7510(g), and 63.7520
Performance Test: due before end of each calendar year following Initial Performance Test to measure CO emissions. Annual performance tests shall be conducted 10 to 12 months after the previous performance test	40 CFR Section 63.7515(a) and (e)

TABLE A: LIMITS AND OTHER REQUIREMENTS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

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. During the initial 11 months after EU 018 startup, the applicable limit shall be a cumulative 25 hours per month limit (i.e, EU 018 startup is during December 2007, limit through December 2007 is 25 hours, limit through January 2008 is 50 hours, etc.).	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 B: SUBMITTALS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

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.

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 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

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.

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Monitoring Plan	due 60 days before Initial Performance Test Evaluation of the CO continuous monitoring system required by 40 CFR Section 63.7505(d).	EU017
Notification of compliance status	due 60 days after Initial Performance Test for measuring CO emissions. The notification shall include all items described in Sections 63.7545(e)(1) through 63.7545(e)(9).	EU017
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup for each emissions unit. For EU 017, the notification shall also include the design heat input capacity and identification of the fuels to be combusted.	EU013, EU014, EU015, EU016, EU017
Notification of the Date Construction Began	due 30 days after Start Of Construction of each emissions unit.	EU013, EU014, EU015, EU016, EU017
Notification	due 15 days after Startup of turbine post-combustion turbine shakedown operation. This notification is due 15 days after commencing commercial dispatch of each combustion turbine, or 195 days after initial startup of each combustion turbine, whichever is earlier. This POST-COMBUSTION TURBINE SHAKEDOWN OPERATION NOTIFICATION is required for each combustion turbine. This notification shall also specify the existing coal-fired boiler facility shutdown date. (This is the shutdown required by the GP 005 'Existing Facility Shutdown' requirement in Table A of this permit.)	EU013, EU014
Notification	due 90 days after Permit Issuance. This notification shall specify the final combustion turbine selection and shall be made regardless if the Mitsubishi 501F combustion turbine is selected. The notification shall include the manufacturer and model number of the selected turbine, and appropriate documentation of the emission rates and stack parameters if the Mitsubishi 501F is not selected. For additional requirements for this notification, see the two-part Notification requirement on page A-4 in the "H. REPORTING" section of the Total Facility subject item in Table A of this permit.	Total Facility
Performance Test Notification (written)	due 30 days before Performance Test for measuring CO. If the Permittee is unable to conduct the performance test on the date specified in the notification due to unforeseeable circumstances beyond their control, the Permittee must notify the Administrator as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled.	EU017

TABLE B: RECURRENT SUBMITTALS

08/12/05

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

What to send	When to send	Portion of Facility Affected
Acid Rain Program Electronically Submitted Quarterly Report	due 30 days after end of each calendar quarter starting 01/01/96	SV001
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 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 the NOx CEMS and CO CEMS.	SV011, SV012
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 07/20/1998 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of exceedances of the limit for Opacity and SO2 including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	SV001
Compliance Status Report	due 30 days after end of each calendar half-year following Permit Issuance. This is the Compliance Report required by 40 CFR Section 63.7550. The report shall contain all appropriate requirements from sections 63.7550(c) and (d) and shall be submitted with the Total Facility Semiannual Deviations Report.	EU017
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 Report (Acid Rain Program)	due 60 days after end of each calendar year starting 07/20/1998 . The designated representative shall submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Section 72.90(b) and (c).	EU001
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year starting 07/20/1998 . The designated representative shall submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Section 72.90(b) and (c).	EU002
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year starting 07/20/1998 . The designated representative shall submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Section 72.90(b) and (c).	EU003
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year starting 07/20/1998 . The designated representative shall submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Section 72.90(b) and (c).	EU004

TABLE B: RECURRENT SUBMITTALS

Facility Name: Xcel Energy - High Bridge Generating

Permit Number: 12300012 - 004

Compliance Certification	due 30 days after end of each calendar year starting 07/20/1998 (for the previous calendar year). Submitt 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

Acid Rain Phase II NOx Compliance Plan

For more information, see instructions and refer to 40 CFR 76.9

This submission is: [X] **New** [ ] **Revised**

Step 1 **Indicate plant name, State, and ORIS code from NADB, if applicable**	High Bridge Plant Name	MN State	1912 ORIS Code

Step 2 Identify each affected Group 1 and Group 2 boiler using the boiler ID# from NADB, if applicable. Indicate boiler type: "CB" for cell burner, "CY" for cyclone, "DBW" for dry botton wall-fired, "T" for tangetially fired, "V" for vertically fired, and "WB" for wet bottom. Indicate the compliance option selected for each unit

	ID# 3	ID# 4	ID# 5	ID# 6	ID#	ID#
	DBW Type	DBW Type	DBW Type	DBW Type	Type	Type
(a) Standard annual average emission limitation of 0.50 lb/mmBtu (for <u>Phase I</u> dry bottom wall-fired boilers)						
(b) Standard annual average emission limitation of 0.45 lb/mmBtu (for <u>Phase I</u> tangentially fired boilers)						
(c) EPA-approved early election plan under 40 CFR 76.8 through 12/31/07 (also indicate above emission limit specified in plan)						
(d) Standard annual average emission limitation of 0.46 lb/mmBtu (for <u>Phase II</u> dry bottom wall-fired boilers)						
(e) Standard annual average emission limitation of 0.40 lb/mmBtu (for <u>Phase II</u> tangentially fired boilers)						

(f) Standard annual average emission limitation of 0.68 lb/mmBtu (for cell burner boilers)						
(g) Standard annual average emission limitation of 0.86 lb/mmBtu (for cyclone boilers)						
(h) Standard annual average emission limitation of 0.80 lb/mmBtu (for vertically fired boilers)						
(i) Standard annual average emission limitation of 0.84 lb/mmBtu (for wet bottom boilers)						
(j) NOx Averaging Plan (include NOx Averaging form)	X	X	X	X		
(k) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(A) (check the standard emission limitation box above for most stringent limitation applicable to any unit utilizing stack						
(l) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(B) with NOx Averaging (check the NOx Averaging Plan box and include NOx Averaging form)	X	X	X	X		
(m) EPA-approved common stack apportionment method pursuant to 40 CFR 75.17 (a)(2)(i)(C), (a)(2)(iii)(B), or (b)(2)						
(n) AEL (include Phase II AEL Demonstration Period, Final AEL Petition, or AEL Renewal form as appropriate)						
(o) Petition for AEL demonstration period or final AEL under review by U.S. EPA or demonstration period ongoing						
(p) Repowering extension plan approved or under review						

Standard Requirements

General. This source is subject to the standard requirements in 40 CFR 72.9 (consistent with 40 CFR 76.8(e)(1)(i)). These requirements are listed in this source's Acid Rain Permit.

Special Provisions for Early Election Units

Nitrogen Oxides. A unit that is governed by an approved early election plan shall be subject to an emissions limitation for NO_x as provided under 40 CFR 76.8(a)(2) except as provided under 40 CFR 76.8(e)(3)(iii).

Liability. The owners and operators of a unit governed by an approved early election plan shall be liable for any violation of the plan or 40 CFR 76.8 at that unit. The owners and operators shall be liable, beginning January 1, 2000, for fulfilling the obligations specified in 40 CFR Part 77.

Termination. An approved early election plan shall be in effect only until the earlier of January 1, 2008 or January 1 of the calendar year for which a termination of the plan takes effect. If the designated representative of the unit under an approved early election plan fails to demonstrate compliance with the applicable emissions limitation under 40 CFR 76.5 for any year during the period beginning January 1 of the first year the early election takes effect and ending December 31, 2007, the permitting authority will terminate the plan. The termination will take effect beginning January 1 of the year after the year for which there is a failure to demonstrate compliance, and the designated representative may not submit a new early election plan. The designated representative of the unit under an approved early election plan may terminate the plan any year prior to 2008 but may not submit a new early election plan. In order to terminate the plan, the designated representative must submit a notice under 40 CFR 72.40(d) by January 1 of the year for which the termination is to take effect. If an early election plan is terminated any year prior to 2000, the unit shall meet, beginning January 1, 2000, the applicable emissions limitation for NO_x for Phase II units with Group 1 boilers under 40 CFR 76.7. If an early election plan is terminated on or after 2000, the unit shall meet, beginning on the effective date of the termination, the applicable emissions limitation for NO_x for Phase II units with Group 1 boilers under 40 CFR 76.7.

Acid Rain Phase II NOx Averaging Plan

For more information, see instructions and refer to 40 CFR 76.11

This submission is: **New** ☐ ☒ **Revised**

Step 1

Identify the units participating in this averaging plan by plant name, State, and boiler ID# from NADB. In column (a), fill in each unit's applicable emission limitation from 40 CFR 76.5, 76.6, or 76.7. In column (b), assign an alternative contemporaneous annual emissions limitation in lb/mmBtu to each unit. In column (c), assign an annual heat input limitation in mmBtu to each unit. Continue to page 3 if necessary.

Plant Name	State	ID#	(a) Emission Limitation	(b) Alt. Contemp. Emission Limitation	(c) Annual Heat Input Limit	
Allen S. King	MN	1	0.86	1.05	34,000,000	
Black Dog	MN	1	0.40	0.81	2,094,000	
Black Dog	MN	3	0.46	0.81	5,685,000	
Black Dog	MN	4	0.46	0.81	11,036,000	
High Bridge	MN	3	0.50	0.60	1,771,500	
High Bridge	MN	4	0.50	0.60	1,771,500	
High Bridge	MN	5	0.50	0.60	5,037,000	
High Bridge	MN	6	0.50	0.60	10,313,000	
Minnesota Valley	MN	4	0.46	0.47	1,189,000	
Riverside	MN	6	0.46	0.85	4,324,500	
Riverside	MN	7	0.46	0.85	4,324,500	
Riverside	MN	8	0.86	0.82	10,821,000	
Sherburne County	MN	1	0.45	0.28	42,255,000	
Sherburne County	MN	2	0.45	0.28	42,255,000	
Sherburne County	MN	3	0.46	0.35	34,912,000	

Step 2

Use the formula to enter the Btu-weighted annual emission rate averaged over the units if they are operated in accordance with the proposed averaging plan and the Btu-weighted annual averge emission rate for the same units if they are operated in compliance with 40 CFR 76.5, 76.6, or 76.7. The former must be less than or equal to the latter.

Btu-weighted annual emission rate averaged over the units if they are operated in accordance with the proposed averaging plan	Btu-weighted annual average emission rate for same units operated in compliance with 40 CFR 76.5, 76.6, or 76.7
0.54	0.54

$$\frac{\sum_{i=1}^{n} (R_{Li} \times HI_i)}{\sum_{i=1}^{n} HI_i} \leq \frac{\sum_{i=1}^{n} [R_{li} \times HI_i]}{\sum_{i=1}^{n} HI_i}$$

Where,

R_{Li} = Alternative contemporaneous annual emission limitation unit i, in lb/mmBtu, as specified in column (b) of Step 1:

R_{li} = Applicable emission limitation for unit i, in lb/mmBtu, as specified in column (a) of Step 1:

HI_i = Annual heat input for unit i, in mmBtu, as specified in column (c) of Step 1:

n = Number of units in the averaging plan

[X] This plan is effective for calendar year _2000_ through calendar year _2004_ unless notification to terminate the plan is given.

[ ] Treat this plan as [ ] identical plans, each effective for one calendar year for the following calendar years _____, _____, _____, _____, and _____ unless notification to terminate one or more of these plans is given.

Special Provisions

Emission Limitations

Each affected unit in an approved averaging plan is in compliance with the Acid Rain emission limitation for NO_x under the plan only if the following requirements are met:

(i) For each unit, the unit's actual annual average emission rate for the calendar year, in lb/mmBtu, is less than or equal to its alternative contemporaneous annual emission limitation in the averaging plan, and

(a) For each unit with an alternative contemporaneous emission limitation less stringent than the applicable emission limitation in 40 CFR 76.5, 76.6, or 76.7, the actual annual heat input for the calendar year does not exceed the annual heat input limit in the averaging plan,

(b) For each unit with an alternative contemporaneous emission limitation more stringent than the applicable emission limitation in 40 CFR 76.5, 76.6, or 76.7, the actual annual heat input for the calendar year is not less than the annual heat input limit in the averaging plan, or

(ii) If one or more of the units does not meet the requirements of (i), the designated representative shall demonstrate, in accordance with 40 CFR 76.11(d)(1)(ii)(A) and (B), that the actual Btu-weighted annual average emission rate for the units in the plan is less than or equal to the Btu-weighted annual average rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitations in 40 CFR 76.5, 76.6, or 76.7.

(iii) If there is a successful group showing of compliance under 40 CFR 76.11(d)(1)(ii)(A) and (B) for a calendar year, then all units in the averaging plan shall be deemed to be in compliance for that year with their alternative contemporaneous emission limitations and annual heat input limits under (i).

Liability

The owners and operators of a unit governed by an approved averaging plan shall be liable for any violation of the plan or this section at that unit or any other unit in the plan, including liability for fulfilling the obligations specified in part 77 of this chapter and sections 113 and 411 of the Act.

Termination

The designated representative may submit a notification to terminate an approved averaging plan, in accordance with 40 CFR 72.40(d), no later than October 1 of the calendar year for which the plan is to be terminated.

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

This submission is New ☐ Revised ☒

High Bridge	MN	1912
Plant Name	State	ORIS Code

Compliance Plan

a	b	c	d
Boiler ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)	New Units Commence Operation Date	New Units Monitor Certification Deadline
3	Yes		
4	Yes		
5	Yes		
6	Yes		
7	Yes	May 2008	August 2008
8	Yes	May 2008	August 2008
	Yes		
	Yes		
	Yes		
	Yes		
	Yes		

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 part 75.
(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 part 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.

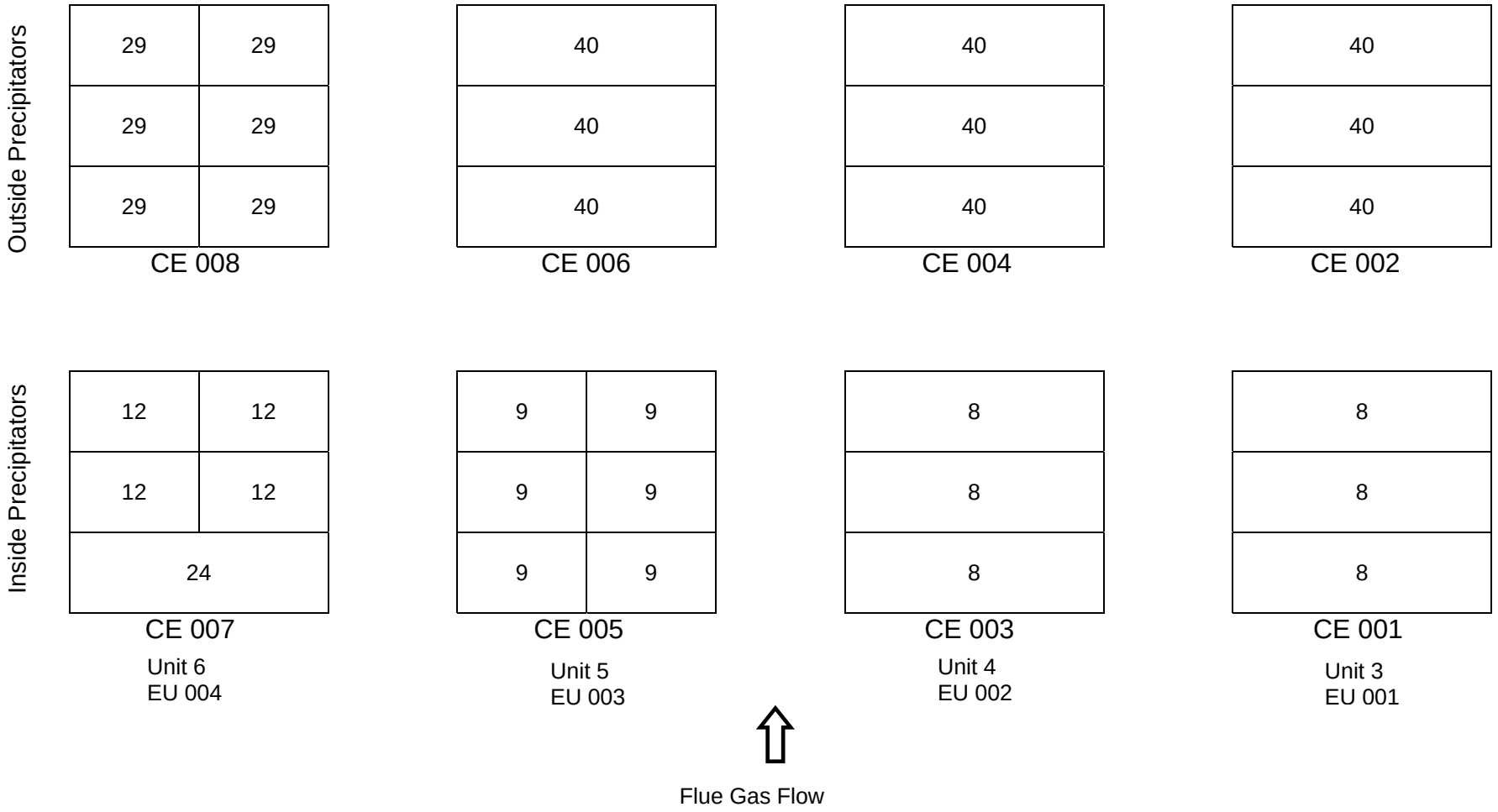
(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject 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_x 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.

Xcel Energy - High Bridge Generating Plant Boilers and Electrostatic Precipitators
ESP Field Specific Collection Area
Data in 1000 square feet of collection area



Insignificant Activities Required To Be Listed

Minn. R. 7007.1300	Acitivity	Applicable performance standard
subp. 3.A	NG-fired space heaters	Minn. R. 7011.0515
subp. 3.G	Water Laboratory	
subp. 3.H(4)	Welding Equipment	Minn. R. 7011.0715
subp. 3.I	Metal machining equipment	Minn. R. 7011.0715
subp. 3.I	Solvent use (<1 tpy)	
subp. 3.I	Wet bottom ash dumping	Minn. R. 7011.0150
subp. 3.I	Dewatered bottom ash loadout	Minn. R. 7011.0150
subp. 3.I	Flyash loadout to sealed tanker trucks	Minn. R. 7011.0715
subp. 3.I	Breaker building rejects chute	Minn. R. 7011.0150
subp. 3.I	Magnetic separator chute	Minn. R. 7011.0715
subp. 3.I	Fugitive particulate matter emissions from employee vehicle traffic on paved roads	Minn. R. 7011.0150
subp. 3.K	Spray paint system for facility upkeep	Minn. R. 7011.0715
subp. 4	Sandblast room	Minn. R. 7011.0715
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	
subp. 4	400,000 gallons distillate oil storage	Minn. R. 7011.1505
subp. 4	Infrequent off-spec wet flyash loadout into open trucks	Minn. R. 7011.0150
subp. 4	Open feeder belt on coal conveying system	Minn. R. 7011.0150
subp. 4	Electric demineralizer vacuum pump vent	Minn. R. 7011.0715

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 12300012-004

This Technical Support Document (TSD) is for parties interested in the permit and meets the requirements in 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 determination to issue the permit.

This TSD pertains mainly to the permitted modifications (the construction of the new facility) at the Permittee's High Bridge Generating Plant, except where this permit revises or adds requirements applicable to the existing facility. For additional information regarding the existing facility, please refer to the technical support document for Permits No. 12300012-001, 12300012-002, and 12300012-003.

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: 4911)
Xcel Energy 414 Nicollet Mall Minneapolis, MN 55401-1993	501 Shepard Road St. Paul Ramsey County
Contact: John Chelstrom Phone: (612 330-7682	

1.2. Description of the Permit Action

This facility is a coal-fired steam electric power plant. The permit action is a combined part 70 reissuance and a PSD construction permit for replacement of four existing coal-fired boilers with twin natural gas-fired combined cycle combustion turbine generators. This permit requires shutdown of the existing plant after completion of shakedown of the combustion turbines.

1.3 Description of any Changes Allowed with this Permit Issuance

The activities authorized by this permit action are part of Xcel Energy's (Permittee) Metropolitan Emissions Reduction Project (MERP). Other facilities included in the MERP are the Permittee's A.S. King plant in Oak Park Heights, Minnesota, and Riverside Plant in Minneapolis, Minnesota.

The Permittee will construct a new electric generating facility to replace the existing coal-fired boiler facility. The new facility will be composed of twin combined cycle natural gas-fired combustion turbines with supplemental duct firing. Initially the Permittee applied to install GE F class turbines, but decided to change to Mitsubishi Heavy Industries. The permit provides flexibility by allowing the installation of similar sized turbines such as GE F class or Siemens-Westinghouse 501F, in place of Mitsubishi turbines, with certain stipulations.

The turbines will use dry low-NO_X combustors and Selective Catalytic Reduction (SCR) with ammonia injection for NO_X control. The SCR system will be located in the Heat Recovery Steam Generator (HRSG) for each combined cycle system. During emergencies, the combustion turbines can undergo rapid startup and operation in simple cycle mode, with exhaust still routed through the HRSG and NO_x controlled by the SCR system. In this situation, steam from the HRSG will bypass the steam electric turbine generator and go directly to the condenser.

The SCR will also reduce NO_X from the duct burners. The combustion turbines will use inlet evaporative cooling in warm weather to reduce power loss associated with warmer compressor inlet ambient air temperatures.

An auxiliary boiler and emergency fire pump diesel engine will also be installed. One of the existing emergency generators will be retained at the site to provide emergency power. Electric power will be 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 will be 665 megawatts.

1.4 Description of All Amendments Issued Since the Issuance of the Last Total Facility Permit and Included in the Part 70 Permit

Permit Number and Issuance Date	Action Authorized
12300012-001 July 20, 1998	Part 70 operating permit authorizing continued operation of the existing coal-fired boilers facility and installation of a temporary engine (EU 012).
12300012-002 March 5, 1999	Major amendment to incorporate Phase II Acid Rain permit requirements for NO_X.
12300012-003 June 26, 2000	Administrative amendment to move certain requirements from table B to table A.

1.5. Facility Emissions:

Table 1. Title I Emissions Increase Summary (in tpy)

Pollutant	Modification Emissions Increase	Modification Ltd. Emissions Increase	Source-wide Contemporaneous Increases and Decreases*	Net Emissions Increase**	PSD/112(g) Significant Levels	NSR/112(g) Review Required?
PM	83.8	83.8	-61.9	21.9	25	No
PM_{10}	83.8	83.8	-79.6	4.27	15	No
NO_X	260.1	260.1	-3530	-3270	40	No
SO_2	17.0	17.0	-2402	-2385	40	No
CO	1330	1330	-158	1172	100	Yes
Ozone (VOC)	307.5	307.5	-18.85	289	40	Yes
H_2SO_4	2.46	2.46	-0.82	1.64	7.0	No
Lead	0.0016	0.0016	-0.195	-0.194	0.6	No
formaldehyde	11.98	11.98	NA	NA	10	Yes
total HAP	23.14	23.14	NA	NA	25	No

* These are other emission changes during the contemporaneous period as defined by 40 CFR § 52.21, 40 CFR § 52.24 or 40 CFR pt. 51. These emissions are the difference of baseline emissions and limited existing facility emissions during combustion turbine shakedown (as defined on page 8 of this document).
**Net emissions increase is sum of the reduction of existing facility emissions due to existing boilers heat input limit during combustion turbine shakedown (listed in contemporaneous increases and decreases column), and emissions increase from the modification (annual potential emissions for new facility).

Table 2a. Total Facility Potential to Emit Summary - Before Modification

	PM tpy	PM_{10} tpy	SO_2 tpy	NO_X tpy	CO tpy	VOC tpy	Pb tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions[1]	6801	6744	32,594	18,965	686	56.5	2.43	1218	1231
Total Facility Actual Emissions (2002-2003 baseline actuals average)	482	477	3893	5779	257	31	0.3	HAPs not reported in emission inventory	

[1]Data from technical support document for 1998 part 70 operating permit No. 12300012-001

Table 2b. Total Facility Potential to Emit Summary - After Modification

	PM tpy	PM_{10} tpy	SO_2 tpy	NO_X tpy	CO tpy	VOC tpy	Pb tpy	Single HAP tpy[2]	All HAPs tpy
Total Facility Limited Potential Emissions	84.2	84.2	17.4	295.4	1335.0	308.1	0.0016	11.98	23.14

[2]Formaldehyde

Table 3a. Facility Classification - Before Modification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD	PM, PM_{10}, SO_2, NO_X, CO, VOC, Pb, H_2SO_4		
Part 70 Permit Program	PM_{10}, SO_2, NO_X, CO, VOC		
Part 63 NESHAP	Single and Total HAP		

Table 3b. Facility Classification - After Modification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD	NO_X, CO, VOC		PM, PM_{10}, SO_2, Pb
Part 70 Permit Program	NO_X, CO, VOC		PM_{10}, SO_2, Pb
Part 63 NESHAP	Single HAP		Total HAP

2. Regulatory and/or Statutory Basis Of Permit Requirements

New Source Review

The facility is an existing major source under New Source Review regulations and will remain a major source after completion of the permitted modifications.

Part 70 Permit Program

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

New Source Performance Standards (NSPS)

Portions of the facility are subject to part 60 subpart Da (duct burners), Dc (auxiliary boiler), and GG (stationary gas turbines). In addition, on February 18, 2005, EPA proposed part 60, subpart KKKK, Standards of Performance for Stationary Combustion Turbines. The proposed standard would limit NO_X on a lb/MW-hr basis. The limit would be output-dependant and is split into two size classes; less than 30 MW and equal to or greater than 30 MW. The Permittee's use of dry low-NO_X combustors and selective catalytic reduction ensures the new combustion turbines will meet the proposed standard.

On May 18, 2005, EPA revised part 60 subpart Da as part of the Clean Air Mercury Rulemaking. Subpart Da now includes new sections, 60.50a, 60.51a, and 60.52a. However, these sections were already present in subpart Ea of part 60. According to EPA, a future technical correction will be issued to resolve the duplicative use of these citations. Due to this issue, the permit does not include any of the subpart Da revisions made under the May 18, 2005, rulemaking.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

Some of the proposed modifications will include installation of equipment subject to certain NESHAPs. The auxiliary boiler is subject to subp. DDDDD. The duct burners are electric utility steam generating units and therefore are not subject to subp. DDDDD. The gas turbines are subject to subp. YYYY. However, the subp. YYYY requirements have been stayed by EPA for natural gas-fired lean pre-mix fired turbines (August 18, 2004, federal register, page 51185 vol. 69, No. 159) pending removal of these units from the affected source category. As a result, the gas turbines are only subject to the initial notification required by §63.6145. The existing generator EU 010 is a compression ignition engine which is an affected source under subp. ZZZZ that must comply with the MACT by June 15, 2007. However §63.6590(b)(3) states, in part, that existing compression ignition engines are not subject to any requirements and no initial notification is necessary. The new 300 hp fire pump engine is below the 500 hp applicability threshold for the affected source under subp. ZZZZ.

The initial notification for the gas turbines required by part 63 subp. YYYY due 120 days after the turbines become subject to subp. YYYY is met by the permit application according to 63.9(b)(1)(iii).

Environmental Review

This facility is subject to the Minnesota environmental review requirements. The Environmental Quality Board is the responsible governmental unit. Although this facility is a large electric power generating plant, this project qualifies for alternative review, and does not need to go through preparation of a full environmental impact statement.

Community Involvement

No community involvement is warranted other than the initial information gathering phase. This is based on the nature of the project and the initial overly positive feedback received by the EQB during their March 3, 2005, public information meeting regarding the replacement of the coal-fired facility with a new gas-fired combined cycle turbine facility. For additional information regarding communications with adjacent neighborhoods, see the discussion below under section '**3.2 Comments Received**' of the September 13, 2005, neighborhood meeting hosted by the Permittee.

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
- Minn. R. 7011.0510 Standards of performance for existing indirect heating equipment
- Minn. R. 7011.1105 Standards of performance for certain coal handling facilities
- Minn. R. ch. 7017 Monitoring and Testing Requirements
- Minn. R. 7007.3000 Prevention of significant deterioration of air quality.

Table 4. Regulatory Overview of Facility

EU, GP, or SV	Applicable Regulations	Comments:
GP 001	Title I Condition: Previously set operating hours limit to avoid major modification status	EU 010 will remain at the new facility. The limit will apply to EU 010 only after shutdown of the existing facility because EU 011 will be removed as part of the shutdown.
GP 002	40 CFR § 52.21 Part 75 Monitoring	Prevention of Significant Deterioration. BACT limits set for CO and VOC. This monitoring can be used to fulfill some of the monitoring requirements of pt. 60 subp. GG in GP 003 and pt. 60 subp. Da in GP 004.
GP 003	Part 60 subp. GG	
GP 004	Part 60 subp. Da	

GP 005	Title I Conditions: Limits on existing facility operation during combustion turbine shakedown (as defined on page 7 of this document) to provide emission credits for netting out for PM, PM_{10}, and NO_X	
GP 006, GP 007, SV 001, EU 001-EU 009, EU 012	Refer to technical support document for Permit No. 12300012-001 for regulatory information about these subject items.	
EU 017	40 CFR § 52.21	New Source Review CO and VOC BACT limits (note that 0.08 lb CO/mmBtu is about 110 ppmvd assuming 0% excess air, which is less than the 400 ppmvd MACT standard)
EU 017 (cont.)	40 CFR pt. 60, subp. Dc	New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units
	40 CFR pt. 63, subp. DDDDD	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (auxiliary boiler is a new large gaseous-fueled boiler with <100 mmBtu/hr heat input in 'population III' in the boiler MACT flowchart). Compliance date is date of initial startup.
EU 018	Title I Conditions: CO and VOC BACT limits	Small emergency use-only source

3. Technical Information

- *New Source Review Applicability*: The construction of the new combined cycle gas turbine facility and phased shutdown of the existing coal boiler plant is subject to federal New Source Review permitting requirements. The new facility will be a major source for PM, PM_{10}, NO_X, CO, and VOC before netting, and a minor source for SO_2 due to fuel type restrictions. The phased shutdown of the coal-fired boiler plant allows the Permittee to net out of PSD requirements for PM, PM_{10}, and NO_X emissions. Also, the Permittee will install NO_X controls on the combined cycle gas turbines (lean pre-mix combustors and selective catalytic reduction with ammonia injection). The new facility is a major source for CO and VOC, and therefore is subject to PSD permitting requirements for these pollutants. The Permittee has elected to not request a comparable to BACT Clean Unit Determination.

- *BACT Analysis*: Installation of the new gas turbine facility is subject to BACT for CO and VOC emissions. The Permittee has submitted information to justify that BACT is Good Combustion Practices (GCP).

Discussion: The RACT BACT LAER clearinghouse (RBLC) contains a rather diverse listing of rejected and accepted cost per ton data for oxidation catalysts, as well as a large overlap in the achievable ppmvd CO emission concentration for oxidation catalysts and GCP. It is apparent that locations not in attainment with federal ozone and/or CO NAAQS require installation of an oxidation catalyst to meet LAER. However, in attainment areas justification for use of a catalyst versus GCP is not well documented in the RBLC. In addition, reports on the atmospheric fate of CO indicate a rather short lifetime. A December 1990 EPA report to Congress titled 'Policy Options For Stabilizing Global Climate Report To Congress' indicates a global average CO lifespan of 2.5 months. This report indicates that CO reacts with hydroxyl to form CO_2 and H_2O. Also, information furnished by Wisconsin Electric Power Company for their PSD permit for the Port Washington installation of combined cycle gas turbines indicated that CO lifetime in the exhaust plume is even shorter because the rate of conversion of CO to CO_2 is temperature dependent, and stack plume temperatures are substantially higher than average global temperature. According to the August 27, 2004, document titled

Analysis And Preliminary Determination For The Construction And Operation Permits For The Proposed Modification Of The Operation Of The Four Combined Cycle Combustion Turbines With Duct Burners And Heat Recovery Steam Generators (HRSGs), Emergency Diesel Engine, Gas Heater And A Storage Tank For Wisconsin DNR permit #04-RV-175 for the Wisconsin Electric Power Company - Port Washington Generating Station, 146 South Wisconsin Street, Port Washington, Ozaukee County, Wisconsin

as much as 60 percent of the CO may be converted within 15 seconds after discharge from the stack. The conversion curve is exponential and conversion drops off rapidly but almost all CO will be converted within 24 hours. Thus, the majority of CO emitted is converted to CO_2 before the plume disperses to ground level.

For the Xcel High Bridge gas turbine project, an oxidation catalyst cost of $3,301/ton of CO was determined (for each turbine, 70 percent control for a 229.0 tpy reduction @ $755,993/yr annualized cost). This cost per ton is based on emissions generated when the gas turbine and duct burners are operating 8760 hours per year, without startup or shutdown (when the oxidation catalyst does not operate due to low emission temperatures). Also, the majority of CO is from duct burners which will likely only operate a small percentage of the time. Excluding duct burner CO emissions, the cost per ton rises to $5,699/ton of CO.

Therefore, it is apparent that an oxidation catalyst is cost-prohibitive, and most or nearly all CO is converted to CO_2 by the time emissions disperse to ground level. As a result, good combustion practices is determined to be BACT for CO. Also note that about 60 percent of the projected CO emissions occur during startup and shutdown when an oxidizing catalyst would not be operating. Based on this catalyst operating scenario, on an annualized basis an oxidation catalyst would only reduce CO by about 25 percent, assuming an overall control efficiency of 70 percent when the catalyst is operating.

In addition, the catalyst imposes a fuel consumption penalty, and converts some SO_2 back to SO_3 particulate which combines with water to form H_2SO_4. Finally, spent catalyst is a waste that must be disposed.

For VOC, an oxidization catalyst was determined to cost $27,484/ton with duct firing at 8760 hours per year, and at $174,526/ton without duct firing at 8760 hours per year.

- *Netting*: The new natural gas-fired combustion turbine facility will be a major modification for PM, PM_{10}, NO_X, CO, and VOC prior to the application of creditable emissions changes due to the shutdown of the existing coal-fired boiler facility. The Permittee will permanently shutdown and remove the existing coal-fired boilers and support equipment after combustion turbine shakedown (CTS)[1] is over. As a result the proposed modification will only be major for CO and VOC.

  The Permittee initially submitted a netting analysis stating the combined cycle turbines are replacement units for the coal-fired boilers, and the emissions reduction due to the existing facility shutdown at the end of the CTS period would be creditable according to the definition of *net emissions increase* at § 52.21(b)(3). Specifically, § 52.21(b)(3)(viii), states *any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days*. Based on this definition, the Permittee indicated that the allowable emissions reduction for netting purposes was equal to the baseline emissions (determined using calendar years 2002-2003) of the existing coal-fired boiler facility.

  However, the *replacement unit* definition in §52.21(b)(33)(iii) states, in part, that for a unit to qualify as a replacement unit, the replacement *must not alter the basic design parameters (as discussed in paragraph (cc)(2) of this section) of the process unit.* Although § 52.21(cc) has been stayed, §52.21(b)(33) is in effect and therefore it is reasonable to use § 52.21(cc) as guidance for determining the meaning of 'basic design parameter'. § 52.21(cc)(2)(ii) states:

  > "*...for a process unit at a steam electric generating facility, the owner or operator may select as its basic design parameters either maximum hourly heat input and maximum hourly fuel consumption rate or maximum hourly electric output rate and maximum steam flow rate. When establishing fuel consumption specifications in terms of weight or volume, the minimum fuel quality based on British Thermal Units content shall be used for determining the basic design parameter(s) for a coal-fired electric utility steam generating unit."*

  It is evident the basic design parameters of heat input and fuel consumption will change. The heat input will change from 3,815 mmBtu/hr for the coal boilers to 5,060 mmBtu/hr for the combined cycle turbines, and fuel consumption will change from approximately 191 tons per hour of subbituminous coal (assuming 20 mmBtu/ton) or 3.74 mmcf/hr of natural gas for the boilers to approximately 5.1 mmcf/hr natural gas for the combined cycle turbines. Therefore it is evident that installation of the combined cycle turbines is not a

[1] For the purposes of this permit, *combustion turbine shakedown* (CTS) is defined as the period of time commencing on the day prior to the date of the first of the two combustion turbines (EU 013 and EU 014) to go through initial startup and terminating on the date of the first of the two combustion turbines to engage in commercial dispatch or 180 days after the date of the first combustion turbine to go through initial startup, whichever is earlier. Although the term "shakedown" is typically associated with equipment replacement provisions under 40 CFR § 52.21, installation of the combustion turbines and subsequent removal of the coal-fired boilers does not meet the definition of *replacement unit* in 40 CFR §52.21(b)(33). However, for this permit *CTS* is defined so that a convenient term can be used to refer to the permitted period of time of limited overlapping operation of the existing facility and initial startup of the new combustion turbine facility.

replacement of the existing coal-fired boiler plant in the context of the definition in §52.21(b)(33) due to alteration of the basic design parameters. As a result, the "shakedown" period as used in the NSR rule does not apply, and the contemporaneous period for determining emissions changes does not include the CTS period as defined herein, and instead ends on the date of initial startup of either combustion turbine.

In order to resolve this issue, the Permittee re-submitted a proposal to restrict the total heat input of the four coal boilers to 6,470,000 mmBtu during the CTS. The purpose of this limit is to restrict the total PM, PM_{10}, and NO_X emissions during the CTS period, when both the existing plant and the combustion turbines will be operating, to a level less than the baseline emissions of the existing plant plus the PSD significant emission increase level for PM, PM_{10}, and NO_X. This restriction is a requirement in the permit that will be federally enforceable upon permit issuance. In order for the emissions reduction from the restriction to be creditable, the actual restriction must take place before the emissions increase from the combustion turbines occurs. Therefore, the heat input restriction is effective at the end of the contemporaneous period (on the day before the first combustion turbine engages in initial startup). See the attached spreadsheet (in Attachment 1) for derivation of this limit and creditable emissions reductions used for netting.

To determine compliance with the heat input limit, the permit requires the Permittee to determine hourly heat input according to part 75 Appendix F, equations F-18 and F-21a. The Permittee already conducts these compliance activities as required by part 75.

- *Additional Impact Analysis*: There are no growth impacts associated with construction or operation of this project. Compliance with the ambient air quality standards will ensure that there aren't adverse impacts to soils and vegetation in the vicinity of the proposed facility. Conversion of the existing site from a coal-fired to gas-fired facility will not negatively impact areas soils or geology. No adverse impacts on threatened, endangered, or sensitive species are anticipated. The existing falcon nest box on SV 001 will be removed before demolition when the birds are not nesting, and the Permittee will work with the MDNR to identify an appropriate location for a nest box at the new facility. A voluntary visibility screening analysis was conducted for Rainbow Lakes Wilderness Area (215 km from the site). The screening indicated that the new facility was not expected to cause visibility impairment.
- *PSD modeling*: Modeling was conducted for CO emissions due to the significant CO net emissions increase. Model results show exceedance of the 1-hour and 8-hour significant impact levels (2000 ug/m^3 and 500 ug/m^3, respectively). Additional modeling was performed and compliance with the 1-hour and 8-hr CO NAAQS was demonstrated. Background concentrations include emissions from the existing facility to account for overlapping operations during CTS.

Averaging Period	H2H Modeled Concentration ug/m^3	Background (including impacts of existing facility) ug/m^3	Total Concentration ug/m^3	NAAQS ug/m^3
1-hour	7758.4	7117	14875.4	40000
8-hour	2756.8	4344	7090.8	10000

- *Startup and Shutdown/Normal Operation*: Startup and shutdown are limited as part of the CO and VOC BACT determination. This is because good combustion practices, which is BACT for CO and VOC, can not be maintained during startup and shutdown. The limitation is on a 12-month rolling sum basis to allow for variations in the length of startup based on the length of time since fuel was last fired in the turbine. The operating boundary between startup and normal operations occurs at 75 percent load. Shutdown commences when operation drops below 75 percent load. During startup, SCR operation is required at temperatures of 600 ^{0}F or greater (measured at the inlet duct to the SCR) and for as long as physically possible during shutdown. The 600 degrees Fahrenheit value was provided by the Permittee.

- *Performance Testing:* Testing of combined cycle turbine NO_X emissions is required to verify compliance with combined cycle NO_X limit of 3.8 ppmvd which forms the basis of the MERP 0.011 lb/mmBtu value. Testing of the combined cycle turbine stacks is also required for VOC emissions to verify compliance with the BACT VOC limit. Testing of CO emissions from the combined cycle turbines is not required due to use of CO CEMs, and the fact that no standard exists that requires CO testing form the combined cycle turbines.

  The turbines NSPS testing requirements for NO_X and SO_2, and the duct burners NSPS testing requirements for PM, SO_2, NO_X, and opacity, are listed in GP 003 and GP 004, respectively. These requirements must be met unless the Permittee obtains approval from EPA Administrator to conduct alternate testing according to §60.8(b). Alternate testing may include measuring total emissions of a pollutant from the common stack for the turbines and duct burners.

  Auxiliary boiler CO testing is required by the MACT standard (part 63, subp. DDDDD) and will also be used to demonstrate compliance for the BACT CO limit. Testing for boiler VOC is not required due to the lack of boiler VOC add-on control equipment and the very low emission rate (0.44 lb/hr). Also, compliance with the CO limits indicates good combustion, and good combustion is the method for controlling VOC emissions from the boiler. Therefore, performance test results demonstrating compliance with the CO limit indicates that VOC emissions will be in compliance with the VOC limit.

  No testing is required for the emergency fire pump engine due to very limited use of this small emission source.

- *Metropolitan Emissions Reduction Project (MERP)*: This facility is one of the three Xcel Energy facilities that is making changes as part of the MERP. During proceedings to review and approve the Xcel MERP proposal, Xcel described emissions for PM_{10} and SO_2 as "zero". This was a generalization of the quantity of PM_{10} and SO_2 from natural gas combustion, especially compared to emissions of these pollutants from the current coal-fired High Bridge Plant. In reality, there will be some PM_{10} and SO_2 emissions. The expected emission rates in lb/mmBtu are underlined in the table below. Note these PM_{10} and SO_2 emissions rates are at or below the lower end of the RLCB clearinghouse BACT emission rates shown in the table.

	Capacity		NO_X	SO2	PM10
	MW	mmBtu/	Lb/mmBtu	Lb/mmBtu	Lb/mmBtu
High Bridge 5,	85.2	869	0.58	0.37	0.013
High Bridge 6,	158	1,611	0.58	0.37	0.013
New Source Performance Standards[14]			0.20 [15]	0.20	0.03 [16]
Recent Best Available Control Technology determinations for natural gas-fired facilities [17]					
Range of Recent BACT determinations			0.009-0.055	0.0008-0.216	0.0076-0.048
Median of BACT determinations			0.013	0.006	0.013
Emissions, High Bridge Combined Cycle (MERP)[18]	515	3,761	0.011	0.0009	0.0064

[14] New Source Performance Standards in 40 CFR 60 Subpart Da (40 CFR 60.40b-60.49b).

[15] These limits apply to units that are modified or reconstructed units burning natural gas. A modified natural gas- fired unit would need to reduce NOx by 25 percent.

A new unit would be required to meet a 1.6 lb/MWh limit. (It is difficult to convert directly from this limit to lb/mmBtu because the unit's conversion efficiency — energy output/ energy input — must be known.)

[16] The NSPS restricts emissions of PM (not PM10) from natural gas boilers.

[17] These BACT determinations were made for combined cycle units burning natural gas. Modifications recorded in the RACT/BACT/LAER Clearinghouse in 2001 to 2002 were included in the analysis.

[18] Emissions rates identified in Xcel Response to MPCA Request No.1, dated August 23, 2002, and the Xcel Response to MPCA Request No. 2, dated September 5, 2002.

- *PER 004 Revisions To Existing Permit Requirements*: Removed Table B submittals of testing frequency plans (EU 001, 002, 003, and 004); computer dispersion modeling protocol and results (total facility); fugitive control plan (total facility); consolidated existing generator requirements (GP 001, EU 010, and EU 011) by moving them from the EU level to GP 001; updated opacity and SO2 limits to match current requirements of 7011.2300; updated opacity limit in EU 012; removed requirement to submit application to renew boilers 3 through 6 acid rain permit because these applications were submitted in 2003 with the application for renewal of the part 70 permit and Xcel intends to shut down these 4 boilers prior to 180 days

before five years after issuance of this permit (No. 12300012-004). Consolidated all ESP requirements from the CE level into a new group, GP 006. Updated SV 001 CEM and COM requirements to reflect revisions to Minn. R. ch. 7017 since issuance of original part 70 permit. Added requirement to calculate and record exposed coal pile surface area for FS 003. Moved SV 002 and SV 003 2.0 lb/hr limit to EU 005 to reduce permit length. Created GP 007 for all fugitive emission source requirements.

- *Part 64 Compliance Assurance Monitoring (CAM)*:

  Existing Facility CAM Applicability: §64.2 states that CAM applies to Pollutant-Specific Emission Units (PSEUs) at part 70 major sources that use control equipment to meet an applicable limit or standard, and that have pre-control emissions of a regulated air pollutant greater than the major source threshold for that regulated pollutant.

  § 70.2 defines *regulated air pollutant*, in part, as any pollutant that is subject to any standard promulgated under section 111 of the Act (New Source Performance Standards (NSPS)). Therefore, PM which is subject to various NSPSs, is a regulated air pollutant under part 70. Although an October 16, 1995, EPA memorandum titled 'Definition of Regulated Pollutant for Particulate Matter for Title V Purposes' from Lydia Wegman of the Office of Planning and Standards, states PM_{10} (and not PM) is the regulated pollutant for particulate matter for determining title V applicability and fees, the memorandum does not preclude the applicability of CAM to PM emissions.

  Part 70 defines *major source*, in part, as a source of air pollutants (as defined in section 302 of the Act), that directly emits or has the potential to emit, 100 tpy or more of any air pollutant. Each of the four boilers has uncontrolled potential PM_{10} emissions greater than 100 tpy. In addition the boilers are subject to PM limits and use add-on control equipment to meet PM limits. Therefore, the boilers are subject to CAM for PM emissions.

  Existing Facility CAM: The existing coal-fired boilers are pollutant-specific emission units (PSEUs) subject to CAM with controlled PM and PM_{10} PTE greater than the part 70 major source threshold for PM_{10}. Coal and ash-handling emission units have uncontrolled emissions less than the part 70 major source threshold for all pollutants (based on the 2003 part 70 re-issuance permit application), and therefore are not subject to CAM.

  The boilers are subject to the Minnesota Indirect Heating Equipment Rule PM standard of 0.4 lb/mmBtu. Performance testing has demonstrated that opacity is the limiting pollutant compared to PM emissions (see table 5). In other words, opacity will exceed the opacity limit before PM will exceed the PM limit. Therefore, the Permittee will continue to use the continuous opacity monitor on SV 001 as a surrogate for PM emissions, in order to meet CAM. In addition, the Permittee has conducted PM testing on the boilers with less than all available ESP fields on-line during the tests. The Permittee records the ESP Specific Collection Area (SCA) in operation, or number of fields in operation if all fields in the ESP have the same collection area, once each day of ESP operation. The monitoring of opacity and SCA constitutes CAM for the boiler ESPs.

Table 5. Relationship of Existing Boiler Particulate Matter and Opacity Determined During Recent Performance Testing

Boiler #; test date	average opacity for three 1-hr test runs	average lb PM/mmBtu for three 1-hr test runs	opacity as a percentage of opacity limit	PM emissions as a percentage of PM limit	Square feet of ESP collection area online during test (1000 sq ft)	Total ESP square feet for boiler (1000 sq ft)
#5; 6/3/2003	12.0%	0.056	60%	14%	80	144
#6; 6/4/2003	8.9%	0.0195	44%	5%	80	144
#4; 12/2/2000	6.9%	0.091	35%	23%	80	174
#3; 12/2/2000	8.9%	0.111	44%	28%	123	246

New Facility CAM: The combined cycle combustion turbine NO_X emissions are subject to CAM. As stated in 40 CFR §63.3(d), monitoring required by part 75 meets the CAM general design criteria requirements of §63.3. Additional part 75 and Minnesota Rule requirements for the NO_X CEMS ensure adequate monitor operation, recordkeeping, and reporting.

- *Mercury Emissions Reduction*: The existing facility actual mercury emissions were 80.5 pounds in 2004, 79.6 pounds in 2003, and 67.2 pounds in 2002. Potential mercury emissions from the new combined cycle facility are less than 10 pounds per year, and actual emissions are likely to be less than 5 pounds per year assuming an operating schedule of 16 hours per day, five days per week, and 50 weeks per year. Emissions for the new facility were calculated using the 2.6E-04 lb/10^6 scf NG emission factor in AP-42, ch. 1-4 table 1.4-4. Although this factor applies to boilers combusting natural gas, the factor was also used to determine mercury emissions from the combustion turbines because no factor is available in AP-42 (ch. 3-1) for mercury from natural gas-fired combustion turbines.

- *Emission Calculations*: Emissions were calculated as shown in the attached spreadsheets. Some emissions (mostly HAPs) were calculated based on AP-42 and other (mostly criteria pollutants) were based on manufacturer's emissions guarantees. For the combined cycle combustion turbines, worst case lb/hr emissions occur at -12 degrees Fahrenheit. Annual emissions are based on operation at the average annual temperature of 45 degrees Fahrenheit.

- *Deviations From Accepted Delta Practices*: In order to reduce the length of the permit and the amount of blank space on many permit pages, all ESP requirements were consolidated into GP 006 from the CE level and all fugitive emission sources were consolidated into GP 007.

- *Insignificant Activities Associated With The New Facility*: These are limited to natural gas-fired space heaters in the power generation building and fugitive emissions from employee vehicle traffic on paved roads. None of these sources play a role in determining applicable permitting requirements for the new facility.

  The space heaters are subject to Minnesota Standards of Performance for Indirect Heating Equipment, and because they are restricted to natural gas only, will readily meet these standards. Paved road fugitive emissions are subject to the Minnesota rule for preventing particulate matter from becoming airborne. Paving readily controls the available quantity of particulate matter that can become airborne and therefore, the paved roads will inherently meet this rule requirement.

3.1 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 6. Periodic Monitoring

Subject Item	Requirement (basis)	Additional Monitoring	Discussion
EU 001 - EU 004 & SV 001	PM, SO_2, and opacity limits based on Minn. Rules	COMS & CEMS on SV 001; periodic PM stack testing of each boiler	The coal-fired boilers are acid rain sources. All monitoring is conducted to meet title IV and Minn. R. CEMS/COMS are subject to QAQC requirements to ensure valid data.
GP 001 (EU 010 & EU 011)	Minn. R. 7007.0800, subp. 2	Fuel supplier receipts to verify type of fuel oil	Fuel type is limited to diesel fuel only, and sulfur content of fuel oil is limited to 0.5% by weight by ASTM standard.
GP 002; SV 011 & SV 012	Title I Conditions: 40 CFR §52.21 CO, VOC, NO_X, and Startup-Shutdown Limits	NO_X & CO CEMS on each stack; periodic VOC testing; Turbine control system records operating parameters to track startup/shutdown	These are acid rain sources. All monitoring is conducted to meet title IV and Minn. R. CEMS are subject to QAQC requirements to ensure valid data. CO is an indicator of VOC emissions, because both pollutants are created by poor combustion.

GP 003	NSPS Subp. GG	NO_X monitoring Fuel sulfur and nitrogen content	Permittee will use NO_X CEMSs on SV 011 and SV 012 to meet this requirement. Permittee can use sulfur content on tariff sheet or transportation contract, and is only required to monitor nitrogen content if claiming a fuel-bound nitrogen allowance.
GP 004	NSPS Subp. Da	NO_X monitoring	Permittee will use NO_X CEMSs on SV 011 and SV 012 to meet this requirement.
GP 005	Title I Condition: §52.21(b)(3)	Heat input monitoring	Part 75 Appendix F provides equations for determining hourly and cumulative heat input from the existing boilers.
GP 006	CAM	see CAM discussion for the boiler ESPs	
FS 003 (in GP 007)	Minn. R. 7009.0020	monthly calculation of exposed surface area of coal pile	This parameter is readily measurable and is a reasonable indicator of the potential for windblown fugitive particulate matter emissions
EU 005, EU 006, EU 007	Minn. R. 7009.0020 and Minn. R. 7011.1105	weekly visible emissions check	Visible emissions are a good indicator of PM and PM_{10} emissions. Although the Permittee could conduct daily instead of weekly checks, these sources are scheduled for shutdown during the lifetime of this permit and therefore no changes will be made to these existing requirements at this time.
EU 008, EU 009	Minn. R. 7009.0020 and Minn. R. 7011.0715		
EU 017	Title I Conditions: VOC and CO BACT limits	no additional monitoring	Source is natural gas-fired, is subject to part 63 subp. DDDDD, and will be tested for CO annually as required by subp. DDDDD. Both CO and VOC are produced by incomplete combustion, and therefore, if annual testing demonstrates compliance for CO, then VOC is likely also in compliance.
EU 018	Minn. R. 7007.0800, subp. 2 Title I Conditions: VOC and CO BACT limits	Fuel supplier receipts to verify type of fuel oil no additional monitoring	Fuel type is limited to diesel fuel only, and sulfur content of fuel oil is limited to 0.5% by weight by ASTM standard. Small emergency use-only source does not warrant additional monitoring (including testing) activities.

3.2 Comments Received

Public Notice Period: June 11, 2005 - July 11, 2005
EPA 45-day Review Period: June 11, 2005 - July 26, 2005

Two letters were received during the public comment period. One was a June 29, 2005, electronic mail request for a public information meeting from Justin Eibenholzl of the Southeast Como Improvement Association, followed by a written comment letter dated July 1, 2005, from Mr. Eibenholzl. The request for this meeting was subsequently withdrawn after Mr. Eibenholzl agreed to have the Permittee conduct a community informational meeting. The meeting will be held September 13, 2005, and address the proposed construction, shutdown of the existing plant, operations and emissions from the new gas turbine plant, and enhancement of communications between the Permittee and adjacent neighborhoods during the construction process.

The July 1, 2005, letter requested addition of a state-only requirement to the proposed permit to provide a communication mechanism between the Permittee and local St. Paul neighborhoods. In response to this request, a requirement was not added to the permit because writing a worthwhile permit requirement would be difficult. If the requirement is too general it could be readily misinterpreted. If the requirement is too detailed, it could overlook future situations that may arise where communication is warranted but not required. Therefore, the MPCA requested the Permittee work with the neighborhoods to improve communications regarding construction and operation activities at the facility. This issue will be discussed at the September 13, 2005, meeting.

The community informational meeting was conducted September 13, 2005 at the West 7th Community Center. See the attached document for meeting notes.

The other letter was a July 7, 2005, submittal by Rock-Tenn. Rock-Tenn purchases process steam from the existing Xcel High Bridge plant, but will lose this steam supply upon shutdown of the existing plant. This issue is outside the scope of the air permit process, and therefore, no action was necessary regarding this issue. A letter was sent on July 26, 2005, to Rock-Tenn informing them that the draft permit would not be changed based on this issue in their letter.

Comments were not received from EPA during their 45-day review period.

4. Conclusion

Based on the information provided by Xcel Energy, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 12300012-004, 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)
Scott Parr (enforcement)
Curt Stock (stack testing)
Toni Volkmeier (peer reviewer)

Attachments:
1. PTE Summary, Combustion Turbine Shakedown Heat Input Limit Derivation, and Emissions Netting Summary
2. BACT Analysis
3. Permittee's Past Actual Emissions

Xcel Energy High Bridge MERP public information meeting September 27, 2005
West 7th Street Community Center 265 Oneida Street, St. Paul Marshall Cole

7 PM - 8:30 PM

About 15 to 18 citizens attended this public information meeting that was hosted by Xcel Energy. This meeting was held in place of a MPCA-hosted public information meeting for the Xcel High Bridge Metropolitan Emissions Reduction Program (MERP) air quality permit. The public information meeting was requested by Justin Eibenholzl of the Southeast Como Improvement Association. Mr. Eibenholzl did not attend the meeting.

Xcel started off with a 15 minute presentation describing the history of the High Bridge plant, the current coal-fired boiler facility, the background of the MERP project, and the construction and operation of the combined cycle gas turbine electric generation plant. Afterwards, the audience was given the opportunity to ask questions and make comments about the project.

The following is a list of comments and questions (with answers in parenthesis):

1. Will the new plant sell steam to Rock Tenn (No. Xcel Energy will continue to provide steam to RockTenn until NRG's contract with RockTenn (NRG has a contract with Xcel to purchase steam from HB to provide to RockTenn) expires in June 2007 at which time we will discontinue the supply of steam.).
2. What will be the long-term use for the green space surrounding the new facility (Buffer between plant and surrounding residences. It is possible the land will be used as a park but Xcel is still in the planning phase.).
3. Is there enough NG available long term (Yes).
4. How will Xcel's MERP costs be paid (rider on customer's bill that will increase from 2 percent in Jan 2006 to a peak of about 12 percent in 2009. This increase is also for the extra MW of power.).
5. How will noise be mitigated (use stack noise mufflers; most of the equipment will be in an enclosed building; also plant will not be a baseload plant so it won't operate all the time).
6. Comment regarding the fact that current price for NG is 10x that of Powder River coal on a heat content basis; is it a good idea to use NG for electric production in this situation? Environmental fringe has forced Xcel to use NG for power production. Also comment that it is difficult to speak to a live body when contacting Xcel high Bridge plant - only can leave a message on an answering machine.
7. What is size of ratepayer base that will pay for MERP projects? (all Xcel customers in MN and surrounding states).
8. How does the High Bridge project compare to the Black Dog combustion turbine project (HB is a 2 combustion turbines on 1 steam turbine, BD is a 1 on 1. Black Dog decommissioned two coal fired units and, put a new combustion turbine in an already existing building; the High Bridge project will be a new structure and built in the coal yard area after it has been cleaned out).

9. Concerns expressed about asbestos removal (Asbestos materials will be removed in full containment, stack will be removed in segments, also Xcel is trying to sell as much salvaged equipment as possible).

10. Supporter of project regardless of NG cost expressed concern about loss of trees on riverbank and would like to see replanting (Xcel is not removing trees that were planted as a part of Great River Greening. The area selected is going to be used for parking and laydown space and will be cleared of undergrowth / sumac and replanted upon completion of the project.); Also asked how much cooling water will be used (less than existing plant). Can bricks from old plant buildings be re-used (Xcel looking into this). Also, who are environmental and construction contractors. (RETEC, Barr Engineering, Veit and Xcel is not able to announce the final EPC contractor at this time.)

11. How long will line item rider remain on customer bills (Xcel didn't have answer but will followup and get information to questioner).

12. Will kW price stay the same? (Currently, kW price fluctuates due to a multitude of factors, so it is not possible to confirm that kW price would remain stagnant)

13. Green Party supported of project despite fuel cost because benefits outweigh costs.

14. Former NSP employee (ret.) states that need to get renewable and alternative energy sources better developed because existing NG and petroleum will run out.