

**AIR EMISSION PERMIT NO. 05300015-005**

**Major Amendment**

**IS ISSUED TO**

**Northern States Power Company dba Xcel Energy**

Xcel Energy - Riverside Generating Plant  
3100 Marshall Street Northeast  
Minneapolis, Hennepin County, MN 55418

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

This permit amendment supersedes Air Emission Permit No. 05300015-005 and authorizes the Permittee to operate and modify the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

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

**Permit Type:** Federal; Pt 70/NSR Authorization

**Operating Permit Issue Date:** May 6, 2006

**Authorization to Construct and Operate (40 CFR § 52.21) Issuance Date:** September 3, 2008

**Major Amendment Issue Date:** December 2, 2008

**Expiration Date:** May 6, 2011

– Title I Conditions do not expire.

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Don Smith, P.E., Manager  
Air Quality Permits Section  
Industrial Division

for Commissioner  
Minnesota Pollution Control Agency

**Permit Applications Table**

Permit Type	Application Date	Permit Action
Total Facility Operating Permit Reissuance	11/03/2005	004
Administrative Amendment	04/06/2007	005
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### **NOTICE TO THE PERMITTEE:**

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

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

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

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

### **PERMIT SHIELD:**

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

## **FACILITY DESCRIPTION:**

The plant is a coal-fired electric utility power plant located at 3100 Marshall Street Northeast in Minneapolis, Minnesota. The existing facility emission units consist of three boilers (Nos. 6, 7, and 8), fuel and ash storage and handling equipment, and emergency diesel engines. Boilers 6 and 7 pollution control equipment consists of a fabric filter for Particulate Matter (PM) emissions control. Boiler 8 pollution control equipment consists of a series of electrostatic precipitators for PM emissions control. PM emissions from coal/coke handling and ash storage and handling equipment, are controlled using water and other dust suppressants, enclosures, and/or fabric filters. Boilers 6, 7, and 8 are subject to Acid Rain requirements and the Phase II Acid Rain permit is included in the appendix.

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 High Bridge Plant in St. Paul, Minnesota.

The Permittee is constructing a new steam 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 (without supplemental duct firing), two heat recovery steam generators (HRSG), an auxiliary boiler, two existing diesel-fired emergency generators, and the existing steam turbine from boiler No. 7.

The turbines will use dry low-nitrogen oxides ( $\text{NO}_x$ ) combustors and selective catalytic reduction (SCR) with ammonia injection for  $\text{NO}_x$  control. The SCR system will be located in the 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  $\text{NO}_x$  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 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 will also be installed. Both 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 the existing steam turbine generator from Boiler 7 powered by steam from the heat recovery steam generator for each combined cycle system. Total summer Uniform Rating of Generating Equipment (URGE) capacity will be 459 megawatts.

A reciprocating engine powered fire pump will not be installed as part of this project due to ample available municipal water supply for fire-fighting.

#### **ACTION 004**

This permit is a major amendment for a PSD construction permit combined with a Part 70 operating permit reissuance for the Riverside Generating Plant. The initial Part 70 operating permit was issued on May 21, 1996, for a term of five years. Application for reissuance of the part 70 permit was received 180 days prior to expiration of the permit.

The construction activities authorized by this permit action are part of Permittee's 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 High Bridge Plant in St. Paul, Minnesota.

The Permittee will construct a new steam 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 (without supplemental duct firing), two Heat Recovery Steam Generators (HRSG), auxiliary boiler, two existing diesel-fired emergency generators, and the existing steam turbine generator from boiler No. 7. This permit provides flexibility by allowing the installation of similar sized turbines manufactured by either GE (7FA) or Mitsubishi Heavy Industries (M501F).

#### **ACTION 005**

This permit is a major amendment to resize the auxiliary boiler (EU 017) from 160 mmBtu/hr to 78 mmBtu/hr, and to add two 7.5 mmBtu/hr, gas-fired space heaters which qualify as insignificant units. Also, this permit authorizes Xcel to incorporate a Combustion Turbine Generator (CTG) package that allows increased power output on warm days and a CTG package to run at as low as a 45 percent load while maintaining emissions compliance. With these packages the CTG's will still meet the 4.7 ppm NO<sub>x</sub> limit (30 day rolling average) and there is no increase in the overall PTE (tpy), therefore they qualify as a minor amendment. The boiler EU 017 is now subject to NSPS Dc instead of Db, but is still subject to BACT limits.

Also included in this permit action is an administrative amendment to incorporate the requirements of NSPS KKKK, modify permit language based on the decision to construct using the GE 7FA turbines.

U.S. District Court of Appeals for the DC Circuit vacated the National Emissions Standard for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial and Institutional Boilers and Process Heaters (Subpart DDDDD) on July 30, 2007. Boilers or process heaters installed after that date are subject to the requirements of Section 112(g) of the Clean Air Act. However, because the boiler is not a major source of HAP's by itself, the facility is required to submit a 112(j) determination to the MPCA after initial startup.

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-1**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**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. GENERAL REQUIREMENTS	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 three coal-fired boilers and related support equipment. The new facility will be composed of twin natural gas-fired combined cycle combustion turbine generators (EU 015 and EU 016, respectively), and an auxiliary boiler (EU 017). Two existing emergency generators (EU 010 and EU 011) 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 pages A-17 through A-20 in TABLE A GP 008, and on page B-2 in TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS.	Minn. R. 7007.0800, subp. 2
Combustion Turbine Shakedown: Combustion turbine shakedown (CTS) is defined as the period of time commencing on the day of the first of the two combustion turbines (EU 015 and EU 016) 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 008 on page A-18.	Title I Condition: To avoid major modification as defined in 40 CFR Section 52.21(b)(2)(i) for PM, PM10, & NOx; Minn. R. 7007.3000
The authorization to commence construction of EU 015, EU 016, EU 017, 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 a General Electric (GE) 7FA. Appendix D of this permit lists the stack/vent and emission unit parameters for each turbine model.	Minn. R. 7007.0800, subp. 2
B. DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW  (Does not apply to construction activities authorized by this permit)	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); Minn. R. 7007.3000
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); Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5

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

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

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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 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); 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)(ii); 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); 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); Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
<b>C. OPERATIONAL REQUIREMENTS</b>	hdr
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
The Permittee shall comply with and upon written request demonstrate compliance with National Primary and Secondary Ambient Air Quality Standards, 40 CFR part 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; & Minn. R. 7009.0010 - 7009.0080
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.	Minn. R. 7011.1105(I)
Access areas, roads, parking facilities: (1) Install asphalt or concrete surfaces or chemical agents on all active truck haul roads of the coal handling facility when the coal throughput by truck is 200,000 tons 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.	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
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
Comply with Fugitive Emission Control Plan: The Permittee shall follow the actions and recordkeeping 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.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2

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

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

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 NSP 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
Temporary Boilers and Engines: Boilers or engines may be brought on site for less than one year for the purpose of providing steam, heat, or emergency electrical power in place of boilers or engines that are temporarily out of operation. The temporary units may not be operated at the same time as the permanent units that they are meant to replace. Temporary units must have emission rates for all conditions that are less than those identified in the permit, and in lbs/hour for all criteria pollutants, than the permanent units they are replacing.  Temporary engines or boilers may be used on site that do not replace existing equipment, if the use qualifies as an insignificant activity under Minn. R. 7007.1300, subp. 2.B, Plant upkeep.	Minn R. 7007.0800, subp. 3
<b>D. POLLUTION CONTROL EQUIPMENT REQUIREMENTS</b>	hdr
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
<b>E. TESTING REQUIREMENTS</b>	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017
Performance Test Notifications and Submittals:  Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements.  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 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test  The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. Rs. 7017.2030, subp. 1-4, 7017.2018 & Minn. R. 7017.2035, subp. 1-2
Operating and/or production limits will be placed on emission units based on operating conditions during performance testing. Limits set as a result of a performance test (conducted before or after permit issuance) apply until new operating/production limits are set following formal review of a performance test as specified by Minn. R. 7017.2025.  This requirement does not apply to EU 001, EU 002, and EU 003. For operating limit requirements applicable to EU 001, EU 002, and EU 003, see requirements pertaining to Short Term Emergency and Testing (STET) and Boiler Operating Conditions in EU 001, EU 002, and EU 003.	Minn. R. 7017.2025
The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001 - 7017.2060.	Minn. R. 7017.2020, subp. 4
<b>F. MONITORING REQUIREMENTS</b>	hdr
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
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)



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

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

Continuous Monitoring Equipment: Maintain 90 percent uptime based on quarterly reporting periods, for all SO <sub>2</sub> , O <sub>2</sub> and Gas Flow continuous monitoring systems and associated equipment.  Exemptions from the 90 percent monitoring uptime requirement are:  1. lightning strikes, earthquakes, tornadoes, and other natural disasters; 2. time periods for return and repair of the CEMS to the manufacturer to replace needed parts not included in the manufacturer's list of recommended spare parts; 3. time periods for scheduled maintenance based on equipment manufacturer's recommended maintenance schedule and 4. time to conduct daily drift checks and required CEMS audits.  This condition expires upon the effective date of EPA approval of the change from this current requirement to the 40 CFR part 75 requirements (CEMS QA/QC).	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP
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); 40 CFR Section 63.10(b)
State Implementation Plan Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of the required monitoring, sample, measurement, or report that corresponds with the "Title I Condition: State Implementation Plan for Sulfur Dioxide" requirement.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subps. 14 & 16(J)
The Permittee shall keep records on site that document the hours of operation of the temporary units, and the calculations that demonstrate that emissions are expected to be less than the emissions from the permanent units, if the temporary units are used to replace existing equipment.	Minn. R. 7007.0800, subp. 5(D)
H. REPORTING	hdr
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B, and C of Minn. R. 7019.1000, subp. 2.  At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2

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

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B, and C of Minn. R. 7019.1000, subp. 3.  At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095
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)
The Permittee shall verbally notify the MPCA no later than two days after a replacement unit and permanent unit commence simultaneous operation. A written notification of this simultaneous operation shall be submitted with the semi-annual deviations report.	Minn. R. 7007.0800, subp. 6(E)
Deviations from requirements cited as "Title I Condition: State Implementation Plan for Sulfur Dioxide" shall be reported semi-annually with the Semiannual Deviations Report required by this permit. Reporting shall occur even if there were no deviations for this reporting period.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP
Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. Submit the report on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010

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

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item:** GP 001 Emergency Generators**Associated Items:** EU 010 Emergency Engine Generator EEG - 61001

EU 011 Emergency Engine Generator EEG - 61002

What to do	Why to do it
Operating Hours: less than or equal to 816 hours/year using 12-month Rolling Sum calculated monthly.	Title I Condition: to avoid classification as a major modification under 40 CFR Section 52.21
Calculate and record the monthly and the 12-month rolling sum operating hours for GP 001. Complete the calculation and recording by the end of each month, for the previous month and the previous 12-month period.	Title I Condition: to avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained. This applies to each GP 001 emission unit.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
Fuel type is limited to distillate fuel oil with a maximum Sulfur Content of Fuel: less than or equal to 0.5 percent by weight	Minn. R. 7007.0800, subp. 2
Fuel Supplier Receipts: Keep on-site fuel receipts for each fuel shipment. Each receipt shall specify the type of fuel oil delivered and the percent by weight sulfur content.	Minn. R. 7007.0800, subp. 2

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

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item: GP 002 Existing Boiler CEMs**

<b>What to do</b>	<b>Why to do it</b>
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 QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2. Perform a leak check at least once during each QA operating quarter and no less than 30 days apart.	40 CFR pt. 75, Appendix B, section 2.2; Minn. R. 7017.1020
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 calendar half-year following CEM Certification Test, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, section 2.3.1; Minn. R. 7017.1020
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.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; 40 CFR Section 75.21
Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.  Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2.	Minn. R. 7017.1090
Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R 7017.1130; 40 CFR Section 75.50

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

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item: GP 003 Existing Boiler COMS**

<b>What to do</b>	<b>Why to do it</b>
COMS QA/QC: The owner or operator of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each COMS according to the QA/QC procedures in Minn. R. 7017.1210.	Minn. R. 7017.1210
COMS Continuous Operation: Except for system downtime due to damage from unavoidable events, sudden and not reasonably preventable monitor breakdowns, scheduled monitor maintenance, daily drift checks, calibration error audits, linearity checks, relative accuracy test audits and cylinder gas audits, all COMS shall be in continuous operation.	Minn. R. 7017.1090; 40 CFR Section 64.7
COMS Daily Calibration Drift (CD) Check: The Permittee shall conduct daily zero and upscale calibration drift assessment and adjustments of each COMS according to the requirements of Section 60.13(d)(2). The zero and upscale calibration levels must be determined by using the span value specified in the applicable requirement. If the applicable requirement does not specify a span value, a span value of 60, 70, or 80 percent opacity must be used unless an alternative span value is approved by the commissioner.	Minn. R. 7017.1210, subp. 2; 40 CFR Section 64.7
COMS Calibration Error Audit: due before end of each calendar half-year starting 05/02/2006 for each COMS. Conduct audits at least 3 months apart but no greater than 8 months apart. Audits are required only during periods of operation.	Minn. R. 7017.1210, subp. 3; 40 CFR Section 64.7
COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar quarter in which the COMS calibration error audit was completed.	Minn. R. 7017.1220; 40 CFR Section 64.9
Attenuator Calibration: The Permittee shall have an independent testing company conduct calibrations of each of the neutral density filters used in the calibration error audit according to the procedure in Part 60, Appendix B, Section 7.1.3.1 within the time frame of opacity stability guaranteed by the attenuator manufacturer. The manufacturer's guarantee of stability shall be on site available for inspection.	Minn. R. 7017.1210, subp. 4; 40 CFR Section 64.7
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.	Minn. R. 7017.1200, subp. 1, 2 & 3; 40 CFR Section 64.7
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.	Minn. R. 7007.0800, subp. 5; Minn. R. 7017.1130
QA Plan Required: Develop and implement a written quality assurance plan for each COMS within 60 days after March 8, 1999, or within 30 days after monitor certification, whichever is later. The plan shall be on site and available for inspection. The plan shall contain the written procedures listed in Minn. R. 7017.1210, subp. 1.	Minn. R. 7017.1210, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - Riverside Generating Plant  
Permit Number: 05300015 - 005

Subject Item: GP 004 Coal Loading Stations

Associated Items: CE 010 Dust Suppression by Water Spray

What to do	Why to do it
Control emissions using dust suppression methods so that particulate matter emissions do not exhibit greater than 20 percent opacity.	Minn. R. 7011.1105(G)(2)

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

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item:** GP 005 Stockpiles, Stockpile Construction, and Reclaiming**Associated Items:** CE 010 Dust Suppression by Water Spray

What to do	Why to do it
Coal Pile Storage: The total storage of coal piles shall not exceed 200,000 tons.  This is a state-only requirement and is not enforceable under the Clean Air Act by the EPA administrator or citizens.	Minn. R. 7009.0020
Coke Pile Storage: The total storage capacity of the coke piles shall not exceed 3,000 tons.  This is a state-only requirement and is not enforceable under the Clean Air Act by the EPA administrator or citizens.	Minn. R. 7009.0020
Record daily the material storage inventory each day the inventory changes.	Minn. R. 7007.0800
Stockpiles, Stockpile Construction, and Reclaiming: Control fugitive particulate emissions by dust suppression methods on such operations so that fugitive particulate emissions are minimized.	Minn. R. 7011.1105(F)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - Riverside Generating Plant  
Permit Number: 05300015 - 005

Subject Item: GP 006 Ash Handling

Associated Items: CE 010 Dust Suppression by Water Spray  
CE 011 Enclosed Building  
CE 012 Dust Suppression by Water Spray

What to do	Why to do it
No person shall 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.	Minn. R. 7011.0150



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

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item: GP 007 Combustion Turbines**

**Associated Items:** CE 015 Low NOx Burners

CE 016 SCR (Selective Catalytic Reduction)

CE 017 Low NOx Burners

CE 018 SCR (Selective Catalytic Reduction)

EU 015 Combustion Turbine No. 1

EU 016 Combustion Turbine No. 2

MR 022 CT #9 NOx

MR 023 CT #9 CO

MR 024 CT #10 NOx

MR 025 CT #10 CO

SV 013 Combustion Turbine No. 1

SV 014 Combustion Turbine No. 2

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 (EU 015 and 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. 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, & 75
A. LIMITS - GENERAL ELECTRIC (GE) 7FA	hdr
Nitrogen Oxides: less than or equal to 15.0 parts per million at 15% O2 dry basis on a 30-day rolling average including startup and shutdown. Alternatively, the limit may be calculated as 54 ng/J of useful output (0.43 lb/MWh). This limit applies individually to EU 015 and EU 016.	40 CFR Section 60.4320; 40 CFR Section 60.4350(h)
Sulfur Dioxide: less than 0.060 lbs/million Btu heat input. (This limit may be met by combusting Natural Gas with a fuel quality characteristic tariff/contract showing 20 grains sulfur or less per 100 standard cubic feet).	40 CFR Section 60.4330(a)(1); 40 CFR Section 60.4365
A.1. LIMITS - GE 7FA  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, combustion tuning, and combustion turbine shakedown (as defined in Table A Subject Items Total Facility and GP 008).  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 9.0 parts per million by volume at actual oxygen on a dry basis using a 3-hour block average. This applies to the GE 7FA turbines.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 4.6 parts per million by volume at actual oxygen on a dry basis using a 3-hour block average. This applies to the GE 7FA turbines.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 4.7 parts per million by volume at 15% oxygen on a dry basis using a 30-day rolling average. This applies to the GE 7FA turbines, and is equivalent to 0.015 lb/mmBtu at 100% load at 45 degrees Fahrenheit.	Minn. R. 7007.0800, subp. 2 to meet NOx level in Metropolitan Emissions Reduction Project
B. COMBUSTION TUNING - GE 7FA  These limits apply only during combustion tuning, and to the stack/vent for each GE 7FA turbine, if installed. Combustion tuning is the operation of either GE 7FA turbine for performance tuning operations after a unit overhaul or as part of routine maintenance and testing, after the combustion turbine shakedown is complete.	hdr
Carbon Monoxide: less than or equal to 1000 parts per million by volume at actual oxygen on a dry basis using a 1-hour average. This applies only during combustion tuning of a GE 7FA turbine (EU015 or 016).	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000

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

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

Nitrogen Oxides: less than or equal to 100 parts per million by volume at 15% oxygen on a dry basis using a 1-hour average. This applies only during combustion tuning of a GE 7FA turbine (EU015 or 016).	Minn. R. 7007.0800, subp. 2 to meet NOx level in Metropolitan Emissions Reduction Project																								
GP 007 Combustion Tuning Operating Hours: Less than or equal to 50 hours per year on a 12-month rolling sum basis for GE 7FA turbines (EU015 and 016). This limit applies as a total for both turbines combined.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 to meet NOx level in Metropolitan Emissions Reduction Project																								
C. OPERATING RESTRICTIONS - GE 7FA	hdr																								
Permitted Fuel: Pipeline natural gas only.	Minn. R. 7007.0800, subp. 2																								
Control Equipment Operation During Startup and Shutdown: Operation of CE 016 and CE 018 is not required during EU 015 and EU 016 startup, respectively, but shall be initiated prior to the SCR inlet duct gas temperature reaching 600 degrees Fahrenheit. During shutdown, the control equipment shall continue to operate as long as the control equipment is effective.	Minn. R. 7007.0800, subp. 2																								
C.1. OPERATING RESTRICTIONS - GE 7FA	hdr																								
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 of the GE 7FA turbine is complete and normal operation commences upon initial attainment of Mode 6 operation as indicated by the combustion turbine control system. Shutdown commences and normal operation ceases upon cessation of Mode 6 operation as turbine load decreases during shutdown. Mode 6 operation occurs when all burner nozzles are firing in low-NOx configuration.  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																								
Startup and Shutdown Operating Hours: Less than or equal to 1508 hours/year on a 12-month rolling sum basis for both GE 7FA combustion turbines combined. During the initial 11 months after completion of combustion turbine shakedown, the applicable cumulative limit shall be:  <table> <thead> <tr> <th>Month</th><th>SUSD Hours</th></tr> </thead> <tbody> <tr><td>1</td><td>300</td></tr> <tr><td>2</td><td>500</td></tr> <tr><td>3</td><td>608</td></tr> <tr><td>4</td><td>708</td></tr> <tr><td>5</td><td>808</td></tr> <tr><td>6</td><td>908</td></tr> <tr><td>7</td><td>1008</td></tr> <tr><td>8</td><td>1108</td></tr> <tr><td>9</td><td>1208</td></tr> <tr><td>10</td><td>1308</td></tr> <tr><td>11</td><td>1408</td></tr> </tbody> </table>	Month	SUSD Hours	1	300	2	500	3	608	4	708	5	808	6	908	7	1008	8	1108	9	1208	10	1308	11	1408	Title I Condition: 40 CFR Section 52.21(j) CO & VOC BACT Operating Limit; Minn. R. 7007.3000
Month	SUSD Hours																								
1	300																								
2	500																								
3	608																								
4	708																								
5	808																								
6	908																								
7	1008																								
8	1108																								
9	1208																								
10	1308																								
11	1408																								
D. MONITORING - GE 7FA	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)																								
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 60.4340-4345; 40 CFR Section 75.10; Minn. R. 7007.0800, subp. 4																								
Emissions Monitoring: The owner or operator shall use a CEMS to measure CO emissions in ppmvd. 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																								
Operating Load and Operating Conditions Monitoring.  The Permittee shall:  1. Continuously monitor, determine, and record the hourly heat input rate (mmBtu/hr) for EU 015 and 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																								

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-14**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

E. CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) REQUIREMENTS - GE 7FA	hdr
CO CEMS requirements apply individually to the CO CEMS system on each stack. NOx CEMS requirements apply individually to the NOx CEMS system on each stack.	
CEMS Installation Notification: due 60 days before installing any CEMS.	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 the earlier of 90 unit operating days or 180 calendar days after the date the respective unit commences commercial operation. Certify each NOx CEMS in accordance with 40 CFR part 75, Appendix A.  As defined in Section 72.2, a 'unit operating day' is any calendar day that the unit combusts fuel. 'Commence commercial operation' means to have begun to generate electricity for sale, including the sale of test generation.	40 CFR Section 75.4(b)(2)
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
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 & 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
NOx CEMS Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2 following NOx CEMS Certification Test. Perform a leak check at least once during each QA operating quarter and no less than 30 days apart.	40 CFR part 75, Appendix B, section 2.2; Minn. R. 7017.1020
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
NOx CEMS Relative Accuracy Test Audit (RATA): due before end of each year following CEMS 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

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-15**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

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
<b>F. RECORDKEEPING - GE 7FA</b>	hdr
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
Recordkeeping - Combustion Tuning Operating Hours: The Permittee shall record the GP 007 combustion tuning operating hours, once each day of operation of either or both combustion turbines.  By the last day of each month the Permittee shall calculate and record the total GP 007 combustion tuning 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
Recordkeeping - Startup and Shutdown Operating Hours: The Permittee shall record the total GP 007 startup and shutdown operating hours, once each day of combustion turbine operation.  By the last day of each month the Permittee shall calculate and record the total GP 007 startup and shutdown 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
<b>G. PERFORMANCE TESTING - GE 7FA</b>	hdr
See Table A page A-3 for additional requirements regarding performance test notifications and submittals.	
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 EU 015 and EU 016. Separate tests shall be conducted on each emission unit.	40 CFR Sections 60.8(a) & 60.4400-.4405; 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 from EU 015 and EU 016. Separate tests shall be conducted on each emission unit.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
Notification of the Planned Date for Commencing Commercial Operation: due 45 days prior to the planned date for commencing commercial operation.	40 CFR Section 75.61(a)(2)(i)

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-16**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item: GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown**

**Associated Items:**

- CE 001 Gas Scrubber (General, Not Classified)
- CE 002 Fabric Filter - High Temperature, i.e., T>250 Degrees F
- CE 003 Electrostatic Precipitator - High Efficiency
- CE 004 Electrostatic Precipitator - High Efficiency
- CE 005 Electrostatic Precipitator - High Efficiency
- CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
- CE 007 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
- CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
- CE 009 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
- CE 010 Dust Suppression by Water Spray
- CE 011 Enclosed Building
- CE 012 Dust Suppression by Water Spray
- CE 014 Fabric Filter - Low Temperature, i.e., T<180 Degrees F
- EU 001 Boiler 6
- EU 002 Boiler 7
- EU 003 Boiler 8
- EU 004 Coal Crusher Building (conveyors 83A, 83B, & 87)
- EU 005 900 + 2400 Bunker Rooms (conveyers 85, 86A, 86B, 61, & 71)
- EU 006 Rail Car Unloading - Coal Conveying (conveyors 83A, 83B, & 82A tail)
- EU 007 Rail Car Unloading Building - Coal Unloading (conveyors 81A, 81B, 82A, & 82B)
- EU 008 6/7 Fly Ash Bin
- EU 009 Unit 8 Fly Ash Bin
- EU 014 Coal Crusher Conveyors (conveyor 84)
- FS 001 Rail Car Unload Building Doors
- FS 002 Outstack Hopper Loadout
- FS 003 Outstack Hopper Loading
- FS 004 Coal Stockpile Placement
- FS 005 Coal Stockpile - Wind Erosion
- FS 006 Coal Stockpile Reclaim
- FS 007 Petroleum Coke Unload
- FS 008 Petroleum Coke Stockpile - Wind Erosion
- FS 009 Petroleum Coke Reclaim
- FS 010 Coal Yard Traffic
- FS 011 Unit 8 Fly Ash Loadout
- FS 012 Bottom Ash Unloading (In Ash Transfer Bldg.)
- FS 013 Bottom Ash Loading (Outside Ash Transfer Bldg.)
- FS 014 Unpaved Roads - Ash Hauling
- MR 001 RV6 SO2 Dilution Extractive Monitor
- MR 002 RV6 NOx Dilution Extractive Monitor

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-17**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Associated Items:**

MR 003 RV6 CO2 Dilution Extractive Monitor

MR 005 RV7 SO2 Dilution Extractive Monitor

MR 006 RV7 NOx Dilution Extractive Monitor

MR 007 RV7 CO2 Dilution Extractive Monitor

MR 009 RV8 SO2 CEM

MR 010 RV8 NOx CEM

MR 011 RV8 O2 CEM

MR 013 Opacity Monitor SV 001

MR 014 Opacity Monitor SV 002

MR 015 Opacity Monitor SV 003

SV 001 CS0006 -- Boilers 6 & 7

SV 002 CS0007 -- Boilers 6 & 7

SV 003 Boiler 8

SV 004 Coal Crusher -- DC83

SV 005 900 + 2400 Bunker Room -- DC71

SV 006 Railcar Unloading -- Conveying -- DC81

SV 008 Emergency Engine/Generator EEG-61001

SV 009 Emergency Engine/Generator EEG-61002

SV 012 Coal Crusher -- Conveying -- DC84

What to do	Why to do it
A. COMBUSTION TURBINE SHAKEDOWN DEFINITION	hdr
<p>Combustion Turbine Shakedown: Combustion turbine shakedown (CTS) is defined as the period of time commencing on the day of the first of the two combustion turbines (EU 015 and EU 016) 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.</p> <p>Commercial dispatch occurs when the Midwest Independent System Operator is notified that the combustion turbine is available for commercial electric power generation.</p>	<p>Title I Condition: To avoid major modification as defined in 40 CFR Section 52.21(b)(2)(i) for PM, PM10, &amp; NOx; Minn. R. 7007.3000</p>
B. EXISTING FACILITY REQUIREMENTS DURING AND AFTER COMBUSTION TURBINE SHAKEDOWN	hdr
<p>Partial Existing Facility Shutdown Prior To Start Of Combustion Turbine Shakedown: The Permittee shall permanently shut down the following emissions units and associated equipment no later than the day prior to the start of CTS. Upon shutdown of this equipment, all requirements applicable to this equipment become obsolete, except for this shutdown requirement.</p> <p>EU 001 Boiler 6</p> <p>EU 002 Boiler 7</p> <p>EU 008 6/7 Fly Ash Bin</p> <p>SV 001 Boilers 6 &amp; 7</p> <p>SV 002 Boilers 6 &amp; 7</p> <p>CE 001 Boilers 6 &amp; 7 gas scrubber</p> <p>CE 002 Boilers 6 &amp; 7 fabric filter</p>	<p>Title I Condition: To avoid major modification as defined in 40 CFR Section 52.21(b)(2)(i) for PM, PM10, &amp; NOx; Minn. R. 7007.3000</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-18**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

<p>Overlapping Operation of Existing and New Facility Sources and Associated Equipment During and After CTS:</p> <p>In addition to requiring shutdown of certain existing equipment prior to CTS, this permit authorizes limited overlapping operation of a portion of the existing and new facilities up to the earlier of 6 months after the completion of CTS or December 31, 2009. The new facility is EU 010, EU 011, EU 015, EU 016, EU 017, and all associated control equipment, stacks, and monitors.</p> <p>The existing facility sources and associated equipment allowed to operate up to the earlier of 6 months after the completion of CTS or December 31, 2009, are:</p> <p>EU 003 Boiler 8  EU 004 Coal Crusher Building  EU 005 900 + 2400 Bunker Rooms  EU 006 Rail Car Unloading - Coal Conveying  EU 007 Rail Car Unloading Building - Coal Unloading  EU 009 Unit 8 Fly Ash Bin</p> <p>(continued below)</p>	Minn. R. 7007.0800, subp. 2
<p>Overlapping Operation of Existing and New Facility Sources and Associated Equipment During and After CTS (continued from above):</p> <p>EU 014 Coal Crusher Conveyors  CE 003 Boiler 8 ESP #1  CE 004 Boiler 8 ESP #2  CE 005 Boiler 8 &amp; Boiler 8 Fly Ash Bin ESP #3  CE 006 900 + 2400 Bunker Rooms fabric filter  CE 007 Rail Car Unloading - Coal Conveying fabric filter  CE 008 Rail Car Unloading Building - Coal Unloading fabric filter  CE 009 Coal Crusher Building fabric filter  FS 001 Rail Car Unload Building Doors  FS 002 Outstack Hopper Loadout  FS 003 Outstack Hopper Loading  FS 004 Coal Stockpile Placement  FS 005 Coal Stockpile - Wind Erosion</p> <p>(continued below)</p>	Minn. R. 7007.0800, subp. 2
<p>Overlapping Operation of Existing and New Facility Sources and Associated Equipment During and After CTS (continued from above):</p> <p>FS 006 Coal Stockpile Reclaim  FS 007 Petroleum Coke Unload  FS 008 Petroleum Coke Stockpile - Wind Erosion  FS 009 Petroleum Coke Reclaim  FS 010 Coal Yard Traffic  FS 011 Unit 8 Fly Ash Loadout  FS 012 Fly Ash Unloading (In Ash Transfer Bldg.)  FS 013 Fly Ash Loading (Outside Ash Transfer Bldg.)  FS 014 Unpaved Roads - Ash Hauling  CE 010 Water Spray for FS 002, FS 004 - 006, FS 008 - 010, and FS 014  CE 011 Other (building enclosure) for FS 001 and FS 012  CE 012 Water Spray for FS 011  CE 013 Water Spray for FS 003  CE 014 Coal Crusher Conveyors fabric filter</p>	Minn. R. 7007.0800, subp. 2
<p>EU 003 Operation After CTS:</p> <p>The permittee is authorized to operate EU 003 after the end of CTS and as allowed by other GP 008 requirements in this permit under the following circumstances:</p> <ol style="list-style-type: none"> <li>1. The occurrence of an equipment failure, malfunction, or detected problem of the combustion turbines (EU 015 and EU 016), the combined cycle heat recovery steam generators, the existing steam turbine number 7 or any associated plant system, and start-up or continued equipment operation would place equipment at risk for damage or result in a permit violation, or risk unreliable transmission or distribution system operation, or compromise worker safety;</li> <li>2. During natural gas fuel supply problems;</li> <li>3. To maintain EU 003 in a warm standby condition for dispatch if needed;</li> <li>4. To burn the last remaining fuel supply on site after CTS to complete the restoration of the fuel storage area.</li> </ol>	Minn. R. 7007.0800, subp. 2

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

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

EU 003 Total Heat Input Limit Effective The Day Prior To Start of Combustion Turbine Shakedown: Less than or equal to 13,715,060 million Btus per year on a 12-month rolling sum basis. This limit becomes effective on the day prior to the start of CTS and expires the earlier of 6 months after the completion of CTS or December 31, 2009.	Title I Condition: To avoid major modification as defined in 40 CFR Section 52.21(b)(2)(i) for PM, PM10, & NOx; Minn. R. 7007.3000
Total Existing Facility Shutdown: The Permittee shall permanently shut down the existing facility emissions units and associated equipment that are permitted to operate during and after CTS, the earlier of 6 months after the completion of CTS or December 31, 2009. Upon completion of total existing facility shutdown, all requirements applicable to the existing facility become obsolete, except for this shutdown requirement, and the EU 003 heat input recordkeeping requirement which becomes obsolete on the last day of the month following the month that EU 003 is shutdown/retired.	Minn. R. 7007.0800, subp. 2
Retired Unit Exemption Requirements: The Permittee shall comply with all requirements in 40 CFR Section 72.8 for EU 001, EU 002, and EU 003.	40 CFR Section 72.8
C. MONITORING AND RECORDKEEPING	hdr
EU 003 Total Heat Input Monitoring and Recordkeeping: Use part 75 Appendix F to calculate EU 003 heat input on an hourly basis using the continuous emission monitoring system during CTS. By the last day of each month, the Permittee shall calculate the cumulative heat input for the previous month and the previous 12-month period. This recordkeeping requirement becomes effective the day prior to the start of CTS and becomes obsolete on the last day of the month following the month that EU 003 is shutdown/retired.	Title I Condition: To avoid major modification as defined in 40 CFR Section 52.21(b)(2)(i) for PM, PM10, & NOx; Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5
D. NOTIFICATIONS	hdr
Partial Existing Facility Shutdown and Start of CTS Notification: due 15 days after first combustion turbine initial startup. This notification is included in the "Notification of the Actual Date of Initial Startup" requirement for EU 015, EU 016, EU 017, and GP 008 on page B-2 in Table B of this permit.	Minn. R. 7007.0800, subp. 2
Retired Unit Exemption Form: By December 31 of the first full calendar year during which EU 001, EU 002, and EU 003 are permanently retired, submit a complete EPA Retired Unit Exemption form for each unit to the MPCA with a copy to the EPA.	40 CFR Section 72.8(b)(2)
Total Existing Facility Shutdown Notification: due 15 days after Total Existing Facility shutdown but no later than 363 days after the start of CTS. This notification is included in the "Notification" requirement for GP 008 on page B-2 in Table B of this permit.	Minn. R. 7007.0800, subp. 2



**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-20**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item: GP 009 Existing Facility Boiler Emission Control Equipment Requirements****Associated Items:** CE 002 Fabric Filter - High Temperature, i.e., T>250 Degrees F

CE 003 Electrostatic Precipitator - High Efficiency

CE 004 Electrostatic Precipitator - High Efficiency

CE 005 Electrostatic Precipitator - High Efficiency

EU 001 Boiler 6

EU 002 Boiler 7

EU 003 Boiler 8

What to do	Why to do it
GP 009 Emission Unit and Corresponding Control Equipment:  EU 001 (Boiler 6): CE 002 Fabric Filter EU 002 (Boiler 7): CE 002 Fabric Filter EU 003 (Boiler 8): CE 003, CE 004, CE 005 (Three Electrostatic Precipitators)  CE 002 is also the control equipment for EU 008 Boilers 6&7 Fly Ash Bin. CE 005 is also the control equipment for EU 009 Boiler 8 Fly Ash Bin.	hdr
Operate control equipment when the associated boiler is operating except while burning only natural gas. For CE 005 only, place CE 005 into service when CE 005 reaches a temperature of 260 degrees Fahrenheit.	Minn. R. 7007.0800, subp. 2

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-21**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item:** EU 001 Boiler 6**Associated Items:** CE 001 Gas Scrubber (General, Not Classified)

CE 002 Fabric Filter - High Temperature, i.e., T&gt;250 Degrees F

GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown

GP 009 Existing Facility Boiler Emission Control Equipment Requirements

SV 001 CS0006 -- Boilers 6 &amp; 7

SV 002 CS0007 -- Boilers 6 &amp; 7

What to do	Why to do it
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 0.83 lbs/million Btu heat input using 3-hour Average and 713 lbs/hr (3-hour average) during scrubber operation.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7009.0020; meets requirements of Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 0.9 lbs/million Btu heat input using 30-day Rolling Average	Settlement Agreement with NSP, June 10, 1983, Docket No. PCA-83-003-AK
Sulfur Dioxide: less than or equal to 1.00 lbs/million Btu heat input using 3-hour Average and 855 lbs/hr (3-hour average) without scrubber operation.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7009.0020; meets requirements of Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 1.07 lbs/million Btu heat input using 1-Hour Average and 920 lbs/hr (1-hour average) during scrubber operation.	Minn. R. 7009.0020; 40 CFR Section 50.6; meets requirements of Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 1.49 lbs/million Btu heat input using 1-Hour Average and 1180 lbs/hr (1-hour average) without scrubber operation.	Minn. R. 7009.0020; 40 CFR Section 50.6; meets requirements of Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 3.0 lbs/million Btu heat input when burning solid fuels and less than or equal to 1.6 lbs/million Btu heat input when burning liquid fuels.	Minn. R. 7011.0510, subp. 1
Total Particulate Matter: less than or equal to 0.15 lbs/million Btu heat input using 24-hour Block Average. This is a state-only requirement and is not enforceable by the EPA administrator or citizens under the Clean Air Act.	Minn. R. 7009.0020
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input (potential emissions of the boiler at capacity are approximately 36.12 lbs/hr or 0.04 lbs/million Btu heat input).	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity using 6-minute Average except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
Comply with the applicable Acid Rain emissions limitation of sulfur dioxide.	40 CFR Sections 72.9(c)(1)(i) & 72.9(g)(4)
NO <sub>x</sub> Averaging Plan Beginning January 1, 2000 either:  Maintain an annual average NO <sub>x</sub> emission rate of 0.85 lbs/mmBtu and limit the annual heat input to less than or equal to 4,324,500 mmBtu per year.  OR  Maintain a Btu-weighted annual average emission rate in lbs/mmBtu, averaged over the units specified in the NO <sub>x</sub> 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:  Boiler ID# Allen S. King 1 Black Dog 3,4 High Bridge 3,4,5,6 Minnesota Valley 4 Riverside 6,7,8 Sherburne County 1,2,3  See NO <sub>x</sub> Averaging Plan in Appendix B.	40 CFR Section 76.11
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Gas Scrubber (CE 001): Maintain records of all periods of operation. Records shall also indicate if the control equipment is not in an operable status.	Minn. R. 7007.0800, subp. 5

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-22**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

Fabric Filter (CE 002): Operate whenever the associated boiler is in operation except when combusting only or any combination of natural gas, fuel oil, or waste oil.	Minn. R. 7007.0800, subp. 2
C. MONITORING REQUIREMENTS	hdr
Emissions Monitoring: The owner or operator shall use a CEMS to measure SO <sub>2</sub> , NO <sub>x</sub> , and CO <sub>2</sub> emissions and flow rate for each affected unit in accordance with 40 CFR Section 75.10. See GP 002 for specific CEMS operating requirements.	40 CFR Section 75.21
State Implementation Plan Emissions Monitoring: The owner or operator shall use the CEMS to measure SO <sub>2</sub> emissions and flow rate for each affected unit in accordance with 40 CFR Section 75.10. See GP 002 for specific CEMS operating requirements.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP
Emissions Monitoring: The owner or operator shall use a COMS to measure opacity emissions from SV 001 and SV 002. See GP 003 for specific COMS operating requirements.	Minn. R. 7017.1006; 40 CFR Sections 64.6 & 64.9
D. TESTING REQUIREMENTS	hdr
Performance Test: due 180 days after 05/02/2006 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
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
E. 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 Sections 72.9(c)(1)(i) & 72.9(g)(4)
Allowed fuel types: coal, petroleum coke, distillate fuel oil, natural gas, petroleum-derived used oil.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP
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 SO <sub>2</sub> emission limit requirement in Minn. R. 7011.0510, subp. 1
Capacity: less than or equal to 860 million Btu/hour with CE 001 gas scrubber operating.	Minn. R. 7009.0020
Capacity: less than or equal to 852 million Btu/hour without CE 001 gas scrubber operating.	Minn. R. 7009.0020
Combust used oil in accordance with used oil regulations in Minn. R. ch. 7045. Limit used oil combustion to 10% of total fuel mass input on an hourly basis.	Minn. R. 7007.0800, subp. 2; Minn. R. ch. 7045
Soils or materials resulting from cleanup of spills of gasoline, permitted fuels, or petroleum derived used oils generated on-site or within the Xcel Energy system that meet the requirement of Minn. R. ch. 7045 are limited to 10% of the total fuel input on a mass basis.	Minn. R. 7007.0800, subp. 2

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-23**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

Boiler chemical cleaning waste: limited to no more than 8.5 gallons per minute per 100,000 pounds per hour steam flow during the evaporation process, unless good combustion is demonstrated at a higher flow rate.	Minn. R. 7007.0800, subp. 2
Cleaning waste shall be introduced into the boiler when the boiler is operating at a minimum of 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. The Permittee is not authorized for subsequent disposals of cleaning agents at a flow rate greater than 8.5 gallons per minute until receipt of written approval from the MPCA.	
STET (Short Term Emergency and Testing) Operation:  Boiler 6 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.  STET Operation Definition:  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
F. RECORDKEEPING	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)
Recordkeeping for alternative fuels and waste products: Keep records of the type and quantity of used oil, materials resulting from spills, or boiler cleaning agents burned during each period of incineration.	Minn. R. 7007.0800
Recordkeeping for fuel usage: Keep on-site records of mmBtu/hr, calculated from megawatts generated and the latest heat rate study. The 24-hour average must be calculated for each calendar day in which the boiler exceeds the maximum capacity in any hour.	Minn. R. 7007.0800
G. 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)
Excess Emissions/Downtime Reports (EER's): due 30 days after end of each calendar quarter starting 05/02/2006 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of exceedances of the limit for SO <sub>2</sub> including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-24**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item: EU 002 Boiler 7****Associated Items:** CE 001 Gas Scrubber (General, Not Classified)

CE 002 Fabric Filter - High Temperature, i.e., T&gt;250 Degrees F

GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown

GP 009 Existing Facility Boiler Emission Control Equipment Requirements

SV 001 CS0006 -- Boilers 6 &amp; 7

SV 002 CS0007 -- Boilers 6 &amp; 7

What to do	Why to do it
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 0.83 lbs/million Btu heat input using 3-hour Average and 713 lbs/hr (3-hour average) during scrubber operation.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7009.0020; meets requirements of Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 0.9 lbs/million Btu heat input using 30-day Rolling Average	Settlement Agreement with NSP, June 10, 1983, Docket No. PCA-83-003-AK
Sulfur Dioxide: less than or equal to 1.00 lbs/million Btu heat input using 3-hour Average and 855 lbs/hr (3-hour average) without scrubber operation.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7009.0020; meets requirements of Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 1.07 lbs/million Btu heat input using 1-Hour Average and 920 lbs/hr (1-hour average) during scrubber operation.	Minn. R. 7009.0020; 40 CFR Section 50.6; meets requirements of Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 1.49 lbs/million Btu heat input using 1-Hour Average and 1180 lbs/hr (1-hour average) without scrubber operation.	Minn. R. 7009.0020; 40 CFR Section 50.6; meets requirements of Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 3.0 lbs/million Btu heat input when burning solid fuels and less than or equal to 1.6 lbs/million Btu heat input when burning liquid fuels.	Minn. R. 7011.0510, subp. 1
Total Particulate Matter: less than or equal to 0.15 lbs/million Btu heat input using 24-hour Block Average. This is a state-only requirement and is not enforceable by the EPA administrator or citizens under the Clean Air Act.	Minn. R. 7009.0020
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input (potential emissions of the boiler at capacity are approximately 36.12 lbs/hr or 0.04 lbs/million Btu heat input).	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity using 6-minute Average except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
Comply with the applicable Acid Rain emissions limitation of sulfur dioxide.	40 CFR Sections 72.9(c)(1)(i) & 72.9(g)(4)
NO <sub>x</sub> Averaging Plan Beginning January 1, 2000 either:  Maintain an annual average NO <sub>x</sub> emission rate of 0.85 lbs/mmBtu and limit the annual heat input to less than or equal to 4,324,500 mmBtu per year.  OR  Maintain a Btu-weighted annual average emission rate in lbs/mmBtu, averaged over the units specified in the NO <sub>x</sub> 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:  Boiler ID# Allen S. King 1 Black Dog 3,4 High Bridge 3,4,5,6 Minnesota Valley 4 Riverside 6,7,8 Sherburne County 1,2,3  See NO <sub>x</sub> Averaging Plan in Appendix B.	40 CFR Section 76.11
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Gas Scrubber (CE 001): Maintain records of all periods of operation. Records shall also indicate if the control equipment is not in an operable status.	Minn. R. 7007.0800, subp. 5

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-25**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

Fabric Filter (CE 002): Operate whenever the associated boiler is in operation except when combusting only or any combination of natural gas, fuel oil, or waste oil.	Minn. R. 7007.0800, subp. 2
C. MONITORING REQUIREMENTS	hdr
Emissions Monitoring: The owner or operator shall use a CEMS to measure SO <sub>2</sub> , NO <sub>x</sub> , and CO <sub>2</sub> emissions and flow rate for each affected unit in accordance with 40 CFR Section 75.10. See GP 002 for specific CEMS operating requirements.	40 CFR Section 75.21
State Implementation Plan Emissions Monitoring: The owner or operator shall use the CEMS to measure SO <sub>2</sub> emissions and flow rate for each affected unit in accordance with 40 CFR Section 75.10. See GP 002 for specific CEMS operating requirements.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP
Emissions Monitoring: The owner or operator shall use a COMS to measure opacity emissions from SV 001 and SV 002. See GP 003 for specific COMS operating requirements.	Minn. R. 7017.1006; 40 CFR Sections 64.6 & 64.9
D. TESTING REQUIREMENTS	hdr
Performance Test: due 180 days after 05/02/2006 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
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
E. 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 Sections 72.9(c)(1)(i) & 72.9(g)(4)
Allowed fuel types: coal, petroleum coke, distillate fuel oil, natural gas, petroleum-derived used oil.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP
Capacity: less than or equal to 860 million Btu/hour with CE 001 gas scrubber operating.	Minn. R. 7009.0020
Capacity: less than or equal to 852 million Btu/hour without CE 001 gas scrubber operating.	Minn. R. 7009.0020
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 SO <sub>2</sub> 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 10% of total fuel mass input on an hourly basis.	Minn. R. 7007.0800, subp. 2; Minn. R. ch. 7045
Soils or materials resulting from cleanup of spills of gasoline, permitted fuels, or petroleum derived used oils generated on-site or within the Xcel Energy system that meet the requirement of Minn. R. ch. 7045 are limited to 10% of the total fuel input on a mass basis.	Minn. R. 7007.0800, subp. 2

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-26**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

Boiler chemical cleaning waste: limited to no more than 8.5 gallons per minute per 100,000 pounds per hour steam flow during the evaporation process, unless good combustion is demonstrated at a higher flow rate.	Minn. R. 7007.0800, subp. 2
Cleaning waste shall be introduced into the boiler when the boiler is operating at a minimum of 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. The Permittee is not authorized for subsequent disposals of cleaning agents at a flow rate greater than 8.5 gallons per minute until receipt of written approval from the MPCA.	
STET (Short Term Emergency and Testing) Operation:  Boiler 6 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.  STET Operation Definition:  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
F. RECORDKEEPING	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)
Recordkeeping for alternative fuels and waste products: Keep records of the type and quantity of used oil, materials resulting from spills, or boiler cleaning agents burned during each period of incineration.	Minn. R. 7007.0800
Recordkeeping for fuel usage: Keep on-site records of mmBtu/hr, calculated from megawatts generated and the latest heat rate study. The 24-hour average must be calculated for each calendar day in which the boiler exceeds the maximum capacity in any hour.	Minn. R. 7007.0800
G. 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)
Excess Emissions/Downtime Reports (EER's): due 30 days after end of each calendar quarter starting 05/02/2006 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of exceedances of the limit for SO <sub>2</sub> including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-27**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item: EU 003 Boiler 8**

**Associated Items:** CE 003 Electrostatic Precipitator - High Efficiency  
CE 004 Electrostatic Precipitator - High Efficiency  
CE 005 Electrostatic Precipitator - High Efficiency  
GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown  
GP 009 Existing Facility Boiler Emission Control Equipment Requirements  
SV 003 Boiler 8

What to do	Why to do it														
A. EMISSION LIMITS	hdr														
Sulfur Dioxide: less than or equal to 2.5 lbs/million Btu heat input using 365-day Rolling Average	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7009.0020 and Settlement Agreement with NSP, June 10, 1983, Docket No. PCA-83-003-AK														
Sulfur Dioxide: less than or equal to 2.7 lbs/million Btu heat input (3-hour average) and 6150 lbs/hour (3-hour average).	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7009.0020; meets requirements of Minn. R. 7011.0510, subp. 1														
Sulfur Dioxide: less than or equal to 2.7 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														
Sulfur Dioxide: less than or equal to 3.0 lbs/million Btu heat input when burning solid fuels and less than or equal to 1.6 lbs/million Btu heat input when burning liquid fuels.	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; Minn. R. 7009.0020														
Opacity: less than or equal to 20 percent opacity using 6-minute Average except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2														
Comply with the applicable Acid Rain emissions limitation of sulfur dioxide.	40 CFR Sections 72.9(c)(1)(i) & 72.9(g)(4)														
<p>NO<sub>x</sub> Averaging Plan  Beginning January 1, 2000 either:</p> <p>Maintain an annual average NO<sub>x</sub> emission rate of 0.85 lbs/mmBtu and limit the annual heat input to less than or equal to 10,821,000 mmBtu per year.</p> <p>OR</p> <p>Maintain a Btu-weighted annual average emission rate in lbs/mmBtu, averaged over the units specified in the NO<sub>x</sub> 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:</p> <table> <tr> <td>Boiler ID#</td><td></td></tr> <tr> <td>Allen S. King</td><td>1</td></tr> <tr> <td>Black Dog</td><td>3,4</td></tr> <tr> <td>High Bridge</td><td>3,4,5,6</td></tr> <tr> <td>Minnesota Valley</td><td>4</td></tr> <tr> <td>Riverside</td><td>6,7,8</td></tr> <tr> <td>Sherburne County</td><td>1,2,3</td></tr> </table> <p>See NO<sub>x</sub> Averaging Plan in Appendix B.</p>	Boiler ID#		Allen S. King	1	Black Dog	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
Boiler ID#															
Allen S. King	1														
Black Dog	3,4														
High Bridge	3,4,5,6														
Minnesota Valley	4														
Riverside	6,7,8														
Sherburne County	1,2,3														
B. CONTROL EQUIPMENT REQUIREMENTS	hdr														
Electrostatic Precipitators (CE 003 and CE 004): Operate whenever the associated boiler is in operation except when combusting only or any combination of natural gas, fuel oil, or waste oil.	Minn. R. 7007.0800, subp. 5														
Electrostatic Precipitator (CE 005): Operate whenever the associated boiler is in operation except when combusting only natural gas or during startup. CE 005 shall be placed in service when a temperature of 260 degrees Fahrenheit is attained.	Minn. R. 7007.0800, subp. 2														
C. MONITORING REQUIREMENTS	hdr														
Emissions Monitoring: The owner or operator shall use a CEMS to measure SO <sub>2</sub> , NO <sub>x</sub> , and CO <sub>2</sub> emissions and flow rate for each affected unit in accordance with 40 CFR Section 75.10. See GP 002 for specific CEMS operating requirements.	40 CFR Section 75.21														



**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-28**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

State Implementation Plan Emissions Monitoring: The owner or operator shall use the CEMs to measure SO <sub>2</sub> emissions and flow rate for each affected unit in accordance with 40 CFR Section 75.10.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP
Emissions Monitoring: The owner or operator shall use a COMS to measure opacity emissions from SV 003.	Minn. R. 7017.1006; 40 CFR Sections 64.6 & 64.9
<b>D. TESTING REQUIREMENTS</b>	hdr
Performance Test: due 180 days after 05/02/2006 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
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
<b>E. OPERATIONAL REQUIREMENTS</b>	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: coal, petroleum coke, distillate fuel oil, natural gas, and petroleum derived used oil.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP
Capacity: less than or equal to 2278 million Btu/hour	Minn. R. 7009.0020
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 SO <sub>2</sub> 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 10% of total fuel mass input on an hourly basis.	Minn. R. 7007.0800, subp. 2; Minn. R. ch. 7045
Soils or materials resulting from cleanup of spills of; gasoline, permitted fuels or petroleum derived used oils generated on-site or within the NSP system that meet the requirement of Minn. R. ch. 7045 are limited to 10% of the total fuel input on a mass basis.	Minn. R. 7007.0800, subp. 2
Boiler chemical cleaning waste: limited to the lesser of 5% of the fuel heat content or fuel mass input, unless good combustion is demonstrated at a higher input rate.  Cleaning waste shall be introduced into the boiler when the boiler is operating at a minimum of 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. The Permittee is not authorized for subsequent disposals of cleaning agents at a higher input rate until receipt of written approval from the MPCA.	Minn. R. 7007.0800, subp. 2

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-29**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

<p>STET (Short Term Emergency and Testing) Operation:</p> <p>Boiler 6 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.</p> <p>STET Operation Definition:</p> <p>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.</p> <p>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.</p> <p>In no case will STET operation be higher than allowed by an existing permit condition.</p>	Minn. R. 7007.0800, subp. 2
<b>F. RECORDKEEPING</b>	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)
Recordkeeping for fuel usage: Keep on-site records of mmBtu/hr, calculated from megawatts generated and the latest heat rate study. The 24-hour average must be calculated for each calendar day in which the boiler exceeds the maximum capacity in any hour.	Minn. R. 7007.0800
Recordkeeping for alternative fuels and waste products: Keep records of the type and quantity of used oil, materials resulting from spills, or boiler cleaning agents burned during each period of incineration.	Minn. R. 7007.0800
<b>G. REPORTING</b>	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)
Excess Emissions/Downtime Reports (EER's): due 30 days after end of each calendar quarter starting 05/02/2006 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of exceedances of the limit for SO <sub>2</sub> including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-30**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item:** EU 004 Coal Crusher Building (conveyors 83A, 83B, & 87)**Associated Items:** CE 009 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 004 Coal Crusher -- DC83

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.88 lbs/hour . This is a state-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity	40 CFR Section 60.252(c); Minn. R. 7011.1150; Minn. R. 7011.1105(G)
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
The control equipment (CE 009) must be in operation at all times that the EU 004 enclosed areas are vented to the atmosphere.	Minn. R. 7007.0800, subp. 2
C. MONITORING REQUIREMENTS	hdr
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Check for visible emissions (during daylight hours) from the control equipment (CE 009/SV 004) once each calendar week during every week of operation of the emission unit.	Minn. R. 7007.0800, subp. 4
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed.	Minn. R. 7007.0800, subp. 5
Periodic Inspections: At a frequency specified in the O&M Plan (as recommended by the manufacturer), the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5, and 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; or - the fabric filter or any of its components are found during the inspections to need repair.  Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for the filter.	Minn. R. 7007.0800, subp. 4, 5, and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-31**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item:** EU 005 900 + 2400 Bunker Rooms (conveyers 85, 86A, 86B, 61, & 71)**Associated Items:** CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 005 900 + 2400 Bunker Room -- DC71

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.88 lbs/hour . This is a state-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity	40 CFR Section 60.252(c); Minn. R. 7011.1150; Minn. R. 7011.1105(G)
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
The control equipment (CE 006) must be in operation at all times that the EU 005 enclosed areas are vented to the atmosphere.	Minn. R. 7007.0800, subp. 2
C. MONITORING REQUIREMENTS	hdr
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Check for visible emissions (during daylight hours) from the control equipment (CE 006/SV 005) once each calendar week during every week of operation of the emission unit.	Minn. R. 7007.0800, subp. 4
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed.	Minn. R. 7007.0800, subp. 5
Periodic Inspections: At a frequency specified in the O&M Plan (as recommended by the manufacturer), the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5, and 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; or - the fabric filter or any of its components are found during the inspections to need repair.  Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for the filter.	Minn. R. 7007.0800, subp. 4, 5, and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-32**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item:** EU 006 Rail Car Unloading - Coal Conveying (conveyors 83A, 83B, & 82A tail)**Associated Items:** CE 007 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 006 Railcar Unloading -- Conveying -- DC81

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.88 lbs/hour . This is a state-only requirement and is not enforceable under the Clean Air Act by the EPA Administrator or citizens.	Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity	40 CFR Section 60.252(c); Minn. R. 7011.1150; Minn. R. 7011.1105(G)
B. OPERATING REQUIREMENTS	hdr
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.	Minn. R. 7011.1105(H)
When the amount of coal unloaded by rail is less than 200,000 tons per year, control fugitive particulate matter emissions during unloading so that fugitive particulate matter emissions are minimized.	
C. CONTROL EQUIPMENT REQUIREMENTS	hdr
The control equipment (CE 007) must be in operation at all times that the EU 006 enclosed areas are vented to the atmosphere.	Minn. R. 7007.0800, subp. 2
D. MONITORING REQUIREMENTS	hdr
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Check for visible emissions (during daylight hours) from the control equipment (CE 007/SV 006) once each calendar week during every week of operation of the emission unit.	Minn. R. 7007.0800, subp. 4
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed.	Minn. R. 7007.0800, subp. 5
Periodic Inspections: At a frequency specified in the O&M Plan (as recommended by the manufacturer), the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5, and 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; or - the fabric filter or any of its components are found during the inspections to need repair.  Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for the filter.	Minn. R. 7007.0800, subp. 4, 5, and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-33**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item:** EU 007 Rail Car Unloading Building - Coal Unloading (conveyors 81A, 81B, 82A, & 82B)**Associated Items:** CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 007

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 1.15 lbs/hour . This is a state-only requirement and is not enforceable under the Clean Air Act by the EPA Administrator or citizens.	Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity	40 CFR Section 60.252(c); Minn. R. 7011.1150; Minn. R. 7011.1105(G)
B. OPERATING REQUIREMENTS	hdr
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.	Minn. R. 7011.1105(H)
When the amount of coal unloaded by rail is less than 200,000 tons per year, control fugitive particulate matter emissions during unloading so that fugitive particulate matter emissions are minimized.	
C. CONTROL EQUIPMENT REQUIREMENTS	hdr
The control equipment (CE 008) must be in operation at all times that the EU 007 enclosed areas are vented to the atmosphere.	Minn. R. 7007.0800, subp. 2
D. MONITORING REQUIREMENTS	hdr
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Check for visible emissions (during daylight hours) from the control equipment (CE 008/SV 007) once each calendar week during every week of operation of the emission unit.	Minn. R. 7007.0800, subp. 4
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed.	Minn. R. 7007.0800, subp. 5
Periodic Inspections: At a frequency specified in the O&M Plan (as recommended by the manufacturer), the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5, and 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; or - the fabric filter or any of its components are found during the inspections to need repair.  Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for the filter.	Minn. R. 7007.0800, subp. 4, 5, and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-34**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item:** EU 008 6/7 Fly Ash Bin**Associated Items:** CE 002 Fabric Filter - High Temperature, i.e., T>250 Degrees F

GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 001 CS0006 -- Boilers 6 &amp; 7

SV 002 CS0007 -- Boilers 6 &amp; 7

<b>What to do</b>	<b>Why to do it</b>
Total Particulate Matter: less than or equal to 0.1 grains/dry standard cubic foot	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
The control equipment (CE 002) must be in operation at all times EU 001 and/or EU 002 are burning any fuel except only or any combination of natural gas, fuel oil, or waste oil. See EU 001 and EU 002 for more specific requirements. Opacity is monitored using a COMS and PM emissions from the CE 002 stack are tested on a pre-determined frequency.	Minn. R. 7007.0800, subp. 2

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-35**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item:** EU 009 Unit 8 Fly Ash Bin**Associated Items:** CE 005 Electrostatic Precipitator - High Efficiency

GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 003 Boiler 8

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.1 grains/dry standard cubic foot	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
The control equipment (CE 005) must be in operation at all times EU 003 is burning any fuel except only or any combination of natural gas, fuel oil, or waste oil. See EU 003 for more specific requirements. Opacity is monitored using a COMS and PM emissions from the CE 002 stack are tested on a pre-determined frequency.	Minn. R. 7007.0800, subp. 2



**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-36**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item:** EU 014 Coal Crusher Conveyors (conveyor 84)**Associated Items:** GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown

SV 012 Coal Crusher -- Conveying -- DC84

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.38 lbs/hour	Title I Condition: to avoid 40 CFR Section 52.21 significance level; meets Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity	40 CFR Section 60.252(c); Minn. R. 7011.1150; Minn. R. 7011.1105(G)
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
The control equipment (CE 014) must be in operation at all times that EU 014 enclosed areas are vented to the atmosphere.	Minn. R. 7007.0800, subp. 2
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
C. MONITORING REQUIREMENTS	hdr
Check for visible emissions (during daylight hours) from the control equipment (CE 014/SV 012) once each calendar week during every week of operation of the emission unit.	Minn. R. 7007.0800, subp. 4
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed.	Minn. R. 7007.0800, subp. 5
Periodic Inspections: At a frequency specified in the O&M Plan (as recommended by the manufacturer), the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5, and 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; or - the fabric filter or any of its components are found during the inspections to need repair.  Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for the filter.	Minn. R. 7007.0800, subp. 4, 5, and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-37**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item:** EU 017 Auxiliary Boiler**Associated Items:** SV 015 Auxiliary Boiler

What to do	Why to do it
LIMITS	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
Fuel Usage: Pipeline natural gas only.	Minn. R. 7007.0800, subp. 2
PERFORMANCE TESTING 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 not later than 60 days after achieving the maximum production rate, to measure CO emissions in EU 017.	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7017.2020, subp. 1
Initial Performance Test: due 180 days after Initial Startup, but not later than 60 days after achieving the maximum production rate, to measure VOC emissions in EU 017.	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7017.2020, subp. 1
Performance Test Notifications and Submittals;  Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day after each Performance Test.  The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2
Performance Test: due before end of each year following Initial Performance Test for CO emissions.	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each year following Initial Performance Test for VOC emissions.	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7017.2020, subp. 1
MONITORING AND RECORDKEEPING	hdr
Recordkeeping: The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction (including an action taken to correct a malfunction) in the operation of EU 017.	40 CFR Section 60.7(b); Minn. R. 7011.0570
Fuel Usage Records: The permittee shall record and maintain records of the amount of natural gas combusted each day of operation. These records shall be maintained for a period of at least two years.	40 CFR Section 60.48c(g)(1); 40 CFR Section 60.48c(i)
The permittee shall maintain a current, valid purchase contract, tariff sheet, or transportation contract for the natural gas fuel, listing the fuel quality characteristics, or conduct representative fuel sampling.	Minn. R. 7007.0800 subp. 2
Submit a 112(j) determination within 30 days after startup of EU 017	40 CFR Section 63.52(b)(1)

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-38**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

**Subject Item:** FS 001 Rail Car Unload Building Doors**Associated Items:** CE 011 Enclosed Building

GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown

What to do	Why to do it
<p>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:</p> <p>(1) install an exhaust air system and control exhaust gases so that particulate matter emissions do not exceed 0.020 gr/dscf; or</p> <p>(2) control exhaust gases using dust suppression methods so that particulate emissions exhibit.</p> <p>See EU 007 for requirements associated with emissions from the permanent building and control equipment.</p>	Minn. R. 7011.1105(H)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - Riverside Generating Plant  
Permit Number: 05300015 - 005

Subject Item: FS 010 Coal Yard Traffic

Associated Items: CE 010 Dust Suppression by Water Spray  
GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown

What to do	Why to do it
The Permittee shall not cause or permit the use of access areas surrounding coal stockpiles and use of all active truck haul roads and parking facilities which are located within a coal handling facility whose coal throughput by truck is less than 200,000 tons unless such areas and roads are treated with water, oils, or chemical agents.	Minn. R. 7011.1105(A)

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-40**

12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

What to do	Why to do it
Solid fuel unloading by barge is allowed only if dispersion modeling for particulate matter includes this fugitive source and the modeling demonstrates that emissions from the source would not cause or contribute to a violation of ambient air quality standards in 40 CFR Section 50.6 or Minn. R. 7009.0080.	Minn. R. 7007.0800, subp. 2
Barge or Vessel Unloading Station: Cranes, shovels, and conveyors shall be operated in a manner which decreases as much as possible the vertical free fall of coal. Control fugitive particulate emissions during unloading so that fugitive particulate emissions are minimized.	Minn. R. 7011.1105(E)

**TABLE B: SUBMITTALS****B-1** 12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant  
Permit Number: 05300015 - 005

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.

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

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

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

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

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

Send any application for a permit or permit amendment to:

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

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.

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

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

**TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS****B-2** 12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

What to send	When to send	Portion of Facility Affected
Acid Rain Application for Permit Reissuance	due 180 days before 05/02/2006	EU001, EU002, EU003
Application for Permit Reissuance	due 180 days before 05/02/2011	Total Facility
Notification of the Actual Date of Initial Startup	<p>due 15 days after Initial Startup for each emissions unit. For EU 017, the notification shall also include the design heat input capacity, identification of the fuel to be combusted, and the annual capacity factor at which the Permittee anticipates operating EU 017.</p> <p>The first of the two combustion turbine initial startup notifications shall also specify the Combustion Turbine Shakedown period start date and date of the equipment shutdown required by the GP 008 'Partial Existing Facility Shutdown Prior To Start Of Combustion Turbine Shakedown' requirement on page A-19 in Table A of this permit.</p>	EU015, EU016
Notification of the Actual Date of Initial Startup	<p>due 15 days after Initial Startup for each emissions unit.</p> <p>The first of the two combustion turbine initial startup notifications shall also specify the Combustion Turbine Shakedown period start date and date of the equipment shutdown required by the GP 008 'Partial Existing Facility Shutdown Prior To Start Of Combustion Turbine Shakedown' requirement on page A-19 in Table A of this permit.</p>	GP008
Notification of the Actual Date of Initial Startup	<p>due 15 days after Initial Startup of EU 017. Including the following:</p> <p>(1) The design heating capacity of the affected facility and identification of fuels to be combusted in the affected facility.</p> <p>(2) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.</p>	EU017
Notification of the Date Construction Began	due 30 days after Start Of Construction for EU 017.	EU017
Notification of the Date Construction Began	due 30 days after Start Of Construction of each emission unit.	EU015, EU016
Notification	due 363 days after Startup of Combustion Turbine Shakedown, of the date of the Total Existing Facility Shutdown (required in GP 008 page A-19 of Table A of this permit). This notification is due the earlier of 15 days after the date of the Total Existing Facility Shutdown or 363 days after the start of Combustion Turbine Shakedown (defined on page A-19 in GP 008 of table A of this permit).	GP008
Notification	<p>due 45 days before Anticipated Date of Initial Startup of Commercial Operation.</p> <p>This is the notification of the planned date for commencing commercial operation required by 40 CFR Section 75.61(a)(2).</p>	EU015, EU016
Testing Frequency Plan	due 60 days after Initial Performance Test for VOC emissions. The plan shall specify a testing frequency based on initial VOC performance test results and MPCA guidance. Future performance tests based on 12-month, 36-month, or 60-month intervals, or as applicable, shall be required upon written approval by the MPCA.	EU015, EU016

**TABLE B: RECURRENT SUBMITTALS****B-3** 12/02/08

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 005

<b>What to send</b>	<b>When to send</b>	<b>Portion of Facility Affected</b>
Acid Rain Program Electronically Submitted Quarterly Report	due 30 days after end of each calendar quarter starting 01/01/96	EU001
Acid Rain Program Electronically Submitted Quarterly Report	due 30 days after end of each calendar quarter starting 05/02/2006	EU002, EU003
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 limits for NOx and CO including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	EU015, EU016
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 05/02/2006 (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.	EU001, EU002, EU003
Deviations Report	due 30 days after end of each calendar half-year starting 05/02/2006. 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 05/02/2006. 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, EU002, EU003
Compliance Certification	due 30 days after end of each calendar year starting 05/02/2006 (for the previous calendar year). Submit the certification on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility



**APPENDIX B – Phase II NO<sub>x</sub> Compliance and Averaging Plans**

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015-005

# Phase II NO<sub>x</sub> Compliance Plan

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

This submission is:

☐

New

☒

Revised

<b>Step 1</b>			
<b>Indicate plant name, State, and ORIS code from NADB, if applicable</b>	Riverside	MN	1927
	Plant Name	State	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 bottom wall-fired, “T” for tangentially fired, “V” for vertically fired, and “WB” for wet bottom. Indicate the compliance option selected for each unit

	ID# 6	ID# 7	ID# 8	ID#	ID#	ID#
	DBW	DBW	CY			
	Type	Type	Type	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)						

<b>(g) Standard annual average emission limitation of 0.86 lb/mmBtu (for cyclone boilers)</b>						
<b>(h) Standard annual average emission limitation of 0.80 lb/mmBtu (for vertically fired boilers)</b>						
<b>(i) Standard annual average emission limitation of 0.84 lb/mmBtu (for wet bottom boilers)</b>						
<b>(j) NOx Averaging Plan (include NOx Averaging form)</b>	X	X	X			
<b>(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)</b>						
<b>(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)</b>						
<b>(m) EPA-approved common stack apportionment method pursuant to 40 CFR 75.17 (a)(2)(i)(C), (a)(2)(iii)(B), or (b)(2)</b>						
<b>(n) AEL (include Phase II AEL Demonstration Period, Final AEL Petition, or AEL Renewal form as appropriate)</b>						
<b>(o) Petition for AEL demonstration period or final AEL under review by U.S. EPA or demonstration period ongoing</b>						
<b>(p) Repowering extension plan approved or under review</b>						

#### 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> for Phase II units with Group 1 boilers under 40 CFR 76.7.

# Phase II NO<sub>x</sub> 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
<del>Black Dog retired</del>	<del>MN</del>	<del>4</del>	<del>0.40</del>	<del>0.81</del>	<del>2,094,000</del>
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 average 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

☒ This plan is effective for calendar year 2001 through calendar year 2005 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<sub>x</sub> 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.

## APPENDIX C – INSIGNIFICANT ACTIVITIES and APPLICABLE REQUIREMENTS

Facility Name: **Xcel Energy – Riverside Generating Plant**

Permit Number: **05300015-005**

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
3(A)	<p>A. Fuel use: space heaters fueled by kerosene, natural gas, or propane. A space heater is a heating unit that is not connected to piping or ducting to distribute the heat.</p> <ul style="list-style-type: none"> <li>• <b>NG-fired space heaters to heat power generation building</b></li> </ul>	Minn. R. 7011.0515
3(G)	<p>Emissions from a laboratory, as defined in the subpart.</p> <ul style="list-style-type: none"> <li>• <b>Operating a water laboratory</b></li> </ul>	Minn. R. 7011.0710/0715
3(H)	<p>Miscellaneous:</p> <p>4. brazing, soldering or welding equipment;</p> <ul style="list-style-type: none"> <li>• <b>Operating anywhere from 10 to 40 welding units</b></li> </ul>	Minn. R. 7011.0710/0715
3(I)	<p>Individual emissions units at a stationary source, each of which have a potential to emit the following pollutants in amounts less than:</p> <ol style="list-style-type: none"> <li>1. 4,000 lbs/year of carbon monoxide; and</li> <li>2. 2,000 lbs/year each of nitrogen oxide, sulfur dioxide, particulate matter, particulate matter less than ten microns, volatile organic compounds (including hazardous air pollutant-containing VOC), and ozone.</li> </ol> <ul style="list-style-type: none"> <li>• <b>Bunker 6 coal unloading – PM PTE 0.15 tpy, PM<sub>10</sub> PTE 0.07 tpy</b></li> <li>• <b>Bunker 7 coal unloading – PM PTE 0.15 tpy, PM<sub>10</sub> PTE 0.07 tpy</b></li> <li>• <b>Bunker 8 coal unloading – PM PTE 0.42 tpy, PM<sub>10</sub> PTE 0.2 tpy</b></li> <li>• <b>Unit 8 emergency fly ash chute – PM PTE 0.8 tpy, PM<sub>10</sub> PTE 0.4 tpy</b></li> </ul>	Minn. R. 7011.0710/0715

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
4(B)	<p>Emissions units with potential emissions of 2.28 pounds per hour or actual emissions of one ton per year for particulate matter, particulate matter less than ten microns, nitrogen oxide, sulfur dioxide, and VOCs</p> <ul style="list-style-type: none"> <li>• <b>Units 6/7 fly ash unloading (total) – PM PTE 1.1 tpy, PM actual 0.09 tpy; PM<sub>10</sub> PTE 0.5 tpy, PM<sub>10</sub> actual 0.04 tpy</b></li> <li>• <b>Distillate oil forwarding system equipment leaks, VOC emission rate of 0.85 lb/hr</b></li> <li>• <b>Solvent (Safety Kleen) usage – VOC actual emissions of 0.025 tpy</b></li> <li>• <b>Two, 7.5 mmBtu/hr Space Heaters</b></li> </ul>	Minn. R. 7011.0710/0715
Minn. R. 7008.4110, subp. 2	<p>Subp. 2. Requirements. Emissions from equipment venting particulate matter or particulate matter less than 10 microns inside a building, provided that emissions from the equipment are:</p> <p>A. filtered through an air cleaning system; and</p> <p>B. vented inside of the building 100% of the time.</p> <ul style="list-style-type: none"> <li>• <b>Metal machining equipment exhausting inside a building, through an air cleaning system</b></li> </ul>	Minn. R. 7011.0710/0715

#### APPENDIX D – Combustion Turbine Stack/Vent and Emissions Units Data

Facility Name: **Xcel Energy – Riverside Generating Plant**

Permit Number: **05300015-005**

Turbine Model	Stack Height ft.	Stack Diameter ft.	Flow Rate acfm	Stack Temp °F	Heat Input mmBtu/hr	Capacity (gross winter MW)
GE 7FA	131	19.0	1,031,000	188	1975 (HHV)	193



**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**AIR EMISSION PERMIT NO. 05300015-005**

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

**1. General Information**

**1.1 Applicant and Stationary Source Location:**

Applicant/Address	Stationary Source/Address (SIC Code: 4911)
Northern States Power Co dba Xcel Energy 250 Marquette Plaza MP8 Minneapolis, MN 55401	3100 Marshall Street Northeast Minneapolis Hennepin County
Contact: Jonathan Amos Phone: 612-330-7682	

**1.2 Description of the Facility**

The plant is a coal-fired electric utility power plant located at 3100 Marshall Street Northeast in Minneapolis, Minnesota. The existing facility emission units consist of three boilers (Nos. 6, 7, and 8), fuel and ash storage and handling equipment, and emergency diesel engines. Boilers 6 and 7 pollution control equipment consists of a fabric filter for Particulate Matter (PM) emissions control. Boiler 8 pollution control equipment consists of a series of electrostatic precipitators for PM emissions control. PM emissions from coal/coke handling and ash storage and handling equipment, are controlled using water and other dust suppressants, enclosures, and/or fabric filters. Boilers 6, 7, and 8 are subject to Acid Rain requirements and the Phase II Acid Rain permit is included in the appendix.

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 High Bridge Plant in St. Paul, Minnesota.

The Permittee is constructing a new steam 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 (without supplemental duct firing), two Heat Recovery Steam Generators (HRSG), an auxiliary boiler, two existing diesel-fired emergency generators, and the existing steam turbine from boiler No. 7.

The turbines will use dry low-nitrogen oxides (NO<sub>x</sub>) combustors and selective catalytic reduction (SCR) with ammonia injection for NO<sub>x</sub> control. The SCR system will be located in the 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<sub>x</sub> 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.

An auxiliary boiler will also be installed. Both 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 the existing steam turbine generator from Boiler 7 powered by steam from the heat recovery steam generator for each combined cycle system. Total summer Uniform Rating of Generating Equipment (URGE) capacity will be 459 megawatts.

A reciprocating engine powered fire pump will not be installed as part of this project due to ample available municipal water supply for fire-fighting.

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

This permit is a major amendment to resize the auxiliary boiler (EU 017) from 160 mmBtu/hr to 78 mmBtu/hr, and to add two 7.5 mmBtu/hr, gas-fired space heaters which qualify as insignificant units. Also, this permit authorizes Xcel to incorporate a Combustion Turbine Generator (CTG) package that allows increased power output on warm days and a CTG package to run at as low as a 45 percent load while maintaining emissions compliance. With these packages the CTG's will still meet the 4.7 ppm NO<sub>x</sub> limit (30 day rolling average) and there is no increase in the overall PTE (tpy), therefore they qualify as a minor amendment. The boiler EU 017 is now subject to NSPS Dc instead of Db, but is still subject to BACT limits.

Also included in this permit action is an administrative amendment to incorporate the requirements of NSPS KKKK, modify permit language based on the decision to construct using the GE 7FA turbines.

U.S. District Court of Appeals for the DC Circuit vacated the National Emissions Standard for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial and Institutional Boilers and Process Heaters (Subpart DDDDD) on July 30, 2007. Boilers or process heaters installed after that date are subject to the requirements of Section 112(g) of the Clean Air Act. However, because the boiler is not a major source of HAP's by itself, the facility is required to submit a 112(j) determination to the MPCA after initial startup.

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

	PM tpy	PM <sub>10</sub> tpy	SO <sub>2</sub> tpy	NO <sub>x</sub> tpy	CO tpy	VOC tpy	Pb tpy	Single HAP tpy	All HAPs tpy
Change in PTE Due To Modification	-2.68	-2.68	-0.15	-66.93	-28.75	-0.01	0	0	-0.67
Total Facility Limited Potential Emissions during new and existing facility overlapping operation	594	1,355	11,134	10,974	835	176	0.062	not determined	
Total Facility Limited Potential Emissions after total existing facility shutdown	81	81	17	390	652	135	0.008	11.22	16.78

**Table 2. Facility Classification**

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

**2. Regulatory and/or Statutory Basis**New Source Review

The existing facility is a major source under New Source Review regulations and the new facility will be a major source after completion of the permitted modifications. The existing and new facilities are fossil fuel-fired steam electric plants with a heat input greater than 250 mmBtu/hour and therefore are subject to the 100 ton per year major source threshold as described in

§ 52.21(b)(1)(i)(a).

Part 70 Permit Program

The existing facility is a major source under the Part 70 permit program and the new facility will also be a major source.

### New Source Performance Standards (NSPS)

The new auxiliary boiler (EU 017) is subject to part 60 subpart Dc, the new gas turbines are subject to subpart KKKK, and some of the existing coal handling and preparation equipment is subject to subpart Y.

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

The facility would have been subject to the Industrial, Commercial and Institutional Boilers and Process Heaters NESHAP (Subpart DDDDD), but because it was vacated they are required to submit a 112(j) determination after startup of EU 017.

The new 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. § 63.6145 refers to § 63.9(b) which says affected sources may use the application (permit application) for approval of construction under § 63.5(d) to fulfill the initial notification requirements of § 63.9(b). The application also serves as initial notification for the auxiliary boiler.

The existing generators EU 010 and EU 011 are compression ignition engines which is an affected source under subp. ZZZZ that must comply with the maximum achievable control technology 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.

### Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards and Requirements:

- Minn. R. 7011.0150 Preventing Particulate Matter from Becoming Airborne
- Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment
- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment.
- Minn. R. 7011.1105 Standards of performance for Certain Coal Handling Facilities.
- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines
- Minn. R. 7009.0020 and Minn. R. 7009.0080 Ambient Air Quality Standards

**Table 3. Regulatory Overview of Units Affected by the Modification/Permit Amendment**

<b>EU, GP, or SV</b>	<b>Applicable Regulations</b>	<b>Comments:</b>
GP 007	40 CFR § 60 subp. KKKK	Standards of Performance for Stationary Combustion Turbines. Added NO <sub>x</sub> and SO <sub>2</sub> limits.
EU 017	40 CFR § 60 subp. Dc  Title I Condition: 40 CFR § 52.21 BACT Limit	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

### **3. Technical Information**

#### **3.1 Calculations of Potential to Emit**

Attachment 1 to this TSD contains calculation spreadsheets and supporting information prepared by the MPCA and the Permittee.

#### **3.2 Periodic Monitoring**

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

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

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

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

**Table 4. Periodic Monitoring**

<b>Emission Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
EU 017	CO $\leq$ 0.08 lbs/mmBtu Title I Condition: 40 CFR § 52.21 BACT Limit  VOC $\leq$ 0.005 lbs/mmBtu Title I Condition: 40 CFR § 52.21 BACT Limit;	Notification of start-up, performance testing, fuel usage records, fuel certification.	Burns natural gas only
GP 007	NOx $\leq$ 15.0 ppm @ 15% Dry Basis 40 CFR § 60.4320 40 CFR § 60.4350(h)  SO2 $\leq$ 0.060 lbs/mmBtu 40 CFR § 60.4330(a)(1); 40 CFR § 60.4365	30-day rolling average, performance test. Fuel certification.	Controlled with low NOx burners and a SCR

**3.3 Insignificant Activities**

Xcel Energy – Riverside Generating Plant has several operations which are classified as insignificant activities. These are listed in Appendix C to the permit.

**Table 5. Insignificant Activities**

<b>Insignificant Activity</b>	<b>General Applicable Emission limit</b>	<b>Discussion</b>
Two, 7.5 mmBtu/hr Space Heaters	7007.1300, subp. 4 : Potential-to-Emit of CO, VOC, PM, PM10, SO2 emissions are > 2.28 lb/hr and actual emissions are > 1.0 tpy. Combined HAP emissions are > 1 ton and the HAPs PTE < 25% of the threshold.	These space heaters burn natural gas only

**3.4 Permit Organization**

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements.

### **3.5 Comments Received**

Public Notice Period: 7/30/08 – 8/28/08

EPA 45-day Review Period: 10/14/08 – 12/01/08

Comments were received from the public during the public notice period. Changes to the permit were not made as a result of the comments. The comments received and the responses can be found in attachment 3 to this TSD.

The revised permit was sent to EPA for their 45-day review on 10/14/08. Comments were not received from EPA during their 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. 05300015-005 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Chris Buntjer (permit writer/engineer)  
Shanda Fisher (stack testing)  
Marshall Cole (peer reviewer)  
\*No enforcement staff was available

AQ File No. 202A; DQ 1781

Attachments: 1. PTE Summary Calculation Spreadsheets  
2. Facility Description and CD-01 Forms  
3. Public Comments and Responses