AIR EMISSION PERMIT NO. 05300015-004

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 are as described in the following permit application(s):

Permit Type	Application Date	Issue Date	Action Number
Total Facility Operating Permit	12/14/1995	05/21/1996	05300015-012
Major Amendment	12/12/1997	05/11/1999	001
Administrative Amendment	NA	06/26/2000	002
Total Facility Operating Permit Reissuance	11/22/2000	Not Issued	003
Major Amendment w/Operating Permit Reiss.	11/01/2005	See below	004

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

Permit Type: Federal; Part 70 Operating Permit Re-issuance w/NSR Construction Authorization
Authorization to Construct and Operate (40 CFR § 52.21) Issuance Date: May 2, 2006
Authorization to Construct and Operate (40 CFR § 52.21) Effective Date: May 2, 2006
Final Permit Issuance Date: May 2, 2006
Expiration: May 2, 2011
Title I Conditions do not expire

Conditions stating "Title I Condition: State Implementation (SIP) for SO_2 NAAQS, 40 CFR pt. 50 and Minnesota SIP" or "Title I Condition: Minnesota SIP; 40 CFR § 50.5" are required to go through the federal State Implementation Plan approval process before the change becomes effective.

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

for Sheryl A. Corrigan
Commissioner
Minnesota Pollution Control Agency

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NOTICE TO THE PERMITTEE:

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

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

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

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

PERMIT SHIELD:

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

FACILITY DESCRIPTION:

The Xcel Energy (Permittee) Riverside Generating Plant is a major source as defined in Minn. R. 7007.0200, subp. 2. 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.

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).

The turbines will use dry low-NO_X combustors and Selective Catalytic Reduction (SCR) with ammonia injection for NO_X control. The SCR system will be located in the HRSG for each combined cycle system. During emergencies, the combustion turbines can undergo rapid startup and operate in simple cycle mode, with exhaust still routed through the HRSG and NOx 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. Good combustion practices will be used to control CO and VOC emissions. 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 HRSG for each combined cycle system. Total summer Uniform Rating of Generating Equipment (URGE) capacity will be 459 megawatts.

Upon startup of the new combustion turbines Xcel is required to shutdown boilers 6 and 7, and reduce operation of boiler 8. Xcel is required to shutdown boiler 8 and the remainder of the existing plant (except the two emergency generators) the earlier of December 31, 2009, or 12 months after startup of the combustion turbines.

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy - Riverside Generating Plant

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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 or Mitsubishi Heavy Industries (MHI) M501F combustion turbine generator. 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

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
C. OPERATIONAL REQUIREMENTS	hdr
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
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

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
D. POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
E. TESTING REQUIREMENTS	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, 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
F. MONITORING REQUIREMENTS	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)

Continuous Monitoring Equipment: Maintain 90 percent uptime based on quarterly reporting periods, for all SO2, O2 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 SO2 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 SO2 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

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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 SO2 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

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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

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Subject Item: GP 002 Existing Boiler CEMs

What to do	Why to do it
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 calender 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 SO2 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

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Subject Item: GP 003 Existing Boiler COMS

What to do	Why to do it
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 05/11/1999 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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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)

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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)

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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 Tubine No. 1 (GE or MHI)

EU 016 Combustion Tubine No. 2 (GE or MHI)

MR 022 CT #1 NOx

MR 023 CT #1 CO

MR 024 CT #2 NOx

MR 025 CT #2 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 and MITSUBISHI HEAVY INDUSTRIES (MHI) M501F	hdr
Nitrogen Oxides: less than or equal to the concentration determined according to the following equation on a 4-hour rolling average basis: STD = 0.0075*(14.4/Y) + F where: STD = allowable NOx emissions in percent by volume at 15% O2 on a dry basis Y = manufacturer's rated heat input at manufacturer's rated load in kilojoules/W-hr, not to exceed 14.4 kilojoules/W-hr F = NOx emission allowance for fuel-bound nitrogen (Permittee can elect to not take a fuel-bound nitrogen allowance and F is then equal to zero). This limit applies individually to each GP 007 emission unit.	40 CFR Sections 60.332(a)(1) & 60.334(j)(1)(iii)(A); Minn. R. 7011.2350
Sulfur Dioxide: less than or equal to 150 parts per million by volume at 15% oxygen on a dry basis, or fuel sulfur content not to exceed 0.8 percent by weight.	40 CFR Section 60.333; Minn. R. 7011.2350
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
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 turbine, if installed.	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 turbine, if installed.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000

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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 turbine, if installed, 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
A.2. LIMITS - MHI M501F These limits apply individually to each stack and only when the combustion turbines are operating in normal mode. These limits do not apply during startup, shutdown, malfunction, and combustion turbine shakedown (as defined in Table A Subject Items Total Facility and GP 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 10.0 parts per million by volume at 15 percent oxygen on a dry basis using a 3-hour block average. This applies to the MHI 501F series turbine, if installed.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 2.0 parts per million by volume at 15 percent oxygen on a dry basis using a 3-hour block average. This applies to the MHI 501F series turbine, if installed.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 4.4 parts per million by volume at 15% oxygen on a dry basis using a 30-day rolling average. This applies to the MHI 501F series turbine, if installed, 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, if installed.	Title I Condition: 40 CFR Section 52.21(j) BACT Limit; Minn. R. 7007.3000
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, if installed.	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, if installed. 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 and MHI M501F	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

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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, if installed. During the initial 11 months after completion of combustion turbine shakedown, the applicable cumulative limit shall be: Month SUSD Hours 1 300 2 500 3 608 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
C.2. OPERATING RESTRICTIONS - MHI M501F	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 MSI 501F series turbine is complete and normal operation commences upon initial attainment of 75% load as indicated by the combustion turbine control system. Shutdown commences and normal operation ceases upon the initial drop below 75% load. 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 1468 hours/year on a 12-month rolling sum basis for both MHI 501F combustion turbines combined, if installed. During the initial 11 months after completion of combustion turbine shakedown, the applicable cumulative limit shall be: Month SUSD Hours 1 300 2 500 3 600 4 700 5 800 6 900 7 1000 8 1100 9 1195 10 1288 11 1378	Title I Condition: 40 CFR Section 52.21(j) CO & VOC BACT Operating Limit; Minn. R. 7007.3000
D. MONITORING - GE 7FA and MHI M501F	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) & Section 60.334(e) for NOx
Emissions Monitoring: The Permittee shall use a Continuous Emissions Monitoring System (CEMS) to measure NOx emissions, and measure or calculate SO2 and CO2 in accordance with 40 CFR Part 75 for each stack in GP 002. The Permittee shall measure NOx emissions in ppmvd corrected to 15% oxygen and automatically calculate and record the 1-hour and 3-hour average NOx emission rates. NOx ppmvd emission data shall also be converted to lb/mmBtu as required by part 75.	40 CFR Section 60.334(e); 40 CFR Section 75.10; Minn. R. 7007.0800, subp. 4; meets requirements of 40 CFR Section 60.334(e); Minn. R. 7011.2350
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
Fuel Monitoring: The Permittee shall follow the applicable fuel sulfur and nitrogen content monitoring requirements in Section 60.334(h) and shall monitor at the frequency specified in 60.334(i).	40 CFR Sections 60.334(h) & (i); Minn. R. 7011.2350

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E. CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) REQUIREMENTS - GE 7FA and MHI M501F CO CEMS requirements apply individually to the CO CEMS system on each stack. NOx CEMS requirements apply individually to the NOx CEMS system on each stack.	hdr
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

CO CEMS RATA: due before end of each calendar year following CO CEMS Certification Test. If the relative accuracy is 15% or less the next CO CEMS RATA is not due for 24 months. Follow the procedures in 40 CFR part 60, Appendices B and F.	Minn. R. 7017.1170, subp. 5
NOx and CO CEMS RATA Notification: due 30 days before the corresponding CEMS RATA.	Minn. R. 7017.1180, subp. 2
NOx and CO CEMS RATA Results Summary: due 30 days after end of each calendar quarter in which the corresponding CEMS RATA was conducted.	Minn. R. 7017.1180, subp. 3
CO CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year following CEMS Certification Test. Conduct CGA at least 3 months apart and not greater than 8 months apart. Follow the procedures in 40 CFR part 60, Appendix F.	Minn. R. 7017.1170, subp. 4
CO CEMS CGA Results Summary: due 30 days after end of each calendar half-year following CGA.	Minn. R. 7017.1180, subp. 1
Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7017.1130; 40 CFR Section 75.50
F. RECORDKEEPING - GE 7FA and MHI M501F	hdr
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. This requirement applies only to GE 7FA turbines, if installed.	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
G. PERFORMANCE TESTING - GE 7FA and MHI M501F See Table A page A-3 for additional requirements regarding performance test notifications and submittals.	hdr
Initial Performance Test: due 180 days after Initial Startup but no later than 60 days after achieving the maximum production rate, to measure NOx emissions from EU 015 and EU 016. Separate tests shall be conducted on each emission unit.	40 CFR Sections 60.8(a) & 60.335; Minn. R. 7011.2350; Minn. R. 7017.2020, subp. 1
Initial Performance Test: due 180 days after Initial Startup but no later than 60 days after achieving the maximum production rate, to measure SO2 emissions from EU 015 and EU 016. Separate tests shall be conducted on each emission unit.	40 CFR Sections 60.8(a) & 60.335; Minn. R. 7011.2350
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 commerical operation.	40 CFR Section 75.61(a)(2)(i)

Facility Name: Xcel Energy - Riverside Generating Plant

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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

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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
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.	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
B. EXISTING FACILITY REQUIREMENTS DURING AND AFTER COMBUSTION TURBINE SHAKEDOWN	hdr
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. EU 001 Boiler 6 EU 002 Boiler 7 EU 008 6/7 Fly Ash Bin SV 001 Boilers 6 & 7 SV 002 Boilers 6 & 7 CE 001 Boilers 6 & 7 gas scrubber CE 002 Boilers 6 & 7 fabric filter	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

Overlapping Operation of Existing and New Facility Sources and Associated Equipment During and After CTS: 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. 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: 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 (continued below)	Minn. R. 7007.0800, subp. 2
Overlapping Operation of Existing and New Facility Sources and Associated Equipment During and After CTS (continued from above): EU 014 Coal Crusher Conveyors CE 003 Boiler 8 ESP #1 CE 004 Boiler 8 ESP #2 CE 005 Boiler 8 & 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 (continued below)	Minn. R. 7007.0800, subp. 2
Overlapping Operation of Existing and New Facility Sources and Associated Equipment During and After CTS (continued from above): 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	Minn. R. 7007.0800, subp. 2
EU 003 Operation After CTS: 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: 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; 2. During natural gas fuel supply problems; 3. To maintain EU 003 in a warm standby condition for dispatch if needed; 4. To burn the last remaining fuel supply on site after CTS to complete the restoration of the fuel storage area.	Minn. R. 7007.0800, subp. 2

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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, and applies only if the GE Frame 7FA turbine is installed.	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
EU 003 Total Heat Input Limit Effective The Day Prior To Start of Combustion Turbine Shakedown: Less than or equal to 14,555,707 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, and applies only if the M501F turbine is installed.	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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

Subject Item: **EU 001 Boiler 6**

Associated Items: CE 001 Gas Scrubber (General, Not Classified)

CE 002 Fabric Filter - High Temperature, i.e., T>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 & 7

SV 002 CS0007 -- Boilers 6 & 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 SO2 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 SO2 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/milion 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)
NOx Averaging Plan Beginning January 1, 2000 either: Maintain an annual average NOx 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 NOx averaging plan, that is less than or equal to the Btu-weighted annual average emission rate averaged over the same units had they each been operated during the same period of time in compliance with the applicable emission limitations in 40 CFR Sections 76.5, 76.6, or 76.7. Units covered in the plan are: 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 NOx 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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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 SO2, NOx, and CO2 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 SO2 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 SO2 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 Permit Issuance 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 SO2 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 SO2 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

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. 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.	Minn. R. 7007.0800, subp. 2
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 05/11/1999 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of exceedances of the limit for SO2 including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

Subject Item: **EU 002 Boiler 7**

Associated Items: CE 001 Gas Scrubber (General, Not Classified)

CE 002 Fabric Filter - High Temperature, i.e., T>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 & 7

SV 002 CS0007 -- Boilers 6 & 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 SO2 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 SO2 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/milion 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)
NOx Averaging Plan Beginning January 1, 2000 either: Maintain an annual average NOx 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 NOx averaging plan, that is less than or equal to the Btu-weighted annual average emission rate averaged over the same units had they each been operated during the same period of time in compliance with the applicable emission limitations in 40 CFR Sections 76.5, 76.6, or 76.7. Units covered in the plan are: 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 NOx 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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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 SO2, NOx, and CO2 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 SO2 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 SO2 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 Permit Issuance 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 SO2 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 SO2 emission limit requirement in Minn. R. 7011.0510, subp. 1
Combust used oil in accordance with used oil regulations in Minn. R. ch. 7045. Limit used oil combustion to 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

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. 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.	Minn. R. 7007.0800, subp. 2
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 05/11/1999 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of exceedances of the limit for SO2 including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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 SO2 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 SO2 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/milion 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)
NOx Averaging Plan Beginning January 1, 2000 either: Maintain an annual average NOx 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. OR Maintain a Btu-weighted annual average emission rate in lbs/mmBtu, averaged over the units specified in the NOx averaging plan, that is less than or equal to the Btu-weighted annual average emission rate averaged over the same units had they each been operated during the same period of time in compliance with the applicable emission limitations in 40 CFR Sections 76.5, 76.6, or 76.7. Units covered in the plan are: 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 NOx Averaging Plan in Appendix B.	40 CFR Section 76.11
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 SO2, NOx, and CO2 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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

State Implementation Plan Emissions Monitoring: The owner or operator shall use the CEMs to measure SO2 emissions and flow rate for each affected unit in accordance with 40 CFR Section 75.10.	Title I Condition: State Implementation Plan (SIP) for SO2 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
D. TESTING REQUIREMENTS	hdr
Performance Test: due 180 days after Permit Issuance 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 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 SO2 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 SO2 emission limit requirement in Minn. R. 7011.0510, subp. 1
Combust used oil in accordance with used oil regulations in Minn. R. ch. 7045. Limit used oil combustion to 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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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 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
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 05/11/1999 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of exceedances of the limit for SO2 including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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 enforceble 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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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. 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.	Minn. R. 7011.1105(H)
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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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. 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.	Minn. R. 7011.1105(H)
C. CONTROL EQUIPMENT REQUIREMENTS	hdr
The control equipment (CE 008) must be in operation at all timers 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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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 & 7

SV 002 CS0007 -- Boilers 6 & 7

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 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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

Subject Item: **EU 017 Auxiliary Boiler**

Associated Items: MR 026 Aux Boiler NOx

MR 027 Aux Boiler CO

SV 015 Auxiliary Boiler

What to do	Why to do it
Delegation of Authority: The MPCA does not have delegation for 40 CFR part 63, subpart DDDDD, but must be copied on all submittals/notifications. All submittals and notifications under subpart DDDDD shall be sent to both the MPCA and EPA contacts listed on Page B-1 of this permit, unless otherwise noted.	Minn. R. 7007.0800, subp. 2
A. LIMITS AND OPERATING REQUIREMENTS	hdr
Carbon Monoxide: less than or equal to 0.08 lbs/million Btu heat input using 3-hour Average	Title I Condition: 40 CFR Section 52.21 BACT Limit; Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 400 parts per million by volume on a dry basis at 3% oxygen, on a 30-day rolling average. This standard applies at all times except during startup, shutdown, malfunction, and when EU 017 is operating at less than 50 percent of rated capacity. Deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the EPA Administrator's satisfaction the Permittee was operating EU 017 in accordance with the SSMP. The EPA Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in Section 63.6(e).	40 CFR Sections 63.7500(a)(1) & 63.7505(a), 63.7540(a)(10)(ii), & Table 1 of part 63, subpart DDDDD
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
Nitrogen Oxides: less than or equal to 0.20 lbs/million Btu heat input using 30-day Rolling Average (boiler heat release rate exceeds 70,000 Btu/hr-cubic foot). This limit applies at all times including periods of startup, shutdown, and malfunction.	40 CFR Sections 60.44b(a)(1)(ii), (h), & (i), 40 CFR Section 60.46b(a); Minn. R. 7011.0565
Permitted Fuel: Pipeline natural gas only	Minn. R. 7007.0800, subp. 2
Startup, Shutdown, and Malfunction Plan (SSMP): Develop and implement a written SSMP according to the provisions in Section 63.6(e)(3), no later than the date of initial startup of EU 017. The SSMP shall include the CO CEMS as required by section 63.8(c)(1)(iii). Operate EU 017 and the CO CEMS according to the SSMP during periods of startup, shutdown, and malfunction. Deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the EPA Administrator's satisfaction the Permittee was operating EU 017 in accordance with the SSMP. The EPA Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in Section 63.6(e).	40 CFR Sections 63.7505(e), 63.7540(c) & (d), & 63.6(e)(3)
The Permittee shall at all times operate and maintain EU 017 in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by all relevant standards, as described at 40 CFR Section 63.6(e)(1)(i).	40 CFR Sections 63.6(e)(1)(i) & 63.7505(b)
Continuous Compliance Demonstration - The Permittee shall: 1. continuously monitor carbon monoxide according to Sections 63.7525(a) and 63.7535; 2. maintain carbon monoxide emissions below the carbon monoxide work practice standard at all times except during periods of startup, shutdown, malfunction, and when the EU 017 is operating at less than 50 percent of rated capacity; and 3. keep records of carbon monoxide levels according to Section 63.7555(b).	40 CFR Section 63.7540(a)(10)
B. CARBON MONOXIDE CEMS REQUIREMENTS	hdr
CO Monitoring: Install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide according to the procedures in 40 CFR Sections 63.7525(a)(1) through (6), Performance Specification 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to Section 63.7505(d). The Permittee shall meet these requirements upon startup of EU 017. The CEMS data acquisition system shall calculate and record the 3-hour block average CO emission rate in lb/mmBtu and the 30-day rolling average CO emission rate in ppmvd @ 3% O2.	Title I Condition: Monitoring to determine CO emissions subject to a BACT limit; 40 CFR Sections 63.7525(a), 63.7540(a)(10)(i), & 63.8

Monitor and collect CO emissions data according to Section 63.7535 and the site specific monitoring plan required by Section 63.7505(d). Except for CO CEMS malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), monitor continuously (or collect data at all required intervals) at all times EU 017 is operating. Do not use CO CEMS data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. Do not use CO CEMS data recorded during periods when EU 017 is operating at less than 50 percent of its rated capacity.	40 CFR Section 63.7535
CO CEMS Performance Evaluation Notification: The Permittee shall notify the Administrator in writing of the date of the performance evaluation at least 60 days prior to the date the performance evaluation is scheduled to begin.	40 CFR Section 63.8(e)(2)
CO CEMS Performance Evaluation Test Plan: due 45 days before conducting the CO CEMS performance evaluation. The plan shall meet the requirements of 40 CFR Section 63.8(e)(3).	Minn. R. 7017.1060, subps. 1 & 2; meets requirements of 40 CFR Section 63.8(e)(3)
CO CEMS Performance Evaluation: due 180 days after initial startup of EU 017. Conduct the evaluation according to the requirements in Section 63.7525(a).	40 CFR Sections 63.7510(c) & (g), 63.7525(a), & 63.8(e)
CO CEMS Performance Evaluation Report: The Permittee shall furnish the Administrator a copy of a written report of the results of the CO CEMS performance evaluation, as required under Section 63.8(e)	40 CFR Section 63.10(e)(2)
CO CEMS Data Reduction and Calculation of 30-day Rolling Average Emission Rate: Reduce CO CEMS data as specified in Section 63.8(g)(2). Calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.	40 CFR Sections 63.7525(a)(4) & (5)
Additional CO CEMS Recordkeeping: In addition to complying with the requirements specified in 40 CFR Sections 63.10(b)(1) and (b)(2), the Permittee shall meet the additional recordkeeping requirements for the CO CEMS at Section 63.10(c).	40 CFR Section 63.10(c)
C. NITROGEN OXIDES CEMS REQUIREMENTS	hdr
NOx Monitoring: Install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS), and record the output of the system, for measuring NOx emissions. Follow the procedures under 40 CFR Section 60.13 and 40 CFR pt. 60, Appendices B and F. NOx emission rates shall be expressed in lb/mmBtu.	40 CFR Sections 60.48b(b)(1) & 60.48b(d); Minn. R. 7011.0565
NOx CEMS Operation: The NOx CEMS shall be continuously operated and data recorded during all periods of EU 017 operation except for CEMS breakdowns and repairs. NOx data is recorded during calibration checks, and zero and span adjustments. The NOx CEMS shall complete a minimum of one cycle of sampling, analyzing, and data recording in each 15-minute period.	40 CFR Sections 60.13(e) & 60.48b(c); Minn. R. 7011.0565
NOx CEMS Certification Test Plans: due 45 days before NOx CEMS Certification Test.	Minn. R. 7017.1060, subps. 1 & 2
CEM Certification Test: due 60 days after achieving maximum capacity but not later than 180 days after initial startup, or within 90 days after the due date of the first excess emissions report, whichever is more stringent.	40 CFR Sections 60.8(a) & 60.13(b); Minn. R. 7011.0565; Minn. R. 7017.1050, subp. 1
NOx Testing and Monitoring: Upon request, the Permittee shall determine compliance with the NOx standard under Section 60.44b(a)(1)(ii) through the use of the NOx CEMS and a 30-day performance test. During periods when performance tests are not requested, NOx emissions data collected pursuant to Section 60.48b(g)(1) or Section 60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the nitrogen oxides emission standards. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.	40 CFR Section 60.46b(e)(4); Minn. R. 7011.0565
D. CEMS GENERAL REQUIREMENTS The following requirements apply to both the CO CEMS and the NOx CEMS.	hdr
CEMS Installation Notification: due 60 days before installing the corresponding CEMS.	Minn. R. 7017.1040, subp. 1
CEMS Certification/Performance Evaluation Test Pretest Meeting: due 7 days before the corresponding CEMS Certification/Performance Evaluation Test.	Minn. R. 7017.1060, subp. 3
CEMS Certification/Performance Evaluation Test Reports: due 45 days after the corresponding CEMS Certification/Performance Evaluation Test.	Minn. R. 7017.1080, subp. 2; meets requirements of 40 CFR Section 63.8(e)(5)

CEMS Certification/Performance Evaluation Test Reports - Microfiche Copy: due 105 days after the corresponding CEMS Certification/Performance Evaluation 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
CEMS QA Plans: Develop and implement a written quality assurance plan for each CEMS. The plans shall be on site and available for inspection within 30 days after CEMS certification. The plans 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 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
CEMS Continuous Operation: Each 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
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 for each CEMS. The 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 CEMS. Follow the procedures in 40 CFR part 60, Appendix F.	Minn. R. 7017.1170, subp. 3
CEMS RATA: due before end of each calendar year following a CEMS Certification Test. If the relative accuracy is 15% or less the next 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
CEMS RATA Notification: due 30 days before the corresponding CEMS RATA.	Minn. R. 7017.1180, subp. 2
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
CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year following the corresponding 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
CEMS CGA Results Summary: due 30 days after end of each calendar half-year following the corresponding CGA.	Minn. R. 7017.1180, subp. 1
CEMS Data Recordkeeping: The Permittee shall 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
E. 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 EU 017 NOx emissions. Use the NOx CEM to monitor EU 017 NOx emissions for 30 successive steam generating unit operating days and determine the 30-day average emission rate to determine compliance with the NOx limit in Section 60.44b(a)(1)(ii). The 30-day average emission rate is calculated as the average of all hourly NOx CEMS emissions data recorded during the 30-day test period.	40 CFR Sections 60.8(a) & 60.46b(e); Minn. R. 7011.0565
Initial Performance Test: due 180 days after Initial Startup of EU 017 to measure CO emissions. This test is the initial compliance determination requirement for the CO work practice standard and is comprised of a performance evaluation of the CO CEMS. See 'B. CARBON MONOXIDE CEMS REQUIREMENTS' in this subject item for requirements pertaining to the CO CEMS performance evaluation.	40 CFR Sections 63.7510(c) & (g)
F. RECORDKEEPING	hdr

Facility Name: Xcel Energy - Riverside Generating Plant

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General Provisions Recordkeeping: The Permittee shall meet the general recordkeeping requirements in 40 CFR Section 63.10(b)(2) including but not limited to: 1. records of each EU 017 startup, shutdown, or malfunction; 2. actions taken during periods of EU 017 startup, shutdown, and malfunction when the actions are different from the procedures specified in the EU 017 startup, shutdown, and malfunction plan; 3. records of all CO CEMS operation including CEMS data, CEMS out of control periods, CEMS calibrations, and CEMS performance evaluations; (continued)	40 CFR Section 63.10(b)(2)
4. all information necessary to demonstrate conformance with the SSMP when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in the SSMP. (The information needed to demonstrate conformance with the SSMP may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events); (continued)	40 CFR Section 63.10(b)(2)
5. all required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to 15-minute averages of CMS data and raw performance evaluation measurements, that support data that the source is required to report); 6. all results of CMS performance evaluations; 7. all measurements as may be necessary to determine the conditions of performance evaluations; 8. all CMS calibration checks; 9. all adjustments and maintenance performed on CMS; and 10. all documentation supporting initial notifications and notifications of compliance status under Section 63.9.	40 CFR Section 63.10(b)(2)
Recordkeeping - The Permittee shall keep the following records: 1. a copy of each notification and report that was submitted to comply with subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or Semi-Annual Compliance Report that was submitted, according to the requirements in 40 CFR Section 63.10(b)(2)(xiv); 2. the records in 40 CFR Section 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction; and 3. records of performance evaluations as required in 40 CFR Section 63.10(b)(2)(viii).	40 CFR Section 63.7555(a)
Recordkeeping: the Permittee shall keep the records required in Table 8 of subpart DDDDD including records of all CO monitoring data and calculated CO averages to show continuous compliance with the CO work practice standard.	40 CFR Section 63.7555(c)
Record Format: the Permittee's records must be in a form suitable and readily available for expeditious review, according to 40 CFR Section 63.10(b)(1). As specified in 40 CFR Section 63.10(b)(1), the Permittee must keep each record for five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee shall keep each record on site for at least two years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR Section 63.10(b)(1). The Permittee can keep the records off site for the remaining three years. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.	40 CFR Section 63.7560
Recordkeeping: The Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of EU 017 or any periods during which the NOx CEMS is inoperative.	40 CFR Section 60.7(b)

NOx Emissions Recordkeeping: Maintain records of the following information for each EU 017 steam generating unit operating day: (1) Calendar date; (2) Average hourly nitrogen oxides emission rates expressed as lb/mmBtu heat input of NO2 measured; (3) The 30-day average NOx lb/mmBtu emission rates calculated at the end of each steam generating unit operating day from the measured hourly NOx emission rates for the preceding 30 steam generating unit operating days; (4) Identification of the steam generating unit operating days when the calculated 30-day average NOx emission rates are in excess of the NOx standard in Section 60.44b(a)(1)(ii), with the reasons for such excess emissions as well as a description of corrective actions taken; (continued)	40 CFR Sections 60.13 & 60.48b(g); Minn. R. 7011.0565
NOx Emissions Recordkeeping (continued from above): (5) Identification of the steam generating unit operating days for which NOx data has not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken; (6) Identification of the times when NOx emission data have been excluded from the calculation of average emission rates and the reasons for excluding data; (7) Identification of F factor used for calculations, method of determination, and type of fuel combusted; (8) Identification of the times when NOx concentration exceeded full span of the CEMS; (9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; (10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.	40 CFR Sections 60.13 & 60.48b(g); Minn. R. 7011.0565
G. REPORTING	hdr
General Provisions Submittals: The Permittee shall submit all of the notifications in 40 CFR Sections 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9(b) through (h) that apply by the dates specified.	40 CFR Section 63.7545(a)
CO CEMS Performance Evaluation Results Report: The Permittee shall furnish the Administrator a copy of a written report of the results of the performance evaluation within 60 days of completion of the performance evaluation. The Administrator may request that the Permittee submit the raw data from a performance evaluation in the report of the performance evaluation results.	40 CFR Section 63.8(e)(5)
Immediate Startup, Shutdown, and Malfunction Report: Any time an action taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the SSMP and EU 017 exceeds an applicable emission limitation, the Permittee shall report the actions taken for that event within two (2) working days after commencing actions inconsistent with the plan followed by a letter within seven (7) working days after the end of the event. Refer to 40 CFR Section 63.10(d)(5)(ii) for additional information regarding the requirements of this report.	40 CFR Section 63.10(d)(5)(ii)
Periodic Startup, Shutdown, and Malfunction Reports (SSMP Reports). The Permittee shall submit SSMP Reports only if there is an occurrence of startup, shutdown, or malfunction during the reporting period and shall be delivered or postmarked by the 30th day following the end of each calendar half year. The content of the report shall meet the requirements of 40 CFR Section 63.10(d)(5)(i).	40 CFR Section 63.10(d)(5)(i)

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Semiannual Compliance Report: submit a compliance report along with the Semiannual Deviations Report required in table B of this permit. Include the following information in the compliance report: (1) Permittee name and address. (2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. (3) Date of report and beginning and ending dates of the reporting period. (4) The total EU 017 fuel use for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure. (continued)	40 CFR Sections 63.7550(b), (c), & (f)
Semiannual Compliance Report (continued): (5) A signed statement indicating that you burned no new types of fuel. (6) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information in Section 63.10(d)(5)(i). (7) If there are no deviations from requirements for the CO work practice standard in subpart DDDDD, a statement that there were no deviations from the CO work practice standard during the reporting period. (8) If there were no periods during which the CO CEMS was out of control as specified in Section 63.8(c)(7), a statement that there were no periods during which the CO CEMS was out of control during the reporting period.	40 CFR Sections 63.7550(b), (c), & (f)

Facility Name: Xcel Energy - Riverside Generating Plant

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

Facility Name: Xcel Energy - Riverside Generating Plant

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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)

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Associated Items: GP 008 Existing Facility Requirements During And After Combustion Turbine Shakedown

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

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

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

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

Send any application for a permit or permit amendment to:

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

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:
- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

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

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

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

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

Facility Name: Xcel Energy - Riverside Generating Plant

Permit Number: 05300015 - 004

What to send	When to send	Portion of Facility Affected
Acid Rain Application for Permit Reissuance	due 180 days before expiration of Existing Permit	EU001, EU002, EU003
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup for each emissions unit. For EU 017, the notification shall also include the design heat input capacity, identification of the fuel to be combusted, and the annual capacity factor at which the Permittee anticipates operating EU 017. 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.	EU015, EU016, EU017, GP008
Notification of the Date Construction Began	due 30 days after Start Of Construction of each emission unit.	EU015, EU016, EU017
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	due 45 days before Anticipated Date of Initial Startup of Commerical Operation. This is the notification of the planned date for commencing commercial operation required by 40 CFR Section 75.61(a)(2).	EU015, EU016
Notification	due 90 days after Permit Issuance. This notification shall specify the final combustion turbine selection. The notification shall include the manufacturer and model number of the selected turbine and shall verify whether any emission unit capacities and stack parameters differ from those in the application submitted for this permit and listed in the appendix of this permit.	Total Facility
Testing Frequency Plan	due 60 days after Initial Performance Test for VOC emissions. The plan shall specify a testing frequency based on inital 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

Facility Name: Xcel Energy - Riverside Generating Plant

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What to send	When to send	Portion of Facility Affected
Acid Rain Program Electronically Submitted Quarterly Report	due 30 days after end of each calendar quarter starting 01/01/96	EU001, 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, EU017
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 05/11/1999 (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
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 05/11/1999 (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.	EU002
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 05/11/1999 (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.	EU003
Deviations Report	due 30 days after end of each calendar half-year starting 05/11/1999. 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 occured, 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 01/01/2000 . The designated representative shall submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Section 72.90(b) and (c).	EU001
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year starting 01/01/2000 . The designated representative shall submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Section 72.90(b) and (c).	EU002
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year starting 01/01/2000 . The designated representative shall submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Section 72.90(b) and (c).	EU003

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Compliance Certification	due 30 days after end of each calendar year starting 05/11/1999 (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_X Compliance and Averaging Plans
Facility Name: Xcel Energy - Riverside Generating Plant
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Phase II NOx Compliance Plan

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

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

Step 1 **Indicate plant name, State, and ORIS code from NADB, if applicable**	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 Type	DBW Type	CY Type	Type	Type	Type
(a) Standard annual average emission limitation of 0.50 lb/mmBtu (for Phase I dry bottom wall-fired boilers)						
(b) Standard annual average emission limitation of 0.45 lb/mmBtu (for Phase I 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 Phase II dry bottom wall-fired boilers)						
(e) Standard annual average emission limitation of 0.40 lb/mmBtu (for Phase II tangentially fired boilers)						
(f) Standard annual average emission limitation of 0.68 lb/mmBtu (for cell burner boilers)						

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

Standard Requirements

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

Special Provisions for Early Election Units

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

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

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

Phase II NOx Averaging Plan

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

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

Step 1

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

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

Step 2

Use the formula to enter the Btu-weighted annual emission rate averaged over the units if they are operated in accordance with the proposed averaging plan and the Btu-weighted annual 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

[X] 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_x under the plan only if the following requirements are met:

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

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

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

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

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

Liability

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

Termination

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

APPENDIX C – INSIGNIFICANT ACTIVITIES and APPLICABLE REQUIREMENTS
Facility Name: **Xcel Energy – Riverside Generating Plant**
Permit Number: **05300015-004**

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
3(A)	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. • **NG-fired space heaters to heat power generation building**	Minn. R. 7011.0515
3(G)	Emissions from a laboratory, as defined in the subpart. • **Operating a water laboratory**	Minn. R. 7011.0710/0715
3(H)	Miscellaneous:	
	4. brazing, soldering or welding equipment; • **Operating anywhere from 10 to 40 welding units**	Minn. R. 7011.0710/0715
3(I)	Individual emissions units at a stationary source, each of which have a potential to emit the following pollutants in amounts less than: 1. 4,000 lbs/year of carbon monoxide; and 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. • **Bunker 6 coal unloading – PM PTE 0.15 tpy, PM_{10} PTE 0.07 tpy** • **Bunker 7 coal unloading – PM PTE 0.15 tpy, PM_{10} PTE 0.07 tpy** • **Bunker 8 coal unloading – PM PTE 0.42 tpy, PM_{10} PTE 0.2 tpy** • **Unit 8 emergency fly ash chute – PM PTE 0.8 tpy, PM_{10} PTE 0.4 tpy**	Minn. R. 7011.0710/0715

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
4(B)	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 • **Units 6/7 fly ash unloading (total) – PM PTE 1.1 tpy, PM actual 0.09 tpy; PM_{10} PTE 0.5 tpy, PM_{10} actual 0.04 tpy** • **Distillate oil forwarding system equipment leaks, VOC emission rate of 0.85 lb/hr** • **Solvent (Safety Kleen) usage – VOC actual emissions of 0.025 tpy**	Minn. R. 7011.0710/0715
Minn. R. 7008.4110, subp. 2	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: A. filtered through an air cleaning system; and B. vented inside of the building 100% of the time. • **Metal machining equipment exhausting inside a building, through an air cleaning system**	Minn. R. 7011.0710/0715

APPENDIX D – Combustion Turbine Stack/Vent and Emissions Units Data
Facility Name: **Xcel Energy – Riverside Generating Plant**
Permit Number: **05300015-004**

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
MSI M501F	131	19.0	1,007,608	181	1794 (LHV)	193

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 05300015-004

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

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: 4911)
Xcel Energy 414 Nicollet Mall Minneapolis, MN 55401-1993	3100 Marshall Street Northeast Minneapolis Hennepin County
Contact: John Chelstrom Phone: (612) 330-7682	

1.2. Description of the Facility and Permit Action

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.

This permit is a combined PSD construction permit and Part 70 operating permit reissuance. It also includes reissuance of the Phase II Acid Rain permit. 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.

1.3 Description of any Changes Allowed with this Permit Issuance

The activities authorized by this permit action are part of Xcel Energy's (Permittee) Metropolitan Emissions Reduction Project (MERP). Other facilities included in the MERP are the Permittee's A.S. King plant in Oak Park Heights, Minnesota, and 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), an auxiliary boiler, two existing diesel-fired emergency generators, and the existing steam turbine from boiler No. 7.

The Permittee applied to install two gas turbines. The permit provides flexibility by allowing the installation of similar sized turbines manufactured by either GE (7FA) or Mitsubishi Heavy Industries (M501F).

The turbines will use dry low-Nitrogen Oxides (NO_x) combustors and Selective Catalytic Reduction (SCR) with ammonia injection for 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 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.

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

Permit Number and Issuance Date	**Action Authorized** (Note: No physical changes were authorized by and of the following permits)
05300015-012 May 21, 1996	Initial Part 70 operating permit
05300015-016 October 31, 1997	Major Amendment. Revise monitoring & recordkeeping requirements.
05300015-001 May 11, 1999	Major Amendment. Add Phase II Acid Rain requirements; change monitor uptime requirements to reflect acid rain QA/QC requirements; entered permit into Delta permitting database.
05300015-002 June 26, 2000	Administrative Amendment. Initiated by MPCA – streamlined monitoring tracking requirements to for easier tracking by MPCA.
05300015-003 **Permit Not Issued**	Part 70 operating permit reissuance - NOTE: Requirements from PER 003 are incorporated into this permit (No. 05300015-004.)

1.5. Facility Emissions:

Table 1. Title I Emissions Increase Summary (tpy)

Pollutant (GE Frame 7FA Turbine)	Limited Modification Emissions Increase (from turbines and auxiliary boiler)	Source-wide Contemporaneous Increases and Decreases*	Net Emissions Increase**	PSD/112(g) Significant Levels	NSR/112(g) Review Required?
PM	84.1	-61.6	24.12	25	No
PM_{10}	84.1	-272	-186	15	No
NO_X	422	-3851	-3429	40	No
SO_2	13.8	-2670	-2656	40	No
CO	674	-167	507	100	Yes
Ozone (VOC)	135	-19.7	115	40	Yes
H_2SO_4	1.99	-3.99	-2.01	7.0	No
Lead	0.008	-0.60	-0.59	0.6	No
formaldehyde	11.22	NA	NA	10	Yes
total HAP	17.45	NA	NA	25	No
Pollutant (MHI M501F Turbine)	Limited Modification Emissions Increase (from turbines and auxiliary boiler)	Source-wide Contemporaneous Increases and Decreases*	Net Emissions Increase**	PSD/112(g) Significant Levels	NSR/112(g) Review Required?
PM	55.9	-33.4	24.16	25	No
PM_{10}	55.9	-196	-139	15	No
NO_X	397	-3202	-2805	40	No
SO_2	14.4	-1989	-1974	40	No
CO	1087	-156	931	100	Yes
Ozone (VOC)	95	-17	78	40	Yes
H_2SO_4	2.08	-3.72	-1.63	7.0	No
Lead	0.008	-0.60	-0.59	0.6	No
formaldehyde	11.78	NA	NA	10	Yes
total HAP	18.25	NA	NA	25	No

* These are other emission changes during the contemporaneous period as defined by 40 CFR §52.21, 40 CFR § 52.24 or 40 CFR pt. 51, and are the difference of baseline emissions and limited existing facility emissions during combustion turbine shakedown.

**Net emissions increase is sum of the reduction of existing facility emissions due to partial facility shutdown and boiler 8 heat input limit during combustion turbine shakedown (listed in source-wide contemporaneous increases and decreases column), and limited emissions increase from the modification.

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

	PM tpy	PM_{10} tpy	SO_2 tpy	NO_X tpy	CO tpy	VOC tpy	Pb tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	1082	2176	31,732	28,786	1406	103	2.5	33.3	66.5
Total Facility Actual Emissions (baseline actual emissions)	574	1546	13,787	14,435	352	61	0.66	HAPs not reported in emission inventory	

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

	PM tpy	PM_{10} tpy	SO_2 tpy	NO_X tpy	CO tpy	VOC tpy	Pb tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions during new and existing facility overlapping operation (GE Turbine)	597	1358	11,134	11,041	864	176	0.062	not determined	
Total Facility Limited Potential Emissions after total existing facility shutdown (GE Turbine)	84	84	17	457	681	135	0.008	11.22	17.45
Total Facility Limited Potential Emissions during new and existing facility overlapping operation (MHI Turbine)	597	1406	11,816	11,665	1,288	139	0.066	not determined	
Total Facility Limited Potential Emissions after total existing facility shutdown (MHI Turbine)	56	56	18	432	1094	96	0.008	11.78	18.25

Note: emissions data in the public notice for this permit action are composite worst-case from the MHI and GE turbine emissions data

Table 3a. Facility Classification - Before Modification

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

Table 3b. Facility Classification - After Modification and Existing Facility Total Shutdown

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD	NO_X, CO, VOC (GE Turbine)		PM, PM_{10}, SO_2, VOC (MHI Turbine)
Part 70 Permit Program	NO_X, CO, VOC (GE Turbine)		PM_{10}, SO_2, VOC (MHI Turbine)
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 is subject to part 60 subpart Db, the new gas turbines are subject to subpart GG, and some of the existing coal handling and preparation equipment is subject to subpart Y.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The new auxiliary boiler is a new large gaseous fueled boiler subject to subp. DDDDD. The boiler is in the population III class and is subject to a CO work practice standard of 400 ppmvd. A CO CEMS must be installed to measure CO emissions.

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 MACT by June 15, 2007. However § 63.6590(b)(3) states, in part, that existing compression ignition engines are not subject to any requirements and no initial notification is necessary.

Community Involvement

This facility generated substantial public concern during the attempt to reissue the part 70 operating permit in 2001 and 2002 for the existing coal-fired boiler facility. As a result there is a significant potential for public concern and comment for this permitting action. Although this proposed permit involves the removal of the coal-fired facility, and construction of a new natural gas-fired electric generating facility, there is the potential for objection of the construction of any new emission source at the existing site. As a result, there will be a public meeting during the public notice period. It is anticipated that the public comment period will commence by the end of February 2006. If the public notice is published at this time, the public meeting would be held in mid March 2006, approximately half-way through the public comment period.

The public comment period commenced February 20, 2006. A public meeting was held on Thursday, March 9, 2006, at the Northeast Minneapolis National Guard Armory, 1025 Broadway Avenue NE.

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 4. Regulatory Overview of Facility

EU, GP, or SV	Applicable Regulations	Comments:
GP 001	Title I Condition:	Previously set operating hours limit and recordkeeping to avoid major modification status when EU 010 and EU 011 were installed in 1996
GP 002	Title I Condition: State Implementation Plan for SO_2 and Pt. 75 Monitoring	Existing boiler CEMS requirements
GP 003	Minn. R. ch. 7017	Existing boiler COMS requirements
GP 004	Minn. R. 7011.1105(G)(2)	Coal loading station dust control requirements
GP 005	Minn. R. 7009.0020 & Minn. R. 7011.1105(F)	Coal stockpile, stockpile construction, and reclaiming requirements
GP 006	Minn. R. 7011.0150	Ash handling dust control requirements
GP 007	Title I Conditions: 40 CFR § 52.21	BACT limits and operating, monitoring, recordkeeping, and testing requirements
	Acid Rain Program	Acid rain monitoring requirements for NO_X, SO_2, & CO_2
	Part 60 subpart GG	NO_X and SO_2 limits and associated monitoring and testing requirements
	Minn. R. ch. 7017	State CEM requirements for CO and NO_X CEMS
GP 008	Title I Condition: To avoid major modification under 40 CFR § 52.21(b)(2)(i) for PM, PM_{10}, & NO_X; Minn. R. 7007.3000	Combustion turbine shakedown and existing facility requirements during and after overlapping operation of existing and new facilities.
EU 001, EU 002, EU 003	Title I Condition: SO_2 SIP requirements	Facility must continue to meet the SO_2 limitations set up in the Administrative Order, to maintain attainment status for SO_2.
	40 CFR §§ 50.4 and 50.5	National Primary and Secondary Ambient Air Quality Standards for SO_2. Limits derived from dispersion modeling.
	Minn. R. 7009.0020	Minnesota Ambient Air Quality Standards. SO_2 limits derived from dispersion modeling; TSP/PM limits derived from dispersion modeling are state-only requirements not enforceable by citizens or the EPA administrator.
	Minn. R. 7011.0510	Minnesota Standards of Performance for Existing Indirect Heating Equipment
	40 CFR Parts 72, 75, 76	Acid Rain Requirements

	40 CFR Part 64	Compliance Assurance Monitoring
EU004, EU005, EU006, EU007	40 CFR Part 60, subpart Y	Standards of Performance for Coal Preparation Plants
	Minn. R. 7009.0020	Minnesota Ambient Air Quality Standards. PM limits derived from dispersion modeling.
EU008, EU009	Minn. R. 7011.0715	Standards of Performance for Post-1969 Industrial Process Equipment
	Part 64	Compliance Assurance Monitoring
EU014	40 CFR Part 60, subpart Y	Standards of Performance for Coal Preparation Plants
	Minn. R. 7011.1105	Standards of Performance for Certain Coal Handling Facilities
	Title I Condition & Minn. R. 7009.0020	PM limit to avoid classification of a previous modification as major under PSD that also meets PM limit derived from dispersion modeling required to meet Minnesota PM Ambient Air Quality Standards.
EU 017	Title I Conditions: 40 CFR § 52.21	New Source Review CO and VOC BACT limits
	40 CFR pt. 60, subp. Dc	New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units NOx limit and related requirements
	40 CFR pt. 63, subp. DDDDD	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (auxiliary boiler is a new large gaseous-fueled boiler with >100 mmBtu/hr heat input in 'population III' in the boiler MACT flowchart). Compliance date is the date of initial startup.
	Minn. R. ch. 7017	State CEM requirements for CO and NO_X CEMS

3. Technical Information

- *Changes and Corrections to Existing Permit*:

  EU 004: State TSP modeling showed that a limit of 0.88 lb/hr was required to avoid exceedance of the Minnesota TSP AAQS. Therefore the basis/citation is 7009.0020, and this is a state-only requirement and is not enforceable by EPA or citizens.

  EU 014: Dust collector (CE 014) was installed in 1989 as a synthetic minor PSD modification due to a lb/hr limit based on 0.02 gr/dscf and 30,000 acfm flow rate to keep PM increase under 25 tpy. Pound per hour rate was about 5.14 lb/hr. Then state TSP modeling in 1990's lowered the lb/hr limit to 0.38 lb/hr to avoid exceeding the Minnesota TSP AAQS. So, the permit limit is 0.38 lb/hr and the citation is 'Title I to avoid PSD major modification and to meet 7009.0020'.

  GP 002 and GP 003 CEMS and COMS requirements were updated, mainly to include Minn. R. ch. 7017 revisions made in 1999.

  EU 004, EU 005, EU 006, and EU 007: PER 003 (which was not issued) added operating limits (in tons or coal per hour) based on 1996 stack testing results for these emission units. According to the stack test report, the emission unit conveyors were all operating at least 90 percent of their rated capacities (capacities are 700 tph except for 81B which is 1400 tph; all were operating above 630 tpy except 81B which was operating above 1260 tph based on the June 13, 1996, test report). Therefore, no operating limit will be imposed as allowed by Minn. R. 7017.2025, subp. 3.D.

- *New Source Review Applicability*: The construction of the new combined cycle gas turbine facility and phased shutdown of the existing coal-fired boiler facility is subject to federal New Source Review permitting requirements. The new facility will be a major modification for PM, PM_{10}, NO_X, CO, and VOC before applying creditable emission increases and decreases, and a minor source for SO_2 due to a fuel type restriction. The permit includes federally enforceable requirements for a phased shutdown of the coal-fired boiler facility. This results in a net emissions decrease of PM, PM_{10}, and NO_X and therefore these pollutants are not subject to PSD permitting. Also, the Permittee will install NO_X controls on the combined cycle gas turbines (lean pre-mix combustors and selective catalytic reduction with ammonia injection). The new facility will be a major source for CO and VOC, and therefore is subject to PSD permitting requirements for these pollutants.

- *Net Emissions Changes*: The new natural gas-fired combustion turbine facility will be a major modification for PM, PM_{10}, NO_X, CO, and VOC as defined at § 52.21(b)(2) prior to the application of creditable emissions changes. Substantial creditable emission decreases will be created by the shutdown of boilers 6 and 7, and the imposition of a 12-month rolling sum boiler 8 heat input limit at the end of the contemporaneous period.

The Permittee projects a construction start date of June 2006, with commercial operation starting in May 2009. Assuming initial startup is six months before commercial operation, the initial startup date for the new combustion turbines would be November 2008. Based on these dates, the contemporaneous period starts in June 2001 and ends by November 2008.

The permit defines Combustion Turbine Shakedown (CTS) as the period starting the day that the first turbine engages in initial startup, and ending no later than 180 days after the first turbine initial startup date. Requirements for shutdown of Boilers 6 and 7 and the boiler 8 heat input limit are effective the day prior to the start of CTS, making the associated emission changes contemporaneous and creditable. Shutdown of boilers 6 and 7 and the heat input limit for boiler 8 create creditable emissions decreases for all NSR pollutants except boiler 8 NO_X. Creditable increases of Boiler 8 NO_X emissions will occur because the future permitted NO_X allowed by the heat input limit exceeds the baseline boiler 8 NO_X emissions. However, the overall NO_X net emissions change from the modification is less than the NO_X significant emission rate.

Coal and ash handling stack and fugitive emissions should decrease during the contemporaneous period due to the shutdown of Boilers 6 and 7 and the limited operation of Boiler 8. However, to avoid recordkeeping associated with future actual emissions from these sources, the Permittee has elected to determine emission changes from these sources based on future potentials minus past actuals. Emissions from these sources are relatively small compared to the boilers.

GP 001 emergency generators are not included in netting calculations because they are not undergoing modification or a change in operation during the contemporaneous period. After summing all contemporaneous increases and decreases along with the emissions from the modification, the net emissions changes from the proposed modification will only be significant for CO and VOC as defined in § 52.21(b)(23)(i).

A separate boiler 8 heat input limit for each of the two permitted turbines is included in the permit because (modification) emissions data varies by turbine manufacturer. To determine compliance with the heat input limit, the permit requires the Permittee to determine hourly heat input according to part 75 Appendix F, equations F-18 and F-21a. The Permittee already conducts these compliance activities as required by part 75. Finally, the Permittee will permanently shutdown Boiler No. 8 and miscellaneous support equipment no later than 12 months after the end of combustion turbine shakedown so that the total PM, PM_{10}, SO_2, and NO_X emissions reductions from this project will be greater than the creditable reductions for these pollutants.

- *BACT Analysis*: Installation of the new gas turbine facility is subject to BACT for CO and VOC emissions. The Permittee has submitted information to justify that BACT is good combustion practices (GCP) for both pollutants for the turbines and auxiliary boiler.

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

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

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

For the Xcel Riverside gas turbine project, an oxidation catalyst cost of $5,572/ton of CO for the MHI turbine (70 percent reduction of 180.9 tpy CO), and $7,670/ton of CO for the GE turbine (70 percent reduction of 131.4 tpy CO) was determined. This cost per ton is based on emissions generated when the gas turbines are operating 8760 hours per year, without startup or shutdown (when the oxidation catalyst does not operate due to low emission temperatures). Therefore, it is apparent that an oxidation catalyst is cost-prohibitive, and most or nearly all CO is converted to CO_2 by the time emissions disperse to ground level. As a result, good combustion practices is determined to be BACT for CO. Also note that most of the projected CO emissions occur during startup and shutdown when an oxidizing catalyst would not be operating. Based on this catalyst operating scenario, CO control efficiency on an annualized basis would be substantially lower than 70 percent.

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

For VOC, an oxidization catalyst was determined to cost $170,631/ton for the MHI turbine assuming 20 percent control and $57,546/ton for the GE turbine assuming 20 percent - 40 percent control. This cost per ton is based on emissions generated when the gas turbines are operating 8760 hours per year, without startup or shutdown (when the oxidation catalyst does not operate due to low emission temperatures), and will increase if normal operations including startup/shutdown are included in the cost determination. Therefore, it is apparent that an oxidation catalyst is cost-prohibitive for VOC control and good combustion practices is BACT for VOC emissions.

For the auxiliary boiler, the proposed BACT limits of 0.08 lb CO/mmBtu and 0.005 lb VOC/mmBtu are similar to other BACT limits in the Clearinghouse for similar-sized natural gas-fired boilers.

- *Additional Impact Analysis*: There are no growth impacts associated with construction or operation of this project. Compliance with the ambient air quality standards will ensure that there aren't adverse impacts to soils and vegetation in the vicinity of the proposed facility. Conversion of the existing site from a coal-fired to gas-fired facility will not negatively impact areas soils or geology. No adverse impacts on threatened, endangered, or sensitive species are anticipated. A voluntary visibility screening analysis was conducted for Rainbow Lakes Wilderness Area (231 km from the site). The screening indicated that the new facility was not expected to cause visibility impairment.

- *PSD modeling*: Modeling was conducted for CO emissions due to the significant CO net emissions increase. For the 1-hr CO emission rate for each turbine, the worst case hourly emission rate was used (2000 lb/hr for the GE when combustion tuning; 3815 lb/hr for MHI turbine at 20 percent load).

  The GE turbine 8-hr average emission rate for each turbine was determined using the CO emission rate for the two hour second turbine warm startup (399 lb/two hour warm second turbine start event), two hours of combustion tuning at 2000 lb/hr, and four hours of worst case normal operation at 33 lb/hr. Use of the CO emission data for the second turbine to startup (as opposed to the higher 1838 lb/event CO emission rate for the first turbine to start up) is reasonable because both turbines will be electrically set-up to not commence startup at the same time and therefore will not emit CO at the higher 1838 lb/warm start event, and the likelihood of both turbines operating in tuning mode is very remote. Also, there is a large buffer between the model-predicted total 8-hr Riverside (calculated with the 399 lb/event value) plus background CO concentration, and the 10,000 ug/m^3 CO NAAQS. The buffer is so large that only a small portion would be consumed if the 1838 lb/event value were used in place of the 399 lb/event value.

  The Mitsubishi 8-hr average emission rate for each turbine is based on 13,411 lbs of CO emissions from a 315-minute cold start with the remaining 165 minutes at worst case CO emissions from normal operation at 43.7 lb/hr.

Initial model results show exceedance of the 1-hour and 8-hour significant impact levels (2000 ug/m^3 and 500 ug/m^3, respectively). Additional modeling was performed and compliance with the 1-hour and 8-hr CO NAAQS was demonstrated for both turbines. Background concentrations include emissions from the existing facility to account for overlapping operations during CTS. Due to the substantial height of boiler 8 stack, there is no plume overlap from boiler 8 and the new facility combustion turbines and auxiliary boiler. As a result modeled impacts during overlapping operations are the same as impacts after final complete coal-fired facility shutdown.

Table 5. CO Emissions Modeling Information

Averaging Period	Emission Rate (per gas turbine) lb/hr	H2H Modeled Concentration ug/m^3	Background (including impacts of existing facility during and after CTS) ug/m^3	Total Concentration ug/m^3	NAAQS ug/m^3
1-hour GE	2000	6624	6728	13352	40,000
1-hour MHI	3815	11155	6728	17883	40,000
8-hour GE	566.4	1275	2818	4093	10,000
8-hour GE	746.3	1683*	2818	4501*	10,000
8-hour MHI	1691	3439	2818	6257	10,000

*data provided by MPCA modeling staff based on emission rates for both turbines going through warm startup at the same time which is not possible; data for comparative purposes only

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

- *GE Turbine Startup and Shutdown/Combustion Tuning/Normal Operation*: Startup and shutdown, as well as combustion tuning, are limited as part of the CO and VOC BACT determination for the GE turbine. This is because good combustion practices, which is BACT for CO and VOC, can not be maintained during startup, shutdown, or combustion tuning. The startup/shutdown and combustion tuning limits are on a 12-month rolling sum basis to allow for variations in the length of startup based on the length of time since fuel was last fired in the turbine, and for the infrequent and sporadic occurrence of combustion tuning. The GE turbine operating boundary between startup and normal operations occurs when mode 6 is initially attained. Mode 6 occurs when all burner nozzles are firing in lean pre-mix

mode. Shutdown commences when mode 6 operation ceases. During startup, SCR operation is required at temperatures of 600 degrees Fahrenheit or greater (measured at the inlet duct to the SCR) and for as long as physically possible during shutdown. The 600 degrees Fahrenheit value was provided by the Permittee.

- *Performance Testing:* Testing of combined cycle turbine NO_X emissions is required to verify compliance with the combined cycle NO_X limit of 4.7 (GE Turbine)/4.4 ppmvd (MHI Turbine) which forms the basis of the MERP 0.015 lb/mmBtu value. Testing of the combined cycle turbine stacks is also required for VOC emissions (measured as methane since VOC should be almost entirely methane from uncombusted natural gas) to verify compliance with the BACT VOC limit. Testing of CO emissions from the combined cycle turbines is not required due to use of CO CEMS, and the fact that no standard exists that requires CO testing form the combined cycle turbines.

  The turbines NSPS testing requirements for NO_X and SO_2 are listed in GP 007. These requirements must be met unless the Permittee obtains approval from EPA Administrator to conduct alternate testing according to §60.8(b).

  Auxiliary boiler CO testing is not required because the part 63 subp. DDDDD boiler MACT requires installation, performance evaluation, and continuous operation of a CO CEMS to determine compliance with the CO MACT work practices standard. CO CEMS data will also be used to determine compliance with the CO BACT limit. Testing for boiler VOC is not required due to the lack of boiler VOC add-on control equipment and the very low emission rate (0.80 lb/hr). Also, compliance with the CO limits indicates good combustion, and good combustion is the method for controlling VOC emissions from the boiler. Therefore, CO CEMS data demonstrating compliance with the CO limit indicates that VOC emissions will be in compliance with the VOC limit.

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

Table 6. Xcel Energy - Riverside MERP Emissions Data

	Capacity		NO_X	SO_2	PM_{10}
	MW	mmBtu/hr	Lb/mmBtu	Lb/mmBtu	Lb/mmBtu
Riverside 6 & 7	134	1,371	0.83	0.38	0.013
Riverside 8	226	2,233	0.99	1.26	0.078
New Source Performance Standards[14]			0.20 [15]	0.20	0.03 [16]
Recent Best Available Control Technology determinations for natural gas-fired facilities [17]					
Range of Recent BACT determinations			0.009-0.055	0.0008-0.216	0.0076-0.048
Median of BACT determinations			0.013	0.006	0.013
Emissions, River-side Combined Cycle (MERP)[18]	439	3,538	0.015	0.001	0.003/0.005

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

[15] These limits apply to units that are modified or reconstructed units burning natural gas. A modified natural gas-fired unit would need to reduce NO_X by 25 percent.
A new unit would be required to meet a 1.6 lb/MWh limit. (It is difficult to convert directly from this limit to lb/mmBtu because the unit's conversion efficiency - energy output/energy input - must be known.)

[16] The NSPS restricts emissions of PM (not PM_{10}) from natural gas boilers.

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

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

- *PER 004 Revisions To Existing Permit 002 Requirements*: The existing permit for this facility is permit No. 05300015-002 (PER 002). PER 003 is a part 70 reissuance permit that was not issued. There were some proposed changes made to PER 002 by PER 003. The changes were mainly organizational revisions through consolidation of similar requirements for similar sources into groups. Most of the revisions proposed in PER 003 have been incorporated into this current draft permit.

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

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

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

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

Existing Facility CAM: The existing coal-fired boilers are large PSEU subject to part 64 Compliance Assurance Monitoring (CAM) because controlled PM and PM_{10} PTE exceeds the part 70 major source threshold for PM_{10}, and PM emissions are subject to the PM limit in the Minnesota Indirect Heating Equipment rule. Except for EU 008 and EU 009, all coal and ash-handling emission units have uncontrolled emissions less than the part 70 major source threshold for all pollutants (based on the 2003 part 70 re-issuance permit application), and therefore are not subject to CAM. EU 008 and EU 009 have potential PM emissions above 100 tpy, but controlled PM emissions are below 100 tpy and therefore are 'Other PSEUs'. EU 008 and EU 009 PM emissions are subject to the Minnesota Industrial Process Equipment Rule, and are controlled by boiler 6/7 and boiler 8 control equipment and vented through the corresponding boiler stack. As a result, CAM for PM emissions from these units will be the same as for the boiler PM CAM which is the use of the COMS on each boiler stack as a monitoring indicator of compliance with the applicable PM standard.

The boilers are subject to the Minnesota Indirect Heating Equipment Rule PM standard of 0.4 lb/mmBtu. Performance testing has demonstrated that opacity is the limiting pollutant compared to PM emissions (see table 5). In other words, opacity will exceed the opacity limit before PM will exceed the PM limit. Therefore, the Permittee will use the COMS for each boiler as a surrogate for PM emissions, in order to meet CAM.

Table 7. Relationship of Existing Boiler Particulate Matter and Opacity Determined During Performance Testing

Boiler #; test date	average opacity for three 1-hr test runs	average lb PM/mmBtu for three method 5 one-hr test runs	opacity as a percentage of opacity limit	PM emissions as a percentage of PM limit
#8; 11/6/1996	10.46%	0.067	52.3%	16.8%
#6; 11/5/1996	1.64%	0.013	8.2%	3.3%
#7; 11/5/1996	1.19%	0.013	6.0%	3.0%

New Facility CAM: The combined cycle combustion turbine NO_X emissions are subject to CAM. As stated in 40 CFR § 64.3(d), monitoring required by part 75 meets the CAM general design criteria requirements of § 64.3. Additional part 75 and Minnesota Rule requirements for the NO_X CEMS ensure adequate monitor operation, recordkeeping, and reporting.

- *Mercury Emissions Reduction*: The existing facility actual mercury emissions were 100.0 pounds in 2002, 108.6 pounds in 2003, and 98.7 pounds in 2004. Potential mercury emissions from the new combined cycle facility are less than 9 pounds per year, and actual emissions are likely to be less than 4 pounds per year assuming an operating schedule of 16 hours per day, five days per week, and 50 weeks per year. Emissions for the new facility were calculated using the 2.6E-04 lb/10^6 scf NG emission factor in AP-42, ch. 1-4 table 1.4-4. Although this factor applies to boilers combusting natural gas, the factor was also used to determine mercury emissions from the combustion turbines because no factor is available in AP-42 (ch. 3-1) for mercury from natural gas-fired combustion turbines.

- *Emission Calculations*: Emissions are based on Permittee's information and are calculated as shown in the attached spreadsheets. Some emissions (HAPs) were calculated based on AP-42 and other (mostly criteria pollutants) were based on manufacturer's emissions guarantees. For the combined cycle combustion turbines, worst case lb/hr emissions occur at -12 degrees Fahrenheit (Mitsubishi) or -20F (General Electric). Annual emissions are based on operation at the average annual temperature of 45 degrees Fahrenheit.

  For information regarding calculation of emissions changes associated with this project, refer to the *Net Emissions Increase* discussion on page 9.

- *Deviations From Accepted Delta Practices*: In order to reduce the length of the permit and the amount of blank space on many permit pages, many identical requirements for similar emission and fugitive sources were consolidated into groups. Also, boiler requirements previously at the stack/vent level, were consolidated into requirements for the given boiler at the emission unit level.

- *Insignificant Activities*: Refer to the list of insignificant activities at the facility in Appendix C of this permit. This list includes the applicable performance standard, if any, that the activity is subject to.

  For the new facility, additional insignificant activities are limited to natural gas-fired space heaters in the power generation building. None of these sources play a role in determining applicable permitting requirements for the new facility. Existing insignificant activities pertaining to coal and ash handling will cease upon total existing facility shutdown.

- *Performance Testing Requirements*: EU 015 and EU 016 testing is required for determining compliance with the VOC BACT emission limit. In addition, SO_2 and NO_X testing is required by part 60 subp. GG. CO testing is not required for the combustion turbines because initial and continuous compliance with the CO BACT limit will be determined with the CO CEMS for each unit. A testing frequency plan is required for VOC emissions testing. If VOC emissions measured during the initial performance test are significantly below the VOC BACT limit (i.e. no more than 60 percent of the limit), the Permittee may request in the frequency plan to not retest for VOC and instead use the CO CEMS as an indicator of VOC emissions. This is appropriate because both pollutants are products of incomplete combustion and if the CO CEMS indicates that CO emissions are in compliance, then it would also likely that VOC emissions will be in compliance too if VOC initial testing measures emission significantly below the applicable VOC limit.

  EU 017 testing is required for determining compliance with the part 60 subpart Db NO_X limit. This testing is conducted using the NO_X CEMS over a 30-day period to determine the 30-day average NO_X emissions. Although EU 017 is subject to a CO work practice standard in part 63 subpart DDDDD, CO performance testing is not required because part 63 subp. DDDDD only requires a performance evaluation (a.k.a. CEMS certification) of the CO CEMS, but not a formal performance test. The CEMS will also be used to determine compliance with the CO BACT limit of 0.08 lb/mmBtu. Testing for auxiliary boiler VOC emissions is not required because control of CO and VOC emissions is done by employing good combustion, and CO is monitored by a CEMS. As a result, compliance with CO indicates compliance with VOC

- *Environmental Review*: This modification does not trigger environmental review. An environmental impact statement is not required because according to Minn. R. 4400.0650, subpart 1.C the proposed changes are not considered construction of a large electric power generating plant. Preparation of an environmental assessment worksheet is not required because past potential emissions minus future potential emissions are less than 100 tpy for all criteria pollutants.

3.1 Periodic Monitoring

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

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

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

Table 8 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 8. Emission Units Subject to Periodic Monitoring/CAM

EU/GP/ CE	Emission Limit (basis)	Additional Monitoring	Discussion
EU 001 EU 002	SO_2: 0.83 lb/mmBtu during scrubber operation (SO_2 SIP) SO_2: 1.00 lb/mmBtu without scrubber operation (SO2 SIP) SO_2: 0.9 lb/mmBtu (6/10/83 settlement agreement) SO_2: 1.07 lb/mmBtu during scrubber operation (modeling limit) SO_2: 1.49 lb/mmBtu without scrubber operation (modeling limit) SO_2: 3.0 lb/mmBtu (Minn. R. ch. 7011)	None	SO_2 CEMS
	Opacity: 20%/60% (Minn. R. ch. 7011)	None	COMS
	PM: 0.4 lb/mmBtu (Minn. R. ch. 7011)	Periodic testing of the stack emissions, operation of COMS and control equipment	See existing facility CAM discussion on the use of COMS on pages 14 and 15
	NO_X: NO_X averaging as described in permit (Acid Rain)	None	NO_X CEMS

EU/GP/ CE	Emission Limit (basis)	Additional Monitoring	Discussion
EU 003	SO_2: 2.7 lb/mmBtu using 3-hour average (SO_2 SIP) SO_2: 2.5 lb/mmBtu (6/10/83 settlement agreement) SO_2: 2.7 lb/mmBtu using 1-hour average (modeling limit) SO_2: 3.0 lb/mmBtu (Minn. R. ch. 7011)	None	SO_2 CEMS
	Opacity: 20%/60% (Minn. R. ch. 7011)	None	COMS
	PM: 0.4 lb/mmBtu (Minn. R. ch. 7011)	Periodic testing of stack emissions, operation of COMS and control equipment	See existing facility CAM discussion on the use of COMS on pages 14 and 15
	NO_X: NO_X averaging as described in permit (Acid Rain)	None	NO_X CEMS
EU 004	PM: 0.88 lb/hr (modeling limit)	Fabric filter maintenance, check for visible emissions	Controlled PTE based on AP-42 is approximately 0.18 lb/hr, or 20% of the limit; noncompliance is not likely
	Opacity: 20% opacity (NSPS, Minn. R. ch. 7011)	None	
EU 005	PM: 0.88 lb/hr (modeling limit)	Fabric filter maintenance, check for visible emissions	Controlled PTE based on AP-42 is approximately 0.05 lb/hr, or 5% of the limit; noncompliance is not likely
	Opacity: 20% opacity (NSPS, Minn. R. ch. 7011)	None	
EU 006	PM: 0.88 lb/hr (modeling limit)	Fabric filter maintenance, check for visible emissions	Controlled PTE based on AP-42 is approximately 0.05 lb/hr, or 5% of the limit; noncompliance is not likely
	Opacity: 20% opacity (NSPS, Minn. R. 7011)	None	
EU 007	PM: 1.15 lb/hr (modeling limit)	Fabric filter maintenance, check for visible emissions	Controlled PTE based on AP-42 is approximately 0.096 lb/hr, or 8% of the limit; noncompliance is not likely
	Opacity: 20% opacity (NSPS, Minn. R. 7011)	None	
EU 008	PM: 0.1 gr/dscf (Minn. R. 7011)	See PM monitoring for EU 001 and EU 002	EU 008 has same exhaust point, emissions included in those tested emissions. Opacity monitor is in place
	Opacity: 20% opacity (NSPS, Minn. R. 7011)	None	
EU 009	PM: 0.1 gr/dscf (Minn. R. 7011)	See PM monitoring for EU 003	EU 009 has same exhaust point, emissions included in those tested emissions. Opacity monitor is in place
	Opacity: 20% opacity (NSPS, Minn. R. ch. 7011)	None	

EU/GP/ CE	Emission Limit (basis)	Additional Monitoring	Discussion
EU 010 EU 011	SO_2: 0.5 lb/mmBtu (Minn. R. 7011) Opacity: 20% opacity (Minn. R. 7011) Hours of operation limitation (Title I to avoid major mod classification)	None None Recordkeeping	Emergency operation only. PTE based on AP-42 is approximately 0.5 lb/mmBtu Emergency operation only. PM PTE is only 0.8 lb/hr, noncompliance with opacity limit is unlikely.
EU 014	PM: 0.38 lb/hr (Title I to avoid major mod classification) Opacity: 20% opacity (NSPS, Minn. R. ch. 7011)	Fabric filter maintenance, check for visible emissions	Controlled PTE based on AP-42 is approximately 0.022 lb/hr, or 6% of the limit; noncompliance is not likely
EU 015 & EU 016 in GP 007	Acid Rain NO_X Monitoring; NSPS NO_X & BACT CO Limits VOC BACT Limit Acid Rain SO_2 Monitoring; SO_2 NSPS Limits; Minnesota SO_2 and opacity limits	none CO CEMS none	Acid Rain NO_X exempt from CAM; For NSPS and BACT, NO_X and CO CEMS installed Use CO CEMS as indicator of good combustion which ensures VOC compliance Acid Rain SO_2 exempt from CAM; For NSPS SO_2 and MN limits, fuel restricted to natural gas; violation of limits is impossible based on fuel type and sulfur content
EU 017	NSPS NO_X Limit, CO BACT Limit, and CO MACT Standard Limit VOC BACT Limit	none none	NO_X and CO CEMS Use CO CEMS as indicator

3.2 Comments Received

Public Notice Period: February 20, - March 21, 2006
EPA 45-day Review Period: February 20, - April 4, 2006

Comments were received from twelve individuals during the public comment period. Most comments had one of the following common themes: proposed operation of boiler 8 for up to 12 months after combustion turbine shakedown was not reasonable or appropriate; permitted gas turbine carbon monoxide emissions are much greater than indicated in the July 2002 MERP filing with the Public Utilities Commission; use the lowest-emitting turbine.

Changes were made to the permit in response to the comments regarding the length of boiler 8 operation after the end of combustion turbine shakedown. The 12-month period was shortened to the earlier of December 31, 2009, or 6 months after the end of combustion turbine shakedown. Also, a new requirement was added specifying the conditions under which boiler 8 could operate after the end of combustion turbine shakedown.

No other changes were made to the draft permit. Written responses to each comment letter discussed and clarified the other issues raised in comment letters for which no changes were made to the draft permit.

Comments were also received from EPA Region V staff during the public comment period. EPA indicated that $7,670/ton for a CO oxidation catalyst was not cost prohibitive, and that there should CO limits for startup and shutdown specified in the permit. After furnishing EPA staff with additional supporting documentation, EPA determined that no changes were necessary to the permit in response to their comments.

During the public comment period the permit writer revised the ACTION 004 information on page four of the permit cover page. Information regarding the use of good combustion practices for control of CO and VOC from the combustion turbines was added. Also, a phrase was added to clarify that the final total shutdown of the plant including boiler 8 and the remainder of the existing plant no later than 18 months after initial startup of the combustion turbines will not include the two existing emergency generators.

On April 20, 2006, EPA promulgated revisions to part 63, subp. A, General Provisions. Part of the revisions involved removing the requirement that the Permittee follow the startup/shutdown/malfunction (SSM) plan during startups, shutdowns, and malfunctions. Although this requirement was removed, this in no way alters the obligation and requirement set out at 40 CFR §63.6(e)(1)(i) that source owners or operators ‘‘minimize emissions’’ at all times, including periods of SSM. The draft permit was not revised to reflect this change because it is anticipated by MPCA staff that there may be legal action by the public to block the implementation of this revision.

On April 28, 2006, the permit writer removed the EU 017 requirement for developing a site-specific monitoring plan according to §63.7505(d) for CO emissions. This is because the CO standard is not an emission limit but a work practice standard. §63.7505(d) applies to demonstrating compliance with an emission limit and not a work practice standard, so the requirement does not apply.

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. 05300015-004, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Marshall Cole (permit writer/engineer)
Emily Hansen (enforcement)
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Chris Nelson (modeling)
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Attachments:
1. Emission Calculation and Netting Spreadsheets
2. BACT Analysis Supporting Documents (GE and MHI)
3. Ambient Air Analysis (GE and MHI)