

AIR EMISSION PERMIT NO. 16300005- 005

IS ISSUED TO

Northern States Power Company dba Xcel Energy

Xcel Energy - Allen S. King Generating Plant
Highway 95 and Point Road
Oak Park Heights, Washington County, MN 55003

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

Permit Type	Application Date
Total Facility Oper. Permit - Reissuance	01/17/2003
Major Amendment	04/01/2004, resubmitted 08/16/04

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

Permit Type: Federal; Pt 70/ NSR; Acid Rain

Issue Date: February 22, 2005

Effective Date: March 28, 2005

Expiration: February 22, 2010

All Title I Conditions do not expire.

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

for Sheryl A. Corrigan
Commissioner
Minnesota Pollution Control Agency

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NOTICE TO THE PERMITTEE:

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

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

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

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

PERMIT SHIELD:

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

FACILITY DESCRIPTION:

The Allen S. King plant is a coal-fired electric utility located on Highway 95 in Oak Park Heights, Minnesota. The facility's emission sources consist of boilers; fuel and ash storage and handling equipment; and emergency diesel engines. The facility's main power boiler (Boiler No. 1) is a coal-fired cyclone boiler with a generating capacity of 550 megawatts (MW) of electricity. Pollution control equipment on the main boiler as of the date of issuance of Air Emission Permit No. 16300005-005 consists of an electrostatic precipitator to control Particulate Matter (PM) emissions. Emissions from fuel and ash storage and handling equipment, which are potential sources of PM emissions are controlled using water and other dust suppressants, enclosures, and/or fabric filters.

Major Amendment Description:

This permit also authorizes the A.S. King Plant Rehabilitation Project under the Metro Emissions Reduction Project. The project consists of:

- Modification of the coal fired boiler, including replacement of furnace floor and support system, installation of new cyclone burners and re-entrant throats, partial replacement of furnace sidewalls and floor tubes, and installation of induced draft fans to accommodate additional draft requirements of new control equipment.
- New air pollution control equipment for the coal fired boiler, consisting of a selective catalytic reduction (SCR) reactor for NO_x control, a spray dryer absorber lime based semi-dry flue gas desulfurization (FGD) system for SO₂ control, and pulse-jet fabric filters for particulate control.
- Decommissioning of an existing auxiliary boiler, and replacement with a new auxiliary boiler with a firing capacity of 99 MMBtu/hr.
- Decommissioning 10 existing cooling tower cells and replacing them with 18 new cooling tower cells with more efficient drift eliminators.
- Installation of ammonia vaporizer, to vaporize aqueous ammonia prior to injection to SCR.
- Installation of supplemental natural gas fired duct burners to maintain the required SCR temperature at times of low boiler load.
- Installation of pebble lime handling system for FGD system.
- Installation of handling system for FGD byproduct.
- Replacement of the steam turbine (but not the electric generator)
- Installation of electrical distribution equipment and a new Distributed Control System.

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

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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. OPERATIONAL LIMITS	hdr
Truck and hauler unloading stations: Control fugitive particulate emissions from the unloading of coal and petroleum coke from trucks or haulers by dust suppression methods so that emissions from such sources are minimized.	Minn. R. 7011.1105, subp. C
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. Maintain air pollution control equipment in proper operating condition and utilize air pollution control systems as designed.	Minn. R. 7011.1105, subp. I
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Comply with Fugitive Emissions Control Plan: Follow the actions and recordkeeping specified in the Fugitive Emissions Control Plan. The plan may be amended by the Permittee, but must include the minimum fugitive control requirements specified within this permit. Keep records of changes made to the fugitive control plan, including the date and nature of changes made. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the fugitive control plan, 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. R. 7007.0800, subp. 2
Operating and/or production limits may be placed on emission units based on operating conditions during compliance testing. Limits set as a result of a compliance test (conducted before or after permit issuance) apply until new operating/production limits are set following formal review of a performance test as specified by Minn. R. 7017.2025.	Minn. R. 7017.2025
Any stationary internal combustion engines at the facility, including those which qualify as insignificant activities under Minn. R. 7007.1300, must meet the performance standards set out in Minn. R. 7011.2300.	Minn. R. 7011.2300
Control Equipment Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation. Keep records of all changes made to the O & M Plan, including the date and nature of the change.	Minn. R. 7007.0800, subp. 14; Minn. R. 7007.0800, subp 16(J)
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)
Temporary boilers or engines may be brought on site for the purpose of providing steam, heat or electrical power in place of boilers or generators that are temporarily out of operation for less than one year. The temporary units may not be operated at the same time as the permanent units that they are meant to replace, except for up to 8 hours during start-up and shutdown transition periods. Temporary units must have potential emission rates in pounds/hour for all criteria pollutants that are less than permit emission limits and the potential emission rates of the permanent units that they are replacing.	Minn. R. 7007.0800, subp. 2
Temporary engines 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).	
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises, to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

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B. MONITORING REQUIREMENTS	hdr
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued. Monitoring equipment required for newly installed emission units or control devices shall be installed and operational within 60 days after initial startup of emission unit or control device.	Minn. R. 7007.0800, subp. 4(D)
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 required during periods when the process is shutdown, such as for system breakdowns, repairs, calibration checks, and zero and span adjustments (as applicable). Monitoring records should reflect any such periods of process shutdown.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment other than continuous emission and opacity monitors (requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
C. TESTING REQUIREMENTS	hdr
Performance Test: Conduct all performance tests in accordance with Minn. R. ch. 7017, unless otherwise noted in Tables A, B, 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 or CD: due 105 days after each Performance Test	Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2
D. DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW	hdr
These requirements apply where there is a reasonable possibility that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test and found to not be part of a major modification, may result in a significant emissions increase. If the ATPA test is not used for a particular project, or if there is not a reasonable possibility that the proposed project could result in a significant emissions increase, then these requirements do not apply to that project. Even though a particular modification is not subject to New Source Review, a permit amendment, recordkeeping, or notification may still be required under Minn. R. 7007.1150 - 7007.1500.	Title I Condition: 40 CFR Section 52.21(r)(6); 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) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
Before beginning actual construction of any project which includes any electric utility steam generating unit (EUSGU), the Permittee shall submit a copy of the preconstruction documentation (items 1-3 under Preconstruction Documentation, above) to the Agency.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

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<p>For any project which includes any EUSGU, the Permittee must submit an annual report to the Agency, within 60 days after the end of the calendar year. The report shall contain:</p> <p>a. The name and ID number of the facility, and the name and telephone number of the facility contact person</p> <p>b. The quantified annual emissions analyzed using the ATPA test, plus the potential emissions associated with the same project and analyzed using potential emissions</p> <p>c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection, if that is the case.</p>	<p>Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5</p>
<p>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:</p> <p>a. The name and ID number of the facility, and the name and telephone number of the facility contact person</p> <p>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.</p> <p>c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.</p>	<p>Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5</p>
<p>E. OTHER RECORDKEEPING, NOTIFICATIONS, AND SUBMITTALS</p>	<p>hdr</p>
<p>Recordkeeping and Reporting for Temporary Boilers and Engines: Keep the following records on-site: documentation of hours of operation of the temporary units, a statement for all periods of temporary unit operation that the replaced permanent unit is not also operating, and calculations demonstrating that emissions are less than or equal to emissions from the permanent units being replaced. Notify the Commissioner if temporary and permanent units are operated simultaneously, except as allowed by this permit. Make verbal notification within 2 days, and written notification with the semi-annual deviations report.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>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.</p> <p>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.</p>	<p>Minn. R. 7019.1000, subp 3</p>
<p>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.</p> <p>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.</p>	<p>Minn. R. 7019.1000, subp 2</p>
<p>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.</p>	<p>Minn. R. 7019.1000, subp. 1</p>
<p>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:</p> <ol style="list-style-type: none"> 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. 	<p>Minn. R. 7019.1000, subp. 1</p>
<p>Emission Fees: due 60 days after receipt of an MPCA bill.</p>	<p>Minn. R. ch. 7002</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Record keeping: Retain all records at the stationary source or at another site where the records are readily accessible 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)
Record keeping: 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)
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)
Application for Permit Amendment: If you need a permit amendment, submit 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 7007.1500
The permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
F. CRITERIA POLLUTANT MODELING	hdr
Parameters Used in Modeling: The parameters used in the PM10 modeling performed for determining emission and/or operational limits are listed in Appendix C of this permit. If the Permittee intends to change any of these parameters, the Permittee must submit the revised parameters to the Commissioner and receive written approval before making any changes. The revised parameter information submittal must include, but is not limited to: the locations, heights and diameters of the stacks; locations and dimensions of nearby buildings; velocity and temperatures of the gases emitted; and the emission rates. The plume dispersion characteristics due to the parameter revisions must equal or exceed the dispersion characteristics modeled for this permit, and the Permittee shall demonstrate this in the proposal.	Minn. R. 7009.0020 (This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act)
Parameters Used in Modeling (continued): If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel. For changes that do not involve an increase in PM10 emission rates, and/or that do not require a permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before making the change to any parameter. For changes involving increases in PM10 emission rates and that require a minor permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before making the change to any parameter. For changes involving increases in PM10 emission rates and that require a permit amendment other than a minor amendment, the proposal must be submitted prior to or with the permit amendment application.	Minn. R. 7009.0020 (This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: GP 001 Boiler Nos. 11 & 12**Associated Items:** EU 007 Boiler 11

EU 008 Boiler 12

What to do	Why to do it
Fuel Usage: less than or equal to 770 million cubic feet/year using 12-month Rolling Sum calculated monthly. This limit applies to EU007 and EU008 combined.	Title I Condition: limit to avoid classification as a major modification under 40 CFR Section 52.21
By the last day of each month, record the total amount and type of each fuel combusted in the units listed in GP 001 for the previous month and calculate and record the total amount and type of each fuel combusted in GP 001 for the previous 12-month period.	Title I Condition: recordkeeping to avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5
Allowable fuel use: limited to natural gas and propane.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: GP 002 Emergency Generators**Associated Items:** EU 013 Emergency Engine Generator 1EEG-GEN-0002

EU 014 Emergency Engine Generator 1EEG-GEN-0003

What to do	Why to do it
A. EMISSION & OPERATING LIMITS	hdr
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input . This limit applies individually to each unit listed in GP002.	Minn. R. 7011.2300, subp. 2
Opacity: less than or equal to 20 percent opacity . Opacity shall not exceed 20% for more than 10 seconds once operating temperatures have been achieved. This limit applies individually to each unit listed in GP002.	Minn. R. 7011.2300, subp. 1
Operating Hours: less than or equal to 816 hours/year using 12-month Rolling Sum calculated monthly, for the GP002 generators combined.	Title I Condition: limit to avoid classification as a major modification under 40 CFR Section 52.21
Fuel type is limited to distillate oil with a maximum sulfur content of 0.5% by weight.	Minn. R. 7007.0800, subp. 2
B. RECORDKEEPING REQUIREMENTS	hdr
By the last day of each month, record the total hours of operation of GP 002 for the previous month and calculate and record the total hours of operation of GP 002 for the previous 12-month period.	Title I Condition: recordkeeping to avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5
Maintain records showing the sulfur content of all fuel oil combusted in the GP002 generators.	Minn. R. 7007.0800, subp. 4 & 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: Xcel Energy - Allen S King Generating

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Subject Item: GP 003 Coal Handling and Coal Yard Traffic - Limited Operation**Associated Items:** FS 002 Petroleum Coke Storage Pile

FS 005 Coal Stacker

FS 006 Coal Silo Unloading

FS 007 Coal Reclaim Hoppers

FS 009 Western Coal Pile (Wyoming)

FS 010 Western Coal Pile (Montana)

FS 012 Coal Yard Traffic (Unpaved roads & driving on coal)

FS 013 Paved Road Traffic

FS 014 Petroleum Coke Unloading Station

What to do	Why to do it
<p>This requirement applies individually to each source in this group.</p> <p>Stockpiles, stockpile construction and reclaiming:</p> <p>(1) control fugitive particulate emissions by dust suppression methods on such operations so that fugitive particulate emission are minimized.</p> <p>(2) in the alternative, use an underground bottom feed (plow) of coal to an underground conveyor system provided the exhaust gases from the enclosed spaces do not contain particulate matter in excess of 0.020 grains per dry standard cubic foot (gr/dscf).</p>	Minn. R. 7011.1105 (F)(1) and (2)
Coal/Coke Handling Operating Hours: Limited to 6:00 a.m. through 8:00 p.m.	Minn. R. 7009.0020
Recordkeeping: The Permittee is required to keep a log of daily Coal/Coke Handling Operating Hours.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: Xcel Energy - Allen S King Generating

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Subject Item: GP 004 Flite Conveyors (NSPS Subpart Y)**Associated Items:** CE 014 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

EU 016 East Flite Conveyor (AFC-2A)

EU 017 East Flite Conveyor (AFC-2B)

EU 018 West Flite Conveyor (AFC-1A)

EU 019 West Flite Conveyor (AFC-1B)

SV 018 Flite Conveyor Dust Collector

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.02 grains/dry standard cubic foot	Minn. R. 7011.1105, subp. G(1)
Opacity: less than or equal to 20 percent opacity	40 CFR Section 60.252(c); Minn. R. 7011.1150, and Minn. R. 7011.1105, subp. G(2)
Particulate Matter < 10 micron: less than or equal to 0.008 grains/dry standard cubic foot	Minn. R. 7009.0020
B. OPERATIONAL LIMITS	hdr
Air Flow Rate: less than or equal to 16,000 actual cubic feet/minute . The Permittee shall keep the baghouse system design specifications showing the calculated maximum airflow on site.	Minn. R. 7005.0100, subp. 35a
Visible Emissions: The Permittee shall check the fabric filter stack (SV 018) for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.	Minn. R. 7007.0800, subp. 2
C. MONITORING AND RECORDKEEPING	hdr
Pressure Drop: After the fabric filter has been in service for one week and before the end of first month, the Permittee shall observe the normal operating pressure drop and record it in the facility's Operation and Maintenance Plan.	Minn. R. 7007.0800, subp. 4
Monitoring Equipment: The Permittee shall install and maintain necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7007.0800, subp. 4
Recordkeeping of Visible Emissions and Pressure Drop (during inclement weather only): The Permittee shall record the time and date of each visible emission inspection/pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop (during inclement weather only) was within the range specified in the facility's Operation and Maintenance Plan.	Minn. R. 7007.0800, subp. 5
Operation and Maintenance: The Permittee shall maintain each piece of control equipment according to the manufacturer's specification, shall conduct inspections, and maintain documentation of those actions as required by Minn. R. 7011.0075, subp. 2(A) to 2(I).	Minn. R. 7011.0075, subp. 2
Operation of Control Equipment: The control equipment is considered listed control equipment under Minn. R. 7011.0060 to 7011.0080.	Minn. R. 7007.0800, subp. 2
Solid fuel handling equipment shall not be vented to the atmosphere when emissions are not controlled by pollution control equipment (CE 014). This emission unit is physically capable of operating without venting to the atmosphere, and therefore can operate when control equipment is not operational.	
Corrective Actions: The Permittee shall follow the O & M Plan for the fabric filter and take corrective action as soon as possible (within 24 hours) if any of the following occur: - visible emissions are observed; - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken for the fabric filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
D. PERFORMANCE TESTING REQUIREMENTS	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

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Initial Performance Test: due 180 days after Initial Startup of EU017 to measure Opacity. (Note: testing was completed on SV018 for EU016 and EU019 on August 20, 2004.)	40 CFR Section 60.8; Minn. R. 7017.2020, subp. 1, and Minn. R. 7017.2030, subp. 4
Performance Test Pre-test Meeting: due 7 days before each performance test.	
Initial Performance Test: due 180 days after Initial Startup of EU018 to measure opacity. (Note: testing was completed on SV018 for EU016 and EU019 on August 20, 2004.)	40 CFR Section 60.8; Minn. R. 7017.2020, subp. 1, and Minn. R. 7017.2030, subp. 4
Performance Test Pre-test Meeting: due 7 days before each performance test.	
Performance Test Notifications and Submittals: Performance test is outlined in Tables A, B of the permit. See Table B for additional 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 or CD-ROM Copy: due 105 days after each Performance Test	40 CFR Section 60.8; Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2035, subp. 1-2
E. NSPS GENERAL PROVISIONS - APPLICABLE TO EU 016, EU 017, EU 018, and EU 019 ONLY	hdr
Notification of any physical or operational change which increases emission rate: due 60 days (or as soon as practical) before the change is commenced within 180 days of completion of any physical or operational change subject to the control measures specified in 60.14(a), compliance with all applicable standards must be achieved. (Note: Notifications have been received for EU016 and EU019 and construction completed as described in the TSD for Air Emission Permit 16300005-004.)	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1
Notification of Anticipated Date for Conducting Opacity Observations: due 30 days prior to observation date. (Note: Testing notification for testing on SV018 for EU016 and EU019 was completed on July 20, 2004. Testing was completed on SV018 for EU016 and EU019 on August 20, 2004.)	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1
Recordkeeping: Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.	40 CFR Section 60.7(b); Minn. R. 7019.0100, subp. 1
Recordkeeping: Maintain a file of all measurements, maintenance, reports and records for at least five years.	40 CFR Section 60.7(f); Minn. R. 7019.0100, subp. 1
Opacity Compliance: Demonstrate compliance with Opacity standards using Reference Method 9.	40 CFR Section 60.11; Minn. R. 7017.2015
No owner or operator shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard.	40 CFR Section 60.12

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: GP 005 Synthetic Minor Fuel Usage Limits

Associated Items: EU 001 Boiler 1

EU 028 Auxiliary Boiler

EU 030 Ammonia Vaporizer

EU 031 Duct Burner

What to do	Why to do it
A. EMISSION & OPERATING LIMITS	hdr
The Permittee shall comply with EITHER the Tier 1 limits (all of the limits listed under Tier 1) OR the Tier 2 limits (all of the limits listed under Tier 2). Compliance with either set of limits is adequate, it is not necessary to comply with both sets of limits simultaneously.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
A. 1. Tier 1 Limits	hdr
EU028 Natural Gas Fuel Usage: less than or equal to 380.95 million cubic feet/year using 12-month Rolling Sum	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
EU028 Fuel Oil Fuel Usage: less than or equal to 500000 gallons/year using 12-month Rolling Sum	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
A. 2. Tier 2 Limits	hdr
Volatile Organic Compounds: less than or equal to 132.7 tons/year using 12-month Rolling Sum for all 4 units listed under GP005, combined, calculated using Equation B.1 in Appendix B of this permit.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Fuel Usage: less than or equal to 1750000 gallons/year using 12-month Rolling Sum of fuel oil used in EU 028, using the following calculation: $F(028) = 500,000 \text{ gal} + [1,250,000 \text{ gal} \times ((8760 - \text{HMB})/2000)]$ <p>where: HMB = 12-month rolling sum of main boiler (EU 001) operating hours during which EU 003, EU005, EU010, and EU016 are also presumed to be operating.</p>	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
B. RECORDKEEPING	hdr
Maintain paper or electronic copies, for a period of 5 years, of the applicable records below	Minn. R. 7007.0800, subp. 5
B.1 Tier 1 Recordkeeping Requirements	hdr
Each day, record the quantity and heat content of each type of fuel combusted in EU028 Or Be able to extract that information for each day of the previous month, based on operating records, by the 15th day of each month.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
By the 15th day of each month, calculate and record the 12-month rolling sum of fuel oil combusted in EU 028, for the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5
By the 15th day of each month, calculate and record the 12-month rolling sum of natural gas combusted in EU 028, for the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5
B.2 Tier 2 Recordkeeping Requirements	hdr
Each day, record the operating hours for EU001, and the number of those hours during which EU003, EU005, EU010, and/or EU016 were also operating (HMB).	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Each day, record the quantity and heat content of each type of fuel combusted in each of the 4 units listed in GP 005, OR Be able to extract that information for each day of the previous month, based on operating records, by the 15th day of each month	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
By the 15th day of each month, calculate and record the following: - The monthly and 12-month rolling sum of the main boiler (EU001) operating hours during which EU003, EU005, EU010, and/or EU016 were also operating. - the monthly and 12-month rolling sum of the EU028 fuel oil usage using the equation specified within the Tier 2 limit.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

By the 15th day of each month, calculate and record the monthly and 12-month rolling sum of VOC emissions, using the calculation method described within the Tier 2 limit.	Minn. R. 7007.0800, subp. 4 and 5
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TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: GP 006 Ancillary Combustion Sources**Associated Items:** EU 030 Ammonia Vaporizer

EU 031 Duct Burner

What to do	Why to do it
A. EMISSION AND OPERATING LIMITS	hdr
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.	Minn. R. 7011.0610, subp. 1(A)(1)
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0610, subp. 1(A)(2)
Fuel Use: Limited to natural gas by design.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: GP 007 Lime Handling & Storage**Associated Items:** EU 032 Lime Silo Day Bin

EU 033 Lime Storage Silo

What to do	Why to do it
A. EMISSION AND OPERATING LIMITS	hdr
Total Particulate Matter: less than or equal to 0.01 grains/dry standard cubic foot . This limit applies individually to each unit listed in GP007	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Meets requirements of Minn. R. 7011.0735
Particulate Matter < 10 micron: less than or equal to 0.01 grains/dry standard cubic foot . This limit applies individually to each unit listed in GP007	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715
Operating Hours: less than or equal to 5096 hours/year using 12-month Rolling Sum for each unit listed in GP007.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
B. CONTROL REQUIREMENTS - see GP 009	hdr
C. RECORDKEEPING REQUIREMENTS	hdr
Daily Recordkeeping: Each day, record the total number of hours that each unit listed under GP007 operated during the previous day.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Monthly Recordkeeping: By the 15th day of each month, calculate and record the total number of hours each unit in GP007 operated during the previous month, and during the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: GP 008 FGD Byproduct/Fly Ash Handling & Storage**Associated Items:** EU 034 Byproduct/Fly Ash Storage Silo Bin

EU 035 Byproduct/Fly Ash Recycle Silo Bin

EU 036 Byproduct/Fly Ash Transfer Station Mechanical Exhaust

EU 037 Byproduct/Fly Ash Transfer Station Mechanical Exhaust

EU 038 Byproduct/Fly Ash Transfer Station Mechanical Exhaust

What to do	Why to do it
A. EMISSION AND OPERATING LIMITS	hdr
Total Particulate Matter: less than or equal to 0.01 grains/dry standard cubic foot . This limit applies individually to each unit listed in GP008	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Meets requirements of Minn. R. 7011.0735
Particulate Matter < 10 micron: less than or equal to 0.01 grains/dry standard cubic foot . This limit applies individually to each unit listed in GP008	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Meets requirements of Minn. R. 7011.0735
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715
Operating Hours: less than or equal to 5096 hours/year using 12-month Rolling Sum	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
B. CONTROL REQUIREMENTS - see GP 009	hdr
C. RECORDKEEPING REQUIREMENTS	hdr
Daily Recordkeeping: Each day, record the total number of hours that each unit listed under GP008 operated during the previous day.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Monthly Recordkeeping: By the 15th day of each month, calculate and record the total number of hours each unit in GP008 operated during the previous month, and during the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: GP 009 Lime, FGD Byproduct/Fly Ash Fabric Filters

Associated Items: CE 018 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 019 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 020 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 021 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 022 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 023 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 024 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

What to do	Why to do it
A. OPERATING REQUIREMENTS	hdr
The Permittee shall operate and maintain each fabric filter at all times that any emission unit controlled by the fabric filter is in operation.	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain each 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
Pressure Drop: greater than or equal to 0.5 inches of water column and less than or equal to 10 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop of each fabric filter once every 24 hours when in operation.	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
B. RECORDKEEPING AND MONITORING REQUIREMENTS	hdr
Recordkeeping of Pressure Drop. The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit.	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7007.0800, subp. 4
Periodic Inspections: At least semiannually, or more frequently as required by the manufacturing specifications, 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; - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, 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 each filter.	Minn. R. 7007.0800, subp. 4, 5 and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: GP 010 Areas Served by Watering Truck**Associated Items:** CE 013 Water Application - truck

FS 002 Petroleum Coke Storage Pile

FS 009 Western Coal Pile (Wyoming)

FS 010 Western Coal Pile (Montana)

FS 011 Coal/Coke Reclaim

FS 012 Coal Yard Traffic (Unpaved roads & driving on coal)

FS 013 Paved Road Traffic

What to do	Why to do it
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)
The Permittee shall water the unpaved roads (including all routes where vehicles are driven on coal) at the facility. Watering shall comply with the following conditions: a. The water application rate shall be at least 3 gallons for each 100 square feet every 24 hours. b. A rainfall of at least 0.1 inch during the previous 24 hours shall substitute for one water application, unless the storage pile moisture content is rated as "dry." c. If unpaved roads cannot be watered because the ambient air temperature (as measured at the facility during daylight operating hours) will be less than 35 degrees F (1.7C) or conditions due to weather, in combination with the application of water, could create hazardous driving conditions, then watering shall be postponed and accomplished as soon as the conditions preventing water application have abated.	Minn. R. 7009.0020 (This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act)
d. Water application is not required on days when there is no vehicle traffic. e. Water application is not required when the daily qualitative assessment of the moisture content of the coal piles is "wet." f. Following any day when water is not applied based on the absence of traffic, water shall be applied within 3 hours of commencement of vehicle traffic, unless another criterion for not watering is met.	Minn. R. 7009.0020, cont. from above (This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act)
Daily Recordkeeping: The Permittee shall keep records of the water applications, including the following: a. the daily qualitative assessment of the moisture content of coal piles where vehicles are driven b. the roads watered, the amount of water applied, the time watered, and the method of application. If water was not applied because there was a 0.1 inch or greater rainfall within the previous 24 hours, or because of the temperature or other weather conditions that would result in unsafe driving conditions, it must be noted in the record along with the source of measurement (i.e. on-site rain gauge or thermometer). c. records of watering equipment breakdowns and repairs, and records of contingency efforts undertaken.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: SV 001 Main Boiler Stack**Associated Items:** EU 001 Boiler 1

EU 012 Ash Silo

EU 030 Ammonia Vaporizer

EU 031 Duct Burner

What to do	Why to do it
A. MONITORING REQUIREMENTS	hdr
Daily Calibration Error (CE) Test: conduct daily CE testing on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B.	40 CFR pt. 75, Appendix B, Section 2.1
Linearity and Leak Check Test (Acid Rain Program): due before end of each calendar quarter following CEM Certification Test . Conduct a quarterly linearity test on CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B.	40 CFR pt. 75, Appendix B, Section 2.2
Linearity Test Results Summary: due 30 days after end of each calendar quarter following Linearity and Leak Check Test (Acid Rain Program) if performed.	Minn. R. 7007.0800, subp. 2
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test . Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. If the RATA results indicate a relative accuracy of 7.5% or less, the next RATA is not required for twelve (12) months.	40 CFR pt. 75, Appendix B, Section 2.3
Relative Accuracy Test Audit (RATA) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA)	Minn. R. 7007.0800, subp. 2
Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter following CEMS Relative Accuracy Test Audit (RATA)	Minn. R. 7007.0800, subp. 2
CEMS QA/QC: The owner or operator of an affected facility shall operate, calibrate, and maintain each CEMS according to the QA/QC procedure in 40 CFR pt. 75, Appendix B as amended.	40 CFR Section 75.21
Emissions Monitoring: The owner or operator shall measure SO ₂ , NO _x , and CO ₂ emissions, and exhaust gas flow rate, for each affected unit in accordance with 40 CFR Section 75.10.	40 CFR pt. 75
COMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all COMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 2
COMS Daily Calibration Drift (CD) Check: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) opacity at least once daily during periods of operation. The COMS must be adjusted whenever the calibration drift (CD) exceeds twice the specifications of PS-1 of 40 CFR pt. 60, Appendix B.	Minn. R. 7017.1000
COMS Calibration Error Audit: due before end of each calendar half-year following COMS Certification Test . Conduct audits at least 3 months apart but no greater than 8 months apart.	Minn. R. 7007.0800, subp. 2
The Report for COMS Calibration Error Audit: due 30 days after end of each calendar half-year following COMS Certification Test	Minn. R. 7007.0800, subp. 2
COMS Monitoring Data: Calculate each six-minute average period as follows: total the opacity values of each individual data point collected by the COMS for each one-minute period and divide the total by the number of data points. (The sum of the individual one-minute averages in the applicable averaging period must be determined and divided by the number of one-minute averages taken.) Round the resulting averages to the nearest one percent opacity. This resulting average is the six-minute opacity that shall be recorded by the monitoring system. There are ten individual six-minute consecutive averaging periods in each hour beginning on the clock hour and ending six minutes later.	Minn. R. 7017.1200, subp. 3
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 must be kept as required in Table A under the "Total Facility" subject item.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 001 Boiler 1

Associated Items: CE 001 Electrostatic Precipitator - High Efficiency
CE 002 Electrostatic Precipitator - High Efficiency
CE 015 SCR (Selective Catalytic Reduction)
CE 016 Spray Dryer
CE 017 Fabric Filter - High Temperature, i.e., T>250 Degrees F
GP 005 Synthetic Minor Fuel Usage Limits
MR 004
MR 006 SO2 Analyzer
MR 007 NOX Analyzer
MR 008 CO2 Analyzer
MR 009 Opacity Monitor
SV 001 Main Boiler Stack

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input using 3-hour Average . This limit applies prior to the boiler rehabilitation.	Minn. R. 7011.0510, subp. 1
Total Particulate Matter: less than or equal to 0.015 lbs/million Btu heat input using 3-hour Average at the stack exit using Method 5, excluding condensible particulate matter as allowed under Minn. R. 7017.2060, subp. 3(c). Heat Input is defined as the total input (fuel basis) of EU001, EU030, and EU031. This limit becomes effective 270 days after the 1st firing of the boiler following the rehabilitation project.	Title I Condition: Clean Unit Limit (40 CFR Section 52.21(y)(4)(i)); Limit to avoid classification as a major mod under 40 CFR Section 52.21 and Minn. R. 7007.3000; meets Minn. R. 7011.0510, subp. 1
Particulate Matter < 10 micron: less than or equal to 0.030 lbs/million Btu heat input using 3-hour Average at the stack exit, as measured using test methods 201A and 202 as amended and using any and all options allowed within the test methods, or other test method approved in advance by the Commissioner as allowed under Minn. R. 7017.2050. Heat Input is defined as the total input (fuel basis) of EU001, EU030, and EU031. This limit becomes effective 36 months after the 1st firing of the boiler following the rehabilitation project.	Title I Condition: Clean Unit Limit (40 CFR Section 52.21(y)(4)(i)); Limit to avoid classification as a major mod under 40 CFR Section 52.21 and Minn. R. 7007.3000
Sulfur Dioxide: less than or equal to 0.12 lbs/million Btu heat input using 30-day Rolling Average at the stack exit. Heat Input is defined as the total heat input (CEMS basis) of EU001, EU030, and EU031. This limit becomes effective 270 days after the 1st firing of the boiler following the rehabilitation project.	Title I Condition: Clean Unit Limit (52.21(y)(4)(i)); Limit to avoid classification as a major mod under 40 CFR Section 52.21 and Minn. R. 7007.3000; meets Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 1.6 lbs/million Btu heat input calculated as an annual average. By January 30th of each year, compute the annual average sulfur dioxide emission rate during the previous calendar year by averaging all hourly averages recorded over the previous calendar year. Determine hourly averages from data collected in accordance with 40 CFR pt. 75, subp. B, or using the missing data substitution procedures as set out in 40 CFR pt. 75, subp. D.	Minn. R. 7021.0050, subp. 5
Sulfur Dioxide: less than or equal to 3.0 lbs/million Btu heat input using 1-Hour Average	Minn. R. 7009.0020 (This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act)
Nitrogen Oxides: less than or equal to 0.10 lbs/million Btu heat input using 30-day Rolling Average at the stack exit. Heat Input is defined as the total heat input (CEMS basis) of EU001, EU030, and EU031. This becomes effective 270 days after the 1st firing of the boiler following the rehabilitation project.	Title I Condition: Clean Unit Limit (52.21(y)(4)(i)); Limit to avoid classification as a major mod under 40 CFR Section 52.21 and Minn. R. 7007.300
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
B. CLEAN UNIT DESIGNATIONS	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

<p>This unit qualifies as a Clean Unit for SO₂ and NO_x, provided the Permittee complies with the provisions of 40 CFR Section 52.21(y).</p> <p>Effective Date for SO₂: The date CE016 is placed into service. Expiration Date for SO₂: 10 years after the date CE016 is placed into service.</p> <p>Effective Date for NO_x: The date CE015 is placed into service. Expiration Date for NO_x: 10 years after the date CE015 is placed into service.</p> <p>Effective Date for PM₁₀: The date CE017 is placed into service. Expiration Date for PM₁₀: 10 years after the date CE017 is placed into service.</p> <p>Effective Date for PM: The date CE017 is placed into service. Expiration Date for PM: 10 years after the date CE017 is placed into service.</p>	<p>Title I Condition: 40 CFR Section 52.21(y)(8) and Minn. R. 7007.3000</p>
<p>Basis for Clean Unit Designation (PM and PM₁₀). In addition to the Title I PM and PM₁₀ emission limits contained in this permit, the following parameters formed the basis for determining that the unit's control technology is BACT for PM and PM₁₀:</p> <ul style="list-style-type: none"> - maximum fuel based heat input of 5450 million Btu/hour - PM and PM₁₀ are controlled by CE017 - allowed fuels are bituminous and subbituminous coal; petroleum coke; wood; natural gas; used oil; nonhazardous petroleum-contaminated cleanup material; nonhazardous MGP waste; and cellulose-based, non-chlorinated, nonhazardous organic materials, including but not limited to paper and grain. MGP waste is limited to 2 percent of the total fuel mass. All fuels other than coal, coke, wood, and natural gas are limited to a total of 5 percent of the total fuel mass. 	<p>Title I Condition: 40 CFR Section 52.21(y)(8)(iv) and Minn. R. 7007.3000</p>
<p>Basis for Clean Unit Designation (SO₂ and NO_x). In addition to the Title I SO₂ and NO_x emission limits contained in this permit, the following parameters formed the basis for determining that the unit's control technology is comparable to BACT for SO₂ and NO_x:</p> <ul style="list-style-type: none"> - maximum CEMS-based heat input of 5939 million Btu/hour - NO_x emissions are controlled by CE015 - SO₂ emissions are controlled by CE016 - allowed fuels are bituminous and subbituminous coal; petroleum coke; wood; natural gas; used oil; nonhazardous petroleum-contaminated cleanup material; nonhazardous MGP waste; and cellulose-based, non-chlorinated, nonhazardous organic materials, including but not limited to paper and grain. MGP waste is limited to 2 percent of the total fuel mass. All fuels other than coal, coke, wood, and natural gas are limited to a total of 5 percent of the total fuel mass. 	<p>Title I Condition: 40 CFR Section 52.21(y)(8)(iv) and Minn. R. 7007.3000</p>
<p>To maintain the Clean Unit designation, the Permittee must conform to all the restrictions listed in 40 CFR Section 52.21(y)(9), as applicable. Failure to do so results in the unit losing the Clean Unit designation.</p>	<p>Title I Condition: 40 CFR Section 52.21(y)(9) and Minn. R. 7007.3000</p>
<p>Report of loss of Clean Unit (CU) status: The Permittee shall submit written notification of a deviation of the MPCA if Clean Unit status for PM, PM₁₀, SO₂, or NO_x is lost due to noncompliance with 40 CFR Section 52.21(y)(9). The Permittee shall report the deviation from CU maintenance requirements, specifying the pollutant for which CUD is lost, on the Semiannual Deviations Report (see Table B) and according to the schedule in the permit for "Deviations Endangering Human Health or the Environment" (see Table A, Total Facility Requirements) if applicable. The Permittee and the Agency shall each attach a copy of the notification to the permit. The Permittee shall submit an application for a major amendment within 30 days of discovery of loss of CU status.</p>	<p>Title I Condition: 40 CFR Section 52.21(y)(9) and Minn. R. 7007.3000</p>
<p>Loss of Clean Unit status occurs if any of the following occur:</p> <ul style="list-style-type: none"> -the Permittee fails to comply with the emission limit or work practice(s) specified in the permit with the Clean Unit Designation -the Permittee makes any physical or operational change to the Clean Unit that causes the unit to operate in a manner inconsistent with any physical or operational characteristic that is part of the basis of the Clean Unit Designation -the Permittee fails to comply with any term in the permit that is related to the Clean Unit Designation -the Permittee replaces the emissions unit or control technology <p>The Permittee must use the actual-to-projected actual test (40 CFR Section 52.21(a)(2)(iv)(c)) for the pollutant for which the CUD is lost for all subsequent changes to the Clean Unit until the unit requalifies as a Clean Unit.</p>	<p>Title I Condition: 40 CFR Section 52.21(y)(9) and Minn. R. 7007.3000</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Loss of Clean Unit status: The Permittee shall submit an application for a major amendment if a modification at a Clean Unit causes loss of Clean Unit status. The Permittee may not begin actual construction on the modification until the major amendment has been issued. Loss of Clean Unit status occurs when the major amendment is issued or if the Permittee begins actual construction on a change to the Clean Unit without obtaining a permit for the change and the change causes a need to change the emission limit or work practices or changes any physical or operational characteristic that is part of the basis for the determining that the control is comparable to BACT. The Permittee must use the calculation methodologies specified in 40 CFR Section 52.21(a)(2)(iv) for the pollutant for which Clean Unit status is lost to determine applicability of 40 CFR Section 52.21 for this modification and all subsequent modifications until the unit requalifies for Clean Unit status.	Title I Condition: 40 CFR Section 52.21(y)(2)(iii) and (iv); Minn. R. 7007.3000
C. OPERATIONAL & CONTROL REQUIREMENTS	hdr
Allowed fuel types: bituminous and subbituminous coal, petroleum coke, wood, natural gas, used oil, non-hazardous petroleum-contaminated cleanup material, nonhazardous MGP waste, and cellulose-based, non-chlorinated, nonhazardous organic materials, including but not limited to paper and grain. Manufactured Gas Plant (MGP) waste is defined as tar-contaminated materials and gas purification residuals associated with past operation of gas manufacturing plants. MGP waste includes non-hazardous materials such as contaminated soils, sediments, oxide box filler material, and wood chips.	Minn. R. 7007.0800, subp. 2
Except as provided below, the Permittee shall operate and maintain the control devices listed above under "Associated Items" at all times that any emission unit controlled by the control equipment is in operation. See also Subject Items CE015, CE016, and CE017 for further requirements.	Title I Condition: Limit taken to avoid classification as a major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
Prior to the first firing of the boiler following rehabilitation, operation of CE015 and CE016 is not required.	Minn. R. 7007.0800, subp. 2
Operation of CE001 and CE002 is required at all times that any source of emissions controlled by the ESPs is in operation, before and after first firing of the boiler following rehabilitation, until initial start-up of CE017. After the initial startup of CE017, operation of CE001 and CE002 is not required, and the permittee shall operate and maintain CE 017 at all times that any source of emissions controlled by the fabric filter is in operation.	Minn. R. 7007.0800, subp. 2
D. BOILER OPERATING RATE REQUIREMENTS AND LIMITS	hdr
Boiler Feed Water flow rate: less than or equal to 3828000 lbs/hour using 8-hour Block Average	Minn. R. 7017.2025, subp. 3 (Notice of Compliance for 10/21/98 performance test) (this requirement expires upon 1st firing of the boiler following rehabilitation)
Each calendar day, calculate the previous day's 8-hour block average boiler feed water flow rates by dividing the total boiler feed water flow during the 8 hours by the total operating time during the 8 hours. Downtime of 15 minutes or more is not to be included in the operating time. The Boiler Feed Water Flow Rate may be exceeded for up to 40 hours per year under the STET limit, below.	Minn. R. 7007.0800, subp. 2 and 5
Boiler Alternative Operating Conditions for Performance Testing: Alternative Operating Conditions during testing are defined as 90% to 100% of the boiler's normal dependable operating load or the short-term 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 limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, subp. 2(A) and 3(B)
Boiler Operating Conditions Not Meeting the Defined 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 80% of any applicable emission limit for which emissions are measured, then boiler operation will be limited to the tested operating rate. (2) If results are less than 80% of all applicable emission limits for which emissions are measured, boiler operation will be limited to 110% of the tested operating rate. In no case will the new operating limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, subp. 3(B)
Short Term Emergency and Testing (STET) Operating hours limit: The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Documentation of all STET operation shall be maintained. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

<p>STET Operation Definition that Applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing:</p> <p>If performance test results measure emissions at 80% or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110% of the average operating rate achieved during that performance test.</p> <p>If performance test results measure emissions at greater than 80% any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100% of the average operating rate achieved during that performance test.</p> <p>In no case will STET operation be higher than allowed by an existing permit condition.</p>	Minn. R. 7007.0800, subp. 2
E. MONITORING REQUIREMENTS	hdr
Use the SO2 CEM to measure SO2 emissions.	40 CFR Section 64.3; Minn. R. 7017.1000, subp. 1
Use the NOX CEM to measure NOX emissions.	40 CFR Section 64.3; Minn. R. 7017.1000, subp. 1
Use the COM to measure opacity emissions in 1-minute averages as required in Minn. R. 7017.1200, subp. 3.	Minn. R. 7017.1200, subp. 3
Emissions Monitoring: measure SO2, NOx, and CO2 emissions, and exhaust gas flow rate, for each affected unit in accordance with 40 CFR Section 75.10.	40 CFR pt. 75
F. REQUIREMENTS FOR BURNING WASTE OR FUELS OTHER THAN COAL, WOOD, PETROLEUM COKE, OR NATURAL GAS	hdr
<p>The feed rate of MGP waste must not exceed 2 percent of total fuel mass (total fuel mass includes the mass of MGP waste used as fuel). The combined feed rate of MGP waste, used oil, petroleum-contaminated materials, and any fuels other than coal, wood, petroleum coke, and natural gas must not exceed 5 percent of total fuel mass (total fuel mass includes the mass of all other fuels in addition to coal, wood, petroleum coke, and natural gas), and a mercury analysis of the fuel must also be done.</p>	Minn. R. 7007.0800, subp. 2
<p>Monitoring and Record Keeping: when combusting MGP waste, used oil, petroleum-contaminated materials, or any other fuels other than coal, wood, petroleum coke and natural gas, monitor and record the following:</p> <p>1) the daily quantity, by weight, of MGP waste, used oil, petroleum-contaminated materials, or any other fuels mixed with coal, once each day; and</p> <p>2) boiler operating load once each hour in pounds of steam per hour.</p>	Minn. R. 7007.0800, subp. 2
<p>Minimum Operating Load: operate EU 001 at 50% or greater capacity when combusting MGP waste, used oil, petroleum-contaminated materials, or any other fuels other than coal, wood, petroleum coke, and natural gas, except that up to 2,000 pounds of on-site generated petroleum-contaminated rags may be placed in the boiler prior to startup.</p> <p>If EU 001 undergoes an emergency shutdown or emergency load reduction to below 50% capacity, immediately cease adding MGP waste, used oil, petroleum-contaminated materials, or any fuels other than petroleum coke, wood, or natural gas to the coal, until EU 001 again achieves 50% capacity. Fuels already mixed with coal and enroute to the boiler prior to the emergency may be burned after the emergency with EU 001 operating at less than 50% capacity. The permittee must take all feasible and prudent steps to minimize the amount of coal mixed with other fuels, except as allowed above, which are combusted when EU 001 operates at less than 50% capacity.</p>	Minn. R. 7007.0800, subp. 2
<p>Manage MGP waste in accordance with a MGP Waste Management Plan which has been reviewed and approved by the Commissioner. The plan must specify how NSP will ensure that the waste is non-hazardous, how MGP waste will be delivered, stored, and transported on-site from storage to the boiler, the methods which will be used to track and ensure compliance with the maximum feed rate limit and minimum oxygen limit, and how the Permittee will ensure that optimum combustion conditions are maintained. Submit any proposed changes of the MGP Waste Management Plan to the Commissioner for review and approval prior to implementing the changes.</p>	Minn. R. 7007.0800, subp. 2
<p>Do not combust waste from an MGP cleanup site unless treatment and disposal via combustion in a utility boiler is the chosen management alternative approved by the Commissioner for that site, after considering the recommendations from the MGP Remediation Advisory Committee. Notify the Commissioner at least 7 days prior to receiving MGP waste from a cleanup site from which waste has not been previously burned at the King Plant. Include in the notification the name and location of the MGP cleanup site and the name and date of the document or documents which identify the MGP waste management alternatives and the approved alternative for the site.</p>	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

The concentration of the pollutants listed below in MGP waste, as measured in accordance with the approved MGP Waste Management Plan, must not exceed the following limits:		Minn. R. 7007.0800, subp. 2
Pollutant	Limit (ppm)	
Arsenic	12	
Cadmium	20	
Chromium	100	
Mercury	1	
Lead	100	
Selenium	20	
Silver	100	
Comply with Minn. R. ch. 7045 for management of used oil. Maintain on-site records which demonstrate that used oil is managed as required by Minn. R. ch. 7045.		Minn. R. 7007.0800, subp. 2
Combustion rate limit for petroleum-contaminated waste materials: Do not combust more than 1000 cubic yards per week of soils, sorbents, wood and other nonhazardous combustible materials contaminated with petroleum products. This does not include MGP waste.		Minn. R. 7007.0800, subp. 2
G. ACID RAIN PROGRAM 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. Takes effect January 1, 2000. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.		40 CFR Section 72.9(c)(1)(i); 40 CFR Section 72.9(g)(4)
Comply with the applicable Acid Rain emissions limitation for sulfur dioxide. Takes effect January 1, 2000.		40 CFR Section 72.9(c)(1)(ii); 40 CFR Section 72.9(g)(4)
NOx Averaging Plan (2002-2006) Beginning January 1, 2000 either: Maintain an annual average NOx emission rate of 1.05 lbs/MMBtu and limit the annual heat input to less than or equal to 34,000,000 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:		40 CFR Section 76.11
Plant	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	
Certify Acid Rain Program submittals. Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative or the alternative 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; 40 CFR Section 72.22
Apply for Acid Rain Program Permit reissuance: The designated representative shall submit a complete Acid Rain permit application for each source with an affected unit at least 6 months prior to the expiration of an existing Acid Rain Permit in accordance with 40 CFR Section 72.30(c).		40 CFR Section 72.30(c)
Keep on site or readily accessible at another site each of the following documents for a period of 5 years from the date the document is created: the certificate of representation, all emission monitoring information, copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program, and copies of all documents used to complete an acid rain permit application.		40 CFR Section 72.9(f)(l)
H. MERCURY		hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

<p>Daily Sampling: Each day following the first firing of the rehabilitated boiler, the Permittee shall collect a sample of the as-burned solid fuel blend and a sample of flyash, for the purpose of determining the mercury content of each and establishing baseline mercury emission levels.</p> <p>This requirement expires on the earlier of: (1) five years after initial startup of EU001 after rehabilitation, or (2) the date mercury monitoring is required under Federal mercury rules.</p> <p>This is a state only requirement and is not enforceable by the EPA administrator and citizens under the Clean Air Act.</p>	Minn. R. 7007.0800, subp. 4 (PUC order approving MERP, March 8, 2004, Docket No. E-002/M-020633)
<p>Quarterly Composite Samples: Once each calendar quarter, create a composite sample of as-burned fuel blend and of flyash, from the daily samples collected during the previous calendar quarter. The purpose of this is to determine the mercury content of each and establish baseline mercury emission levels.</p> <p>This requirement expires on the earlier of: (1) five years after initial startup of EU001 after rehabilitation, or (2) the date mercury monitoring is required under Federal mercury rules.</p> <p>This is a state only requirement and is not enforceable by the EPA administrator and citizens under the Clean Air Act.</p>	Minn. R. 7007.0800, subp. 4 (PUC order approving MERP, March 8, 2004, Docket No. E-002/M-020633)
<p>Establish Baseline Mercury Emission Rate: Use mercury contents of the as-burned fuel blend and flyash, in conjunction with results of mercury emission testing, to establish the baseline mercury emission rate.</p> <p>This requirement expires on the earlier of: (1) five years after initial startup of EU001 after rehabilitation, or (2) the date mercury monitoring is required under Federal mercury rules.</p> <p>This is a state only requirement and is not enforceable by the EPA administrator and citizens under the Clean Air Act.</p>	Minn. R. 7007.0800, subp. 4 (PUC order approving MERP, March 8, 2004, Docket No. E-002/M-020633)
I. PERFORMANCE TESTING REQUIREMENTS	hdr
<p>Initial Performance Test: due 270 days after Initial Startup to measure total particulate matter emissions. Record and submit a summary of data collected simultaneously by the COM for each PM test run. ("Initial Startup" in this case refers to the first firing of the boiler following rehabilitation.)</p>	Minn. R. 7017.2020, subp. 1
<p>Initial Performance Test: due 1,095 days after Initial Startup to measure PM10 emissions. Record and submit a summary of data collected simultaneously by the COM for each PM10 test run. ("Initial Startup" in this case refers to the first firing of the boiler following rehabilitation.)</p>	Minn. R. 7017.2020, subp. 1
<p>Initial Performance Test: due 270 days after Initial Startup to measure ammonia slip. ("Initial Startup" in this case refers to the first firing of the boiler following rehabilitation.)</p>	Minn. R. 7017.2020, subp. 1
<p>Initial Performance Test: due 270 days after Initial Startup to measure mercury emissions. ("Initial Startup" in this case refers to the first firing of the boiler following rehabilitation.)</p>	Minn. R. 7017.2020, subp. 1; Minn. R. 7007.0800, subp. 4 (PUC order approving MERP, March 8, 2004, Docket No. E-002/M-020633)
<p>Performance Test: due before end of each year following Initial Performance Test to measure mercury emission.</p> <p>This requirement expires after the completion of five annual tests conducted after the initial startup of EU001 after rehabilitation OR when mercury monitoring is installed and operated under Federal mercury rules, whichever occurs earlier.</p>	Minn. R. 7017.2020, subp. 1; Minn. R. 7007.0800, subp. 4 (PUC order approving MERP, March 8, 2004, Docket No. E-002/M-020633)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 002 Boiler 2**Associated Items:** SV 002 Auxiliary Boiler Stack

What to do	Why to do it
Sulfur Dioxide: less than or equal to 1.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Total Particulate Matter: less than or equal to 0.05 lbs/million Btu heat input	Minn. R. 7009.0020; 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
Allowable fuel types: limited to natural gas and distillate fuel oil.	Minn. R. 7007.0800, subp. 2
Equipment Removal and/or Dismantlement: due 30 days after Initial Startup of EU028 (new auxiliary boiler). This requirement may be fulfilled by the Decommissioning of EU 002 if equipment removal or dismantlement cannot be completed within the allotted time.	Minn. R. 7007.0800, subp. 2
Comply with 40 CFR 63, subpart DDDDD, by September 13, 2007.	40 CFR Section 63.7495(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 003 Coal Gallery**Associated Items:** CE 003 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 003 Coal Gallery Dust Collector Vent

What to do	Why to do it
A. EMISSION & OPERATING LIMITS	hdr
Opacity: less than or equal to 20 percent opacity . If opacity exceeds 20 percent, then action must be taken to control exhaust gases so that either (1) particulate matter emissions do not exceed 0.020 gr/dscf, or (2) opacity does not exceed 20 percent.	Minn. R. 7011.1105 (G)
Particulate Matter < 10 micron: less than or equal to 0.008 grains/dry standard cubic foot . 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
Solid fuel handling equipment shall not be vented to the atmosphere when emissions are not controlled by pollution control equipment (CE 003). This emission unit is physically capable of operating without venting to the atmosphere, and therefore can operate when control equipment is not operational.	Minn. R. 7007.0800, subp. 2
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Check for visible emissions (during daylight hours) from the control equipment (CE 003) once per day on two non-consecutive days each calendar week.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs. Corrective action may be in the form of discontinuing venting emissions to the atmosphere through CE 003.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 004 Transfer House 1**Associated Items:** CE 004 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 005 Dust Suppression by Water Spray

SV 004 Transfer House 1 Dust Collector Stack

What to do	Why to do it
A. EMISSION & OPERATING LIMITS	hdr
Opacity: less than or equal to 20 percent opacity . If opacity exceeds 20 percent, then action must be taken to control exhaust gases so that either (1) particulate matter emissions do not exceed 0.020 gr/dscf, or (2) opacity does not exceed 20 percent.	40 CFR Section 60.252(c); Minn. R. 7011.1105 (G)
Particulate Matter < 10 micron: less than or equal to 0.008 grains/dry standard cubic foot . 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
Operating Hours: less than or equal to 5096 hours/year using 12-month Rolling Sum	Title I Condition: Limit to avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Do not build, erect, install, or use any article, machine, equipment, or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard.	40 CFR Section 60.12
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Check for visible emissions (during daylight hours) from the control equipment (CE 004) once each calendar week, while EU004 is in operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs. Corrective action may be in the form of discontinuing venting emissions to the atmosphere through CE 004.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5
Solid fuel handling equipment shall not be vented to the atmosphere when emissions are not controlled by the pollution control equipment (CE004). This emission unit is physically capable of operating without venting to the atmosphere, and therefore can operate when control equipment is not operational.	Minn. R. 7007.0800, subp. 2
RECORDKEEPING REQUIREMENTS	hdr
Daily Recordkeeping: Each day, record the hours of operation of the emissions unit.	Title I Condition: Limit to avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Monthly Recordkeeping: By the 15th day of each month, calculate and record the 12-month rolling sum of hours operated during the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5
Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including any malfunction of the air pollution control equipment, or any periods during which a continuous monitoring system or monitoring device is inoperable.	40 CFR Section 60.7(b); Minn. R. 7019.0100, subp. 1
TESTING REQUIREMENTS	hdr
Initial Performance Test: due 180 days after Initial Startup of modified conveyors to measure opacity	40 CFR Section 60.8; Minn. R. 7017.2020, subp. 1; Minn. R. 7017.2030, subp. 4
Performance Test Notifications and Submittals; Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2
Notification of any physical change or operational change which increases emissions rate: due 60 days (or as soon as practicable) before the change is commenced. Within 180 days of completion of any physical or operational change subject to the control measures specified in 40 CFR Section 60.14(a), compliance with all applicable standards must be achieved.	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1
Notification of the Date Construction Began: due 60 days before start of construction (or as soon as practicable) of replacements. Submit the name and number of each unit and the date of construction of the replacement parts of each unit.	40 CFR Section 60.15(d); Minn. R. 7019.0100, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Notification of Anticipated Date for Conducting Opacity Observations: due 30 days prior to observation date.	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1
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TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 005 Coal Crusher House**Associated Items:** CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 005 Coal Crusher House Dust Collector Stack

What to do	Why to do it
A. EMISSION & OPERATING LIMITS	hdr
Opacity: less than or equal to 20 percent opacity . If opacity exceeds 20 percent, then action must be taken to control exhaust gases so that either (1) particulate matter emissions do not exceed 0.020 gr/dscf, or (2) opacity does not exceed 20 percent.	Minn. R. 7011.1105 (G)
Particulate Matter < 10 micron: less than or equal to 0.008 grains/dry standard cubic foot . 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
Solid fuel handling equipment shall not be vented to the atmosphere when emissions are not controlled by pollution control equipment (CE 006). This emission unit is physically capable of operating without venting to the atmosphere, and therefore can operate when control equipment is not operational.	Minn. R. 7007.0800, subp. 2
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Check for visible emissions (during daylight hours) from the control equipment (CE 006) once each calendar week while EU005 is in operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs. Corrective action may be in the form of discontinuing venting emissions to the atmosphere through CE 006.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 006 Railcar Unloading**Associated Items:** 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

SV 006 Railcar Unloading Dust Collector Vent (West)

SV 007 Railcar Unloading Dust Collector Vent (East)

What to do	Why to do it
A. EMISSION & OPERATING LIMITS	hdr
Opacity: less than or equal to 20 percent opacity . If opacity exceeds 20 percent, then action must be taken to control exhaust gases so that either (1) particulate matter emissions do not exceed 0.020 gr/dscf, or (2) opacity does not exceed 20 percent.	40 CFR Section 60.252(c); Minn. R. 7011.1105 (G)
Particulate Matter < 10 micron: less than or equal to 0.008 grains/dry standard cubic foot . 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
Operating Hours: less than or equal to 5096 hours/year using 12-month Rolling Sum	Title I Condition: Limit to avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Do not build, erect, install, or use any article, machine, equipment, or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard.	40 CFR Section 60.12
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Check for visible emissions (during daylight hours) from the control equipment (CE 007, CE 008, and CE 009) once each calendar week, while EU 006 is in operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs. Corrective action may be in the form of discontinuing venting emissions to the atmosphere through CE 007, CE 008, or CE 009.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5
RECORDKEEPING REQUIREMENTS	hdr
Daily Recordkeeping: Each day, record the hours of operation of the emissions unit.	Title I Condition: Limit to avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Monthly Recordkeeping: By the 15th day of each month, calculate and record the 12-month rolling sum of hours operated during the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5
Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including any malfunction of the air pollution control equipment, or any periods during which a continuous monitoring system or monitoring device is inoperable.	40 CFR Section 60.7(b); Minn. R. 7019.0100, subp. 1
TESTING REQUIREMENTS	hdr
Initial Performance Test: due 180 days after Initial Startup of modified conveyors to measure opacity	40 CFR Section 60.8; Minn. R. 7017.2020, subp. 1; Minn. R. 7017.2030, subp. 4
Performance Test Notifications and Submittals; Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2
Notification of any physical change or operational change which increases emissions rate: due 60 days (or as soon as practicable) before the change is commenced. Within 180 days of completion of any physical or operational change subject to the control measures specified in 40 CFR Section 60.14(a), compliance with all applicable standards must be achieved.	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1
Notification of the Date Construction Began: due 60 days before start of construction (or as soon as practicable) of replacements. Submit the name and number of each unit and the date of construction of the replacement parts of each unit.	40 CFR Section 60.15(d); Minn. R. 7019.0100, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Notification of Anticipated Date for Conducting Opacity Observations: due 30 days prior to observation date.	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1
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TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 007 Boiler 11**Associated Items:** GP 001 Boiler Nos. 11 & 12

SV 008 Boiler 11 Stack

What to do	Why to do it
A. EMISSION & OPERATING LIMITS	hdr
Particulate Matter < 10 micron: less than or equal to 0.037 lbs/million Btu heat input	Title I Condition: limit to avoid classification as a major modification under 40 CFR Section 52.21
Nitrogen Oxides: less than or equal to 0.1 lbs/million Btu heat input	Title I Condition: limit to avoid classification as a major modification under 40 CFR Section 52.21
Opacity: less than or equal to 20 percent opacity	Minn. R. 7007.0800, subp. 2 (negotiated limit)
Allowable fuel use: limited to natural gas and propane.	Minn. R. 7007.0800, subp. 2
Steam Flow: less than or equal to 100800 lbs/hour using 24-hour Block Average	Minn. R. 7017.2025, subp. 3 (Notice of Compliance for 01/15/2002 performance test)
B. RECORDKEEPING REQUIREMENTS	hdr
Each calendar day, calculate the previous day's average steam production by dividing the total steam produced during the 24 hours by the total operating time during the 24 hours. Downtime of 15 or more minutes is not to be included in the operating time.	Minn. R. 7007.0800, subp. 2 & 5
C. TESTING REQUIREMENTS	hdr
Performance Test: due before end of each year starting 01/19/1999 to measure NOx emissions. The NOx emissions tests shall be conducted at an interval not to exceed 12 months between test dates. If NOx emission test results are less than 90 percent of the NOx limit for two or more consecutive years, then the test frequency may be reduced to once every three years. If a performance test measures NOx emissions at greater than 90 percent of the NOx limit, testing frequency shall revert back to the original yearly basis until the permittee is again able to meet the criteria for a three-year test frequency.	Title I Condition: limit to avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7017.2020, subp. 1
Performance Test Notification Frequency: If the NOx emissions test frequency is reduced from annual to once every three years, the permittee shall submit a notification in lieu of each annual test, 30 days before the date that testing was required to be conducted. The notification shall state the percentage of the NOx emission limit that emissions were measured at during each of the previous two performance tests.	Minn. R. 7017.2030, subp. 1
Comply with 40 CFR 63, subpart DDDDD, by September 13, 2007.	40 CFR Section 63.7495(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 008 Boiler 12**Associated Items:** GP 001 Boiler Nos. 11 & 12

SV 009 Boiler 12 Stack

What to do	Why to do it
A. EMISSION & OPERATING LIMITS	hdr
Particulate Matter < 10 micron: less than or equal to 0.037 lbs/million Btu heat input	Title I Condition: limit to avoid classification as a major modification under 40 CFR Section 52.21
Nitrogen Oxides: less than or equal to 0.1 lbs/million Btu heat input	Title I Condition: limit to avoid classification as a major modification under 40 CFR Section 52.21
Opacity: less than or equal to 20 percent opacity	Minn. R. 7007.0800, subp. 2 (negotiated limit)
Allowable fuel use: limited to natural gas and propane.	Minn. R. 7007.0800, subp. 2
Steam Flow: less than or equal to 35200 lbs/hour using 8-hour Block Average	Minn. R. 7017.2025, subp. 3 (Notice of Compliance for 01/20/2000 performance test)
B. RECORDKEEPING REQUIREMENTS	hdr
Each calendar day, calculate the previous day's 8-hour Block Averages by dividing the total steam produced during the 8 hours by the total operating time during the 8 hours. Down time of 15 or more minutes is not to be included in the operating time.	Minn. R. 7007.0800, subp. 2 & 5
C. TESTING REQUIREMENTS	hdr
Performance Test: due before end of each 36 months starting 01/31/2002 to measure NOx emissions. The NOx emissions tests shall be conducted at an interval not to exceed 36 months between test dates.	Title I Condition: limit to avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7017.2020, subp. 1
Comply with 40 CFR 63, subpart DDDDD, by September 13, 2007.	40 CFR Section 63.7495(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 010 Transfer House 2**Associated Items:** CE 011 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 011 Transfer House 2 Dust Collector Vent

What to do	Why to do it
A. EMISSION & OPERATING LIMITS	hdr
Particulate Matter < 10 micron: less than or equal to 0.008 grains/dry standard cubic foot . 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 . If opacity exceeds 20 percent, then action must be taken to control exhaust gases so that either (1) particulate matter emissions do not exceed 0.020 gr/dscf, or (2) opacity does not exceed 20 percent. Note PM limit based on Minn. R. 7007.0800, subp. 2 that also applies to EU 010.	Minn. R. 7011.1105 (G)
Solid fuel handling equipment shall not be vented to the atmosphere when emissions are not controlled by pollution control equipment (CE 011). This emission unit is physically capable of operating without venting to the atmosphere, and therefore can operate when control equipment is not operational.	Minn. R. 7007.0800, subp. 2
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Check for visible emissions (during daylight hours) from the control equipment (CE 011) once each calendar week, while EU010 is in operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs. Corrective action may be in the form of discontinuing venting emissions to the atmosphere through CE 011.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 011 Transfer House 5**Associated Items:** CE 012 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 012 Transfer House 5 Dust Collector Vent

What to do	Why to do it
A. EMISSION & OPERATING LIMITS	hdr
Opacity: less than or equal to 20 percent opacity . If opacity exceeds 20 percent, then action must be taken to control exhaust gases so that either (1) particulate matter emissions do not exceed 0.020 gr/dscf, or (2) opacity does not exceed 20 percent.	40 CFR Section 60.252(c); Minn. R. 7011.1105 (G)
Particulate Matter < 10 micron: less than or equal to 0.008 grains/dry standard cubic foot . 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
Operating Hours: less than or equal to 5096 hours/year using 12-month Rolling Sum	Title I Condition: Limit to avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Do not build, erect, install, or use any article, machine, equipment, or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard.	40 CFR Section 60.12
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Check for visible emissions (during daylight hours) from the control equipment (CE 012) once each calendar week, while EU 011 is in operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs. Corrective action may be in the form of discontinuing venting emissions to the atmosphere through CE 012.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5
Solid fuel handling equipment shall not be vented to the atmosphere when emissions are not controlled by the pollution control equipment (CE012). This emission unit is physically capable of operating without venting to the atmosphere, and therefore can operate when control equipment is not operational.	Minn. R. 7007.0800, subp. 2
RECORDKEEPING REQUIREMENTS	hdr
Daily Recordkeeping: Each day, record the hours of operation of the emissions unit.	Title I Condition: Limit to avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Monthly Recordkeeping: By the 15th day of each month, calculate and record the 12-month rolling sum of hours operated during the previous 12 months.	Minn. R. 7007.0800, subp. 4 and 5
Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including any malfunction of the air pollution control equipment, or any periods during which a continuous monitoring system or monitoring device is inoperable.	40 CFR Section 60.7(b); Minn. R. 7019.0100, subp. 1
TESTING REQUIREMENTS	hdr
Initial Performance Test: due 180 days after Initial Startup of modified conveyors to measure opacity	40 CFR Section 60.8; Minn. R. 7017.2020, subp. 1; Minn. R. 7017.2030, subp. 4
Performance Test Notifications and Submittals; Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2
Notification of any physical change or operational change which increases emissions rate: due 60 days (or as soon as practicable) before the change is commenced. Within 180 days of completion of any physical or operational change subject to the control measures specified in 40 CFR Section 60.14(a), compliance with all applicable standards must be achieved.	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1
Notification of the Date Construction Began: due 60 days before start of construction (or as soon as practicable) of replacements. Submit the name and number of each unit and the date of construction of the replacement parts of each unit.	40 CFR Section 60.15(d); Minn. R. 7019.0100, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Notification of Anticipated Date for Conducting Opacity Observations: due 30 days prior to observation date.	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1
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TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 012 Ash Silo

Associated Items: CE 001 Electrostatic Precipitator - High Efficiency
 CE 002 Electrostatic Precipitator - High Efficiency
 CE 017 Fabric Filter - High Temperature, i.e., T>250 Degrees F
 SV 001 Main Boiler Stack

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot unless required to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735.	Minn. R. 7011.0715, subp. 1.A.
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1.B.
B. CONTROL EQUIPMENT REQUIREMENTS	hdr
Except as provided below, the Permittee shall operate and maintain the control devices listed above under "Associated Items" at all times that any emission unit controlled by the control equipment is in operation. See also Subject Item CE017 for further requirements.	Minn. R. 7007.0800, subp. 2 and 14
Operation of CE001 and CE002 is required at all times that any source of emissions controlled by the ESPs is in operation, before and after first firing of the boiler following rehabilitation, until initial start-up of CE017. After the initial startup of CE017, operation of CE001 and CE002 is not required, and the permittee shall operate and maintain CE 017 at all times that any source of emissions controlled by the fabric filter is in operation.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 015 Boiler 13**Associated Items:** SV 017 Boiler 13 Stack

What to do	Why to do it
A. EMISSION & OPERATING LIMITS	hdr
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. 7011.0515, subp. 2
Nitrogen Oxides: less than or equal to 0.13 lbs/million Btu heat input	Minn. R. 7007.0800, subp. 2
Fuel Usage: limited to natural gas and propane	Minn. R. 7007.0800, subp. 2
Steam Flow: less than or equal to 49800 lbs/hour using 24-hour Block Average	Minn. R. 7017.2025, subp. 3 (Notice of Compliance for 10/12/2001 performance test)
B. RECORDKEEPING REQUIREMENTS	hdr
By the last day of each month, record the amount of natural gas and propane combusted during the previous month in EU 015. Records may be in the form of fuel bills or meter readings.	40 CFR Section 60.13(i) to comply with 40 CFR Section 60.48c(g) and (i)
Each calendar day, calculate the previous day's average steam production by dividing the total steam produced during the 24 hours by the total operating time during the 24 hours. Downtime of 15 or more minutes is not to be included in the operating time.	Minn. R. 7007.0800, subp. 2 & 5
C. TESTING REQUIREMENTS	hdr
Performance Test: due before end of each year starting 04/30/1999 to measure NOx emissions. The NOx emissions tests shall be conducted at an interval not to exceed 12 months between test dates.	Minn. R. 7017.2020, subp. 1
Comply with 40 CFR 63, subpart DDDDD, by September 13, 2007.	40 CFR Section 63.7495(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 028 Auxiliary Boiler

Associated Items: GP 005 Synthetic Minor Fuel Usage Limits

SV 002 Auxiliary Boiler Stack

What to do	Why to do it
A. EMISSION & OPERATING LIMITS (see also GP005)	hdr
Total Particulate Matter: less than or equal to 0.03 lbs/million Btu heat input . This limit applies at all times except during periods of startup, shutdown, and malfunction. (Potential emissions based on equipment design and allowed fuels are approximately 0.07 lb/million Btu heat input.)	40 CFR Section 63.7500(1); 40 CFR Section 63.7505(a); 40 CFR Section 63.7506(a); 40 CFR Section 63.3(f)(1)
Hydrochloric acid: less than or equal to 0.0005 lbs/million Btu heat input . This limit applies at all times except during periods of startup, shutdown, and malfunction.	40 CFR Section 63.7500(1); 40 CFR Section 63.7505(a); 40 CFR Section 63.7506(a); 40 CFR Section 63.6(f)(1)
Carbon Monoxide: less than or equal to 400 parts per million by volume on a dry basis corrected to 3 percent oxygen (3-run average). This limit applies at all times except during periods of startup, shutdown, and malfunction. (At standard conditions, this is approximately 18 lb/hour; potential emissions under design capacity and fuel limitations are approximately 8.4 lb/hr.)	40 CFR Section 63.7500(1); 40 CFR Section 63.7505(a); 40 CFR Section 63.7506(a); 40 CFR Section 63.6(f)(1)
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input Or, as an alternative, sulfur content of fuel shall not exceed 0.5 percent by weight. These limits apply at all times, including periods of startup, shutdown, or malfunction.	40 CFR Section 60.42c(d); 40 CFR Section 60.42c(i); Minn. R. 7011.0570
Opacity: less than or equal to 20 percent opacity using 6-minute Average , except for one 6-minute period per hour of not more than 27 percent opacity. This limit does not apply during periods of startup, shutdown, or malfunction.	40 CFR Section 60.43c(c); Minn. R. 7011.0570
Any Permittee requesting permission to use an alternative non-opacity emission standard to achieve a reduction in HAP emissions shall, unless otherwise specified, submit a proposed test plan or the results of testing and monitoring in accordance with Sections 63.7 and 63.8, a description of the procedures followed in testing or monitoring, and a description of pertinent conditions during testing or monitoring. Any testing or monitoring conducted to request permission to use an alternative nonopacity emission standard shall be appropriately quality assured and quality controlled, as specified in 63.7 and 63.8.	40 CFR Section 63.6(g)(2)
Fuel Usage: Limited to natural gas and distillate fuel oil	40 CFR Section 63.7506(a)(2); Minn. R. 7007.0800, subp. 2
At all times the Permittee shall operate and maintain the emission unit subject to the MACT standard and its associated air pollution control equipment 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 Section 63.6(e)(1)(i); 40 CFR Section 63.7505(b)
During periods of startup, shutdown, and malfunction, the owner or operator of an affected source must operate and maintain such source (including associated air pollution control and monitoring equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under 40 CFR Section 63.6(e)(3)(i).	40 CFR Section 63.6(e)(1)(ii)
EU028 must comply with 40 CFR 63 Subpart DDDDD upon startup.	40 CFR Section 63.6(b)
Develop, implement, and maintain a written startup, shutdown, and malfunction plan (SSMP) according to all of the provisions in 40 CFR Section 63.6(e)(3). The plan must be available for inspection and copying by the Administrator upon request.	40 CFR Section 63.7505(d)(e); 40 CFR Section 63.3(e)(3)(i), (v), (vi), (vii), and (viii)
During periods of startup, shutdown, and malfunction, the permittee must operate in accordance with the SSMP as required in Sec. 63.7505(e) and 63.3(e)(3)(i).	40 CFR Section 63.7540(c); 40 CFR Section 63.3(e)(3)(ii)
When actions taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's SSMP, the Permittee must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a "checklist," or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for that event. In addition, the Permittee must keep records of these events as specified in 63.10(b). Furthermore, the Permittee shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the SSMP in the semiannual startup, shutdown, and malfunction report required in 63.10(d)(5).	40 CFR Section 63.3(e)(3)(iii)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

If an action taken by the Permittee during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the SSMP, and the source exceeds any applicable emission limitation in the relevant emission standard, then the Permittee must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with 63.10(d)(5) (unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator).	40 CFR Section 63.3(e)(3)(iv)
B. MONITORING & RECORDKEEPING REQUIREMENTS (see also GP005)	hdr
The Permittee shall obtain a supplier certification for each shipment of fuel oil received, showing the sulfur content of the shipment. The certification shall include the name of the oil supplier and a statement that the oil complies with the definition of distillate oil.	40 CFR Section 60.44c(h); 40 CFR Section 60.48c(f); Minn. R. 7011.0570
Recordkeeping: By the last day of each month, record the amount of each fuel combusted during the previous month in EU 028. Records may be in the form of fuel bills or meter readings.	40 CFR Section 60.13(i) and February 20, 1992, EPA memorandum to meet the requirements of 40 CFR Section 60.48c(g) and (i) and Minn. R. 7011.0570
For each 6- month period after actual startup, submit a report to the Administrator including the following information: - Calendar dates covered in the reporting period - Records of fuel supplier certification, including a statement signed by the owner or operator that the records of fuel supplier certifications represent all of the fuel oil combusted during the reporting period	40 CFR Section 60.48c(d); 40 CFR Section 60.48c(e)(11); 40 CFR Section 60.48c(j); Minn. R. 7011.0570
The Permittee shall maintain files of all information (including all reports and notifications) required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.	40 CFR Section 63.10(b)(1)
The Permittee shall maintain relevant records of- (i) The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment); (ii) The occurrence and duration of each malfunction of the required air pollution control and monitoring equipment; (iii) All required maintenance performed on the air pollution control and monitoring equipment; (iv) 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) when such actions are different from the procedures specified in the SSMP;	40 CFR Section 63.10(b)(2)
(v) 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 such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events); (vii) All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);	40 CFR Section 63.10(b)(2), continued from above
(viii) All results of performance tests, CMS performance evaluations, and opacity and visible emission observations; (ix) All measurements as may be necessary to determine the conditions of performance tests and performance evaluations; (xii) Any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements under this part, if the source has been granted a waiver under paragraph (f) of this section; (xiv) All documentation supporting initial notifications and notifications of compliance status under Section 63.9.	40 CFR Section 63.10(b)(2), continued from above

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

<p>(1) Notwithstanding the requirements in this paragraph or paragraph (e) of this section, and except as provided in Section 63.16, the Permittee shall submit reports to the Administrator in accordance with the reporting requirements in the relevant standard(s).</p> <p>(2) Reporting results of performance tests. The Permittee shall report the results of a required performance test to the appropriate permitting authority. The Permittee shall report the results of the performance test to the Administrator (or the State with an approved permit program) before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator. The results of the performance test shall be submitted as part of the notification of compliance status required under Section 63.9(h).</p>	40 CFR Section 63.10(d)(1) & (2)
<p>(i) Periodic startup, shutdown, and malfunction reports. If actions taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the SSMP, the Permittee shall state such information in a startup, shutdown, and malfunction report. Such a report shall identify any instance where any action taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the SSMP, but the source does not exceed any applicable emission limitation in the relevant emission standard. Such a report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded.</p>	40 CFR Section 63.10(d)(5)(i)
<p>Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the responsible official who is certifying its accuracy, that shall be submitted to the Administrator semiannually. The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate). If the Permittee is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports required under this paragraph may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports.</p>	40 CFR Section 63.10(d)(5)(i), continued from above
<p>If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under paragraph (e) of this section, the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Administrator does not object to the intended change.</p>	40 CFR Section 63.10(d)(5)(i), continued from above
<p>Immediate startup, shutdown, and malfunction reports. Notwithstanding the allowance to reduce the frequency of reporting for periodic startup, shutdown, and malfunction reports under Section 63.10(d)(5)(i), 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 the source exceeds any applicable emission limitation in the relevant emission standard, the Permittee shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event.</p>	40 CFR Section 63.10(d)(5)(ii)
<p>The immediate report shall consist of a telephone call or FAX transmission to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the SSMP, and describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred. Notwithstanding the requirements of the previous sentence, the Permittee may make alternative reporting arrangements, in advance, with the permitting authority. Procedures governing the arrangement of alternative reporting requirements are specified in Section 63.9(i).</p>	40 CFR Section 63.10(d)(5)(ii), continued from above
<p>Keep records according to paragraphs (a)(1) through (3) of this section.</p> <p>(1) A copy of each notification and report that was submitted to comply with 40 CFR 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that was submitted, according to the requirements in Sec. 63.10(b)(2)(xiv).</p> <p>(2) The records in Sec. 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.</p> <p>(3) Records of performance tests, fuel analyses, or other compliance demonstrations, performance evaluations, and opacity observations as required in Sec. 63.10(b)(2)(viii).</p>	40 CFR Section 63.7555(a)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Keep the records required in Table 8 of 40 CFR 63, Subpart DDDDD including records of all monitoring data and calculated averages for applicable operating limits such as opacity, pressure drop, carbon monoxide, and pH to show continuous compliance with each emission limit, operating limit, and work practice standard that is applicable.	40 CFR Section 63.7555(c)
(a) The records must be in a form suitable and readily available for expeditious review, according to Sec. 63.10(b)(1). (b) As specified in Sec. 63.10(b)(1), the Permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. (c) Keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to Sec. 63.10(b)(1). The Permittee can keep the records off site for the remaining 3 years.	40 CFR Section 63.7560
C.1. NSPS PERFORMANCE TESTING REQUIREMENTS	hdr
Initial Performance Test: due 180 days after Initial Startup, to measure opacity	40 CFR Section 60.8(a); Minn. R. 7017.2020, subp. 1;
Performance Test Notification (written): submit notification of the performance test to the EPA Administrator.	40 CFR Section 60.7(a)(6)
Performance Test Notifications and Submittals; Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 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. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2
Performance Test Report: Submit performance test data from initial and subsequent tests to the EPA Administrator.	40 CFR Section 60.48c(b)
C.2 NESHAP TESTING & COMPLIANCE DEMONSTRATION	hdr
Demonstrate initial compliance with the promulgated emission limits and work practice standards no later than 180 days after startup of the source.	40 CFR Section 63.7510(g)
The Permittee is not required to conduct a performance test to demonstrate compliance with the emission limits. The Permittee is not required to set and maintain operating limits to demonstrate continuous compliance with the emission limits. However, the Permittee must meet the requirements in paragraphs (a)(1) and (2) of this section and meet the CO work practice standard in Table 1 of 40 CFR 63, Subpart DDDDD. (1) To demonstrate initial compliance, include a signed statement in the Notification of Compliance Status report required in Sec. 63.7545(e) that indicates the boiler burns only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels.	40 CFR Section 63.7506(a); 40 CFR Section 63.7520(c); 40 CFR Section 63.7530(b)
(2) To demonstrate continuous compliance with the applicable emission limits, keep records that demonstrate that the boiler burns only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels. Also include a signed statement in each semiannual compliance report required in Sec. 63.7550 that indicates the boiler burned only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels, during the reporting period.	40 CFR Section 63.7506(a); 40 CFR Section 63.7520(c); 40 CFR Section 63.7530(b), continued from above
For affected sources that have an applicable work practice standard, initial compliance requirements depend on the subcategory and rated capacity of the boiler or process heater. If the boiler or process heater is in any of the limited use subcategories or has a heat input capacity less than 100 MMBtu per hour, the initial compliance demonstration is conducting a performance test for carbon monoxide	40 CFR Section 63.7510(c)
Initial Performance Test: due 180 days after Initial Startup to measure carbon monoxide emissions. Conduct annual performance tests for carbon monoxide according to Sec. 63.7520. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.	40 CFR Section 63.7510(c); 40 CFR Section 63.7515(e); 40 CFR Section 63.7(a)(2); Minn. R. 7017.2020, subp. 1
Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request. Application for waiver of performance tests must meet all requirements in Section 63.7(h).	40 CFR Section 63.7(h)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

<p>(a) Conduct all performance tests according to Sec. 63.7(c), (d), (f), and (h). Develop a site-specific test plan according to the requirements in Sec. 63.7(c) if the Permittee elects to demonstrate compliance through performance testing.</p> <p>(b) Conduct each performance test according to the requirements in Table 5 of 40 CFR 63, Subpart DDDDD.</p> <p>(e) The Permittee may not conduct performance tests during periods of startup, shutdown, or malfunction.</p> <p>(f) Conduct three separate test runs for each performance test required in this section, as specified in Sec. 63.7(e)(3). Each test run must last at least 1 hour.</p>	<p>40 CFR Section 63.7520; 40 CFR Sections 63.7(c), (d), (e), (f), and (h)</p>
<p>To conduct a performance test for carbon monoxide, the Permittee must:</p> <ol style="list-style-type: none"> 1. Select the sampling ports location and the number of traverse points using Method 1 in appendix A to part 60 of this chapter, 2. Determine oxygen and carbon dioxide concentrations of the stack gas using Method 3A or 3B in appendix A to part 60 of this chapter, or ASTM D6522-00 (IBR, see Sec. 3.14(b)), or ASME PTC 19, Part 10 (1981) (IBR, see Sec. 63.14(i)), 3. Measure the moisture content of the stack gas using Method 4 in appendix A to part 60 of this chapter, and 4. Measure the carbon monoxide emission concentration using Method 10, 10A, or 10B in appendix A to part 60 of this chapter, or ASTM D6522-00 (IBR, see Sec. 63.14(b)) when the fuel is natural gas. 	<p>40 CFR Section 63.7520</p>
<p>In the event the owner or operator is unable to conduct the performance test on the date specified in the notification requirement specified in Section 63.7545(d) due to unforeseeable circumstances beyond his or her control, the Permittee must notify the Administrator as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled. This notification of delay in conducting the performance test shall not relieve the Permittee of legal responsibility for compliance with any other applicable provisions of this part or with any other applicable Federal, State, or local requirement, nor will it prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.</p>	<p>40 CFR Section 63.7(b)(2)</p>
<p>D. NOTIFICATION & REPORTING REQUIREMENTS</p>	<p>hdr</p>
<p>Notification of Intent to Construct: Due as soon as practicable after promulgation of 40 CFR 63 Subpart DDDDD, and before construction begins. The application for approval of construction may be used to fulfill the initial notification requirements of 40 CFR Section 63.9(b)(5), the Notice of Initial Compliance</p> <p>The application must include:</p> <ul style="list-style-type: none"> - The applicant's name and address - A notification of intention to construct a new major affected source - The address (physical location) or proposed address of the source - An identification of the relevant standard that is the basis of the application - The expected date of beginning of actual construction - The expected completion date of the construction 	<p>40 CFR Section 63.5(d); 40 CFR Section 63.9(b); 40 CFR Section 63.7545</p>
<ul style="list-style-type: none"> - The type and quantity of HAPs emitted by the source, reported in units and averaging times and in accordance with the test methods specified in the relevant standard, or if actual emissions data are not yet available, an estimate of the type and quantity of HAPs expected to be emitted by the source reported in units and averaging times specified in the relevant standard. The owner or operator may submit percent reduction information if a relevant standard is established in terms of percent reduction. However, operating parameters, such as flow rate, shall be included in the submission to the extent that they demonstrate performance and compliance. - Certification that the source will not burn residual fuels (to satisfy requirements of Initial Notification of Compliance Status) 	<p>40 CFR Section 63.5(d); 40 CFR Section 63.9(b); 40 CFR Section 63.7545 (continued from above)</p>
<p>Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 63.7545 (e). Must include all performance test results and fuel analyses and/or other compliance demonstrations. The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (9), as applicable, and meet all applicable requirements of Section 63.9(h).</p>	<p>40 CFR Section 63.7530(e); 40 CFR Section 63.7545(e); 40 CFR Section 63.9(h)</p>
<p>(1) A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.</p> <p>(2) Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.</p> <p>(3) Identification of compliance with the particulate matter emission limit or the alternative total selected metals emission limit.</p> <p>(4) Identification of whether the Permittee plans to demonstrate compliance with each applicable emission limit through performance testing or fuel analysis.</p> <p>(5) Identification of whether the Permittee plans to demonstrate compliance by emissions averaging.</p>	<p>40 CFR Section 63.7530(e); 40 CFR Section 63.7545(e), continued from above.</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

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<p>(6) A signed certification that all applicable emission limits and work practice standards have been met.</p> <p>(7) A summary of the carbon monoxide emissions monitoring data and the maximum carbon monoxide emission levels recorded during the performance test to show that the Permittee has met any applicable work practice standard in Table 1 of 40 CFR 63, Subpart DDDDD.</p> <p>(8) If the new or reconstructed boiler or process heater is in one of the liquid fuel subcategories and burns only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels, submit a signed statement certifying this in the Notification of Compliance Status report.</p> <p>(9) If the Permittee had a deviation from any emission limit or work practice standard, submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.</p>	40 CFR Section 63.7530(e); 40 CFR Section 63.7545(e), continued from above.
Report each deviation from an applicable emission limit, operating limit, and work practice standard in Tables 1 through 4 of 40 CFR 63, Subpart DDDDD that apply. The Permittee must also report each instance during a startup, shutdown, or malfunction when each applicable emission limit, operating limit, and work practice standard was not met. These instances are deviations from the emission limits and work practice standards in this subpart. These deviations must be reported according to the requirements in Sec. 63.7550.	40 CFR Section 63.7540(b)
Consistent with Sec. 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the EPA Administrator's satisfaction that you were operating in accordance with your 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 Sec. 63.6(e).	40 CFR Section 63.7540(d)
<p>The semiannual continuous compliance report must contain the following:</p> <p>a. Information required in Sec. 63.7550(c)(1) through (11); and</p> <p>b. If there are no deviations from any emission limitation (emission limit and operating limit) that are applicable and there are no deviations from the requirements for work practice standards in Table 8 of 40 CFR 63, Subpart DDDDD that apply, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in Sec. 63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and</p>	40 CFR Section 63.7550, Table 9
<p>c. If the Permittee has a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report must contain the information in Sec. 63.7550(d)</p> <p>d. If the boiler had a startup, shutdown, or malfunction during the reporting period and the Permittee took actions consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in Sec.63.10(d)(5)(i)</p>	40 CFR Section 63.7550, Table 9, continued from above
<p>The Permittee must submit an immediate startup shutdown, and malfunction report if the boiler had a startup, shutdown, or malfunction during the reporting period that is not consistent with the Permittee's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard.</p> <p>The report must contain:</p> <p>a. Actions taken for the event; and</p> <p>b. The information in Sec. 63.10(d)(5)(ii)</p> <p>The Permittee must submit the report:</p> <p>i. By fax or telephone within 2 working days after starting actions inconsistent with the plan; and</p> <p>ii. By letter within 7 working days after the end of the event unless the Permittee has made alternative arrangements with the permitting authority.</p>	40 CFR Section 63.7550, Table 9
The Permittee must meet the notification requirements in Sec. 63.7545 according to the schedule in Sec. 63.7545 and in subpart A of this part. Some of the notifications must be submitted before compliance with the emission limits and work practice standards in this subpart is required.	40 CFR Section 63.7495(d)
Submit all of the notifications in Sec. 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)

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

<p>Unless the EPA Administrator has approved a different schedule for submission of reports under Sec. 63.10(a), submit each report by the date in Table 9 of 40 CFR 63, Subpart DDDDD and according to the requirements in paragraphs (b)(1) through (5) of this section.</p> <p>(1) The first compliance report must cover the period beginning on the compliance date that is specified for the affected source in Sec. 63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for the source in Sec. 63.7495.</p> <p>(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for the source in Sec. 63.7495.</p>	40 CFR Section 63.7550(b)
<p>(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.</p> <p>(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.</p> <p>(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), the Permittee may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.</p>	40 CFR Section 63.7550(b), continued from above
<p>The compliance report must contain the information required in paragraphs (c)(1) through (11) of this section.</p> <p>(1) Company name and address.</p> <p>(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.</p> <p>(3) Date of report and beginning and ending dates of the reporting period.</p> <p>(4) The total fuel use by each affected source subject to an emission limit, 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.</p>	40 CFR Section 63.7550(c)
<p>(5) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 7 of Sec. 63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 11 of Sec. 63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.</p>	40 CFR Section 63.7550(c), continued from above
<p>(6) A signed statement indicating that the boiler burned no new types of fuel.</p> <p>(7) not applicable</p> <p>(8) The hours of operation for each boiler and process heater that is subject to an emission limit for each calendar month within the semiannual reporting period. This requirement applies only to limited use boilers and process heaters.</p> <p>(9) If the boiler had a startup, shutdown, or malfunction during the reporting period and the Permittee took actions consistent with the SSMP, the compliance report must include the information in Sec. 63.10(d)(5)(i).</p> <p>(10) If there are no deviations from any emission limits or operating limits in 40 CFR 63, Subpart DDDDD that apply, and there are no deviations from the requirements for work practice standards in this subpart, a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period.</p> <p>(11) not applicable</p>	40 CFR Section 63.7550(c), continued from above
<p>For each deviation from an emission limit or operating limit in 40 CFR 63, Subpart DDDDD and for each deviation from the requirements for work practice standards in this subpart that occurs at an affected source where the Permittee is not using a CMSs to comply with that emission limit, operating limit, or work practice standard, the compliance report must contain the information in paragraphs (c)(1) through (10) of this section and the information required in paragraphs (d)(1) through (4) of this section. This includes periods of startup, shutdown, and malfunction.</p> <p>(1) The total operating time of each affected source during the reporting period.</p> <p>(2) A description of the deviation and which emission limit, operating limit, or work practice standard from which was deviated.</p> <p>(3) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.</p> <p>(4) not applicable</p>	40 CFR Section 63.7550(d)

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in 40 CFR 63, Subpart DDDDD in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 9 of 40 CFR 63, Subpart DDDDD along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.	40 CFR Section 63.7550(f)
Request for extension of compliance. If the owner or operator of an affected source cannot comply with a relevant standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with 63.6(i)(5) of this subpart, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in 63.6(i)(4) through 63.6(i)(6).	40 CFR Section 63.9(c)
Notification that source is subject to special compliance requirements. An owner or operator of a new source that is subject to special compliance requirements as specified in 63.6(b)(3) and 63.6(b)(4) shall notify the Administrator of his/her compliance obligations not later than the notification dates established in Section 63.9(b).	40 CFR Section 63.9(d)
Any change in the information already provided under Section 63.9 shall be provided to the Administrator in writing within 15 calendar days after the change	40 CFR Section 63.9(j)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 030 Ammonia Vaporizer

Associated Items: CE 015 SCR (Selective Catalytic Reduction)

CE 016 Spray Dryer

CE 017 Fabric Filter - High Temperature, i.e., T>250 Degrees F

GP 005 Synthetic Minor Fuel Usage Limits

GP 006 Ancillary Combustion Sources

SV 001 Main Boiler Stack

What to do	Why to do it
A. NESHAP EMISSION & OPERATING LIMITS (see also GP005 for additional limits)	hdr
Carbon Monoxide: less than or equal to 400 parts per million by volume on a dry basis corrected to 3 percent oxygen (3-run average). This limit applies at all times except during periods of startup, shutdown, and malfunction. (At standard conditions, this is approximately 1900 lb/hour; potential emissions of EU030 under design capacity are approximately 1.1 lb/hr; potential emissions of all units exhausting at SV001 is less than 85 lb/hr)	40 CFR Section 63.7500(1); 40 CFR Section 63.7505(a); 40 CFR Section 63.6(f)(1)
Any Permittee requesting permission to use an alternative non-opacity emission standard to achieve a reduction in HAP emissions shall, unless otherwise specified, submit a proposed test plan or the results of testing and monitoring in accordance with Sections 63.7 and 63.8, a description of the procedures followed in testing or monitoring, and a description of pertinent conditions during testing or monitoring. Any testing or monitoring conducted to request permission to use an alternative nonopacity emission standard shall be appropriately quality assured and quality controlled, as specified in 63.7 and 63.8.	40 CFR Section 63.6(g)(2)
Fuel Usage: Limited to natural gas	40 CFR Section 63.7506(a)(2); Minn. R. 7007.0800, subp. 2
At all times the Permittee shall operate and maintain the emission unit subject to the MACT standard and its associated air pollution control equipment 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 Section 63.6(e)(1)(i); 40 CFR Section 63.7505(b)
During periods of startup, shutdown, and malfunction, the owner or operator of an affected source must operate and maintain such source (including associated air pollution control and monitoring equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under 40 CFR Section 63.6(e)(3)(i).	40 CFR Section 63.6(e)(1)(ii)
EU030 must comply with 40 CFR 63 Subpart DDDDD upon startup.	40 CFR Section 63.6(b)
Develop, implement, and maintain a written startup, shutdown, and malfunction plan (SSMP) according to all of the provisions in 40 CFR Section 63.6(e)(3). The plan must be available for inspection and copying by the Administrator upon request.	40 CFR Section 63.7505(d)(e); 40 CFR Section 63.3(e)(3)(i), (v), (vi), (vii), and (viii)
During periods of startup, shutdown, and malfunction, the permittee must operate in accordance with the SSMP as required in Sec. 63.7505(e) and 63.3(e)(3)(i).	40 CFR Section 63.7540(c); 40 CFR Section 63.3(e)(3)(ii)
When actions taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's SSMP, the Permittee must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a "checklist," or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for that event. In addition, the Permittee must keep records of these events as specified in 63.10(b). Furthermore, the Permittee shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the SSMP in the semiannual startup, shutdown, and malfunction report required in 63.10(d)(5).	40 CFR Section 63.3(e)(3)(iii)
If an action taken by the Permittee during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the SSMP, and the source exceeds any applicable emission limitation in the relevant emission standard, then the Permittee must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with 63.10(d)(5) (unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator).	40 CFR Section 63.3(e)(3)(iv)
B. MONITORING & RECORDKEEPING REQUIREMENTS (see also GP005)	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

The Permittee shall maintain files of all information (including all reports and notifications) required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.	40 CFR Section 63.10(b)(1)
The Permittee shall maintain relevant records of- (i) The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment); (ii) The occurrence and duration of each malfunction of the required air pollution control and monitoring equipment; (iii) All required maintenance performed on the air pollution control and monitoring equipment; (iv) 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) when such actions are different from the procedures specified in the SSMP;	40 CFR Section 63.10(b)(2)
(v) 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 such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events); (vii) All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);	40 CFR Section 63.10(b)(2), continued from above
(viii) All results of performance tests, CMS performance evaluations, and opacity and visible emission observations; (ix) All measurements as may be necessary to determine the conditions of performance tests and performance evaluations; (xii) Any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements under this part, if the source has been granted a waiver under paragraph (f) of this section; (xiv) All documentation supporting initial notifications and notifications of compliance status under Section 63.9.	40 CFR Section 63.10(b)(2), continued from above
(1) Notwithstanding the requirements in this paragraph or paragraph (e) of this section, and except as provided in Section 63.16, the Permittee shall submit reports to the Administrator in accordance with the reporting requirements in the relevant standard(s). (2) Reporting results of performance tests. The Permittee shall report the results of a required performance test to the appropriate permitting authority. The Permittee shall report the results of the performance test to the Administrator (or the State with an approved permit program) before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator. The results of the performance test shall be submitted as part of the notification of compliance status required under Section 63.9(h).	40 CFR Section 63.10(d)(1) & (2)
(i) Periodic startup, shutdown, and malfunction reports. If actions taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the SSMP, the Permittee shall state such information in a startup, shutdown, and malfunction report. Such a report shall identify any instance where any action taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the SSMP, but the source does not exceed any applicable emission limitation in the relevant emission standard. Such a report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded.	40 CFR Section 63.10(d)(5)(i)
Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the responsible official who is certifying its accuracy, that shall be submitted to the Administrator semiannually. The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate). If the Permittee is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports required under this paragraph may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports.	40 CFR Section 63.10(d)(5)(i), continued from above

TABLE A: LIMITS AND OTHER REQUIREMENTS

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If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under paragraph (e) of this section, the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Administrator does not object to the intended change.	40 CFR Section 63.10(d)(5)(i), continued from above
Immediate startup, shutdown, and malfunction reports. Notwithstanding the allowance to reduce the frequency of reporting for periodic startup, shutdown, and malfunction reports under Section 63.10(d)(5)(i), 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 the source exceeds any applicable emission limitation in the relevant emission standard, the Permittee shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event.	40 CFR Section 63.10(d)(5)(ii)
The immediate report shall consist of a telephone call or FAX transmission to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the SSMP, and describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred. Notwithstanding the requirements of the previous sentence, the Permittee may make alternative reporting arrangements, in advance, with the permitting authority. Procedures governing the arrangement of alternative reporting requirements are specified in Section 63.9(i).	40 CFR Section 63.10(d)(5)(ii), continued from above
Keep records according to paragraphs (a)(1) through (3) of this section. (1) A copy of each notification and report that was submitted to comply with 40 CFR 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that was submitted, according to the requirements in Sec. 63.10(b)(2)(xiv). (2) The records in Sec. 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction. (3) Records of performance tests, fuel analyses, or other compliance demonstrations, performance evaluations, and opacity observations as required in Sec. 63.10(b)(2)(viii).	40 CFR Section 63.7555(a)
Keep the records required in Table 8 of 40 CFR 63, Subpart DDDDD including records of all monitoring data and calculated averages for applicable operating limits such as opacity, pressure drop, carbon monoxide, and pH to show continuous compliance with each emission limit, operating limit, and work practice standard that is applicable.	40 CFR Section 63.7555(c)
(a) The records must be in a form suitable and readily available for expeditious review, according to Sec. 63.10(b)(1). (b) As specified in Sec. 63.10(b)(1), the Permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. (c) Keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to Sec. 63.10(b)(1). The Permittee can keep the records off site for the remaining 3 years.	40 CFR Section 63.7560
Performance Test Notifications and Submittals; Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 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. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2
C.2 NESHP TESTING & COMPLIANCE DEMONSTRATION	hdr
Demonstrate initial compliance with the promulgated emission limits and work practice standards no later than 180 days after startup of the source.	40 CFR Section 63.7510(g)
Initial Performance Test: due 180 days after Initial Startup to measure carbon monoxide emissions. Conduct annual performance tests for carbon monoxide according to Sec. 63.7520. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.	40 CFR Section 63.7510(c); 40 CFR Section 63.7515(e); 40 CFR Section 63.7(a)(2); Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request. Application for waiver of performance tests must meet all requirements in Section 63.7(h).	40 CFR Section 63.7(h)
(a) Conduct all performance tests according to Sec. 63.7(c), (d), (f), and (h). Develop a site-specific test plan according to the requirements in Sec. 63.7(c) if the Permittee elects to demonstrate compliance through performance testing. (b) Conduct each performance test according to the requirements in Table 5 of 40 CFR 63, Subpart DDDDD. (e) The Permittee may not conduct performance tests during periods of startup, shutdown, or malfunction. (f) Conduct three separate test runs for each performance test required in this section, as specified in Sec. 63.7(e)(3). Each test run must last at least 1 hour.	40 CFR Section 63.7520; 40 CFR Sections 63.7(c), (d), (e), (f), and (h)
To conduct a performance test for carbon monoxide, the Permittee must: 1. Select the sampling ports location and the number of traverse points using Method 1 in appendix A to part 60 of this chapter, 2. Determine oxygen and carbon dioxide concentrations of the stack gas using Method 3A or 3B in appendix A to part 60 of this chapter, or ASTM D6522-00 (IBR, see Sec. 3.14(b)), or ASME PTC 19, Part 10 (1981) (IBR, see Sec. 63.14(i)), 3. Measure the moisture content of the stack gas using Method 4 in appendix A to part 60 of this chapter, and 4. Measure the carbon monoxide emission concentration using Method 10, 10A, or 10B in appendix A to part 60 of this chapter, or ASTM D6522-00 (IBR, see Sec. 63.14(b)) when the fuel is natural gas.	40 CFR Section 63.7520
In the event the owner or operator is unable to conduct the performance test on the date specified in the notification requirement specified in Section 63.7545(d) due to unforeseeable circumstances beyond his or her control, the Permittee must notify the Administrator as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled. This notification of delay in conducting the performance test shall not relieve the Permittee of legal responsibility for compliance with any other applicable provisions of this part or with any other applicable Federal, State, or local requirement, nor will it prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.	40 CFR Section 63.7(b)(2)
D. NOTIFICATION & REPORTING REQUIREMENTS	hdr
Notification of Intent to Construct: Due as soon as practicable after promulgation of 40 CFR 63 Subpart DDDDD, and before construction begins. The application for approval of construction may be used to fulfill the initial notification requirements of 40 CFR Section 63.9(b)(5), the Notice of Initial Compliance The application must include: - The applicant's name and address - A notification of intention to construct a new major affected source - The address (physical location) or proposed address of the source - An identification of the relevant standard that is the basis of the application - The expected date of beginning of actual construction - The expected completion date of the construction	40 CFR Section 63.5(d); 40 CFR Section 63.9(b)(1)(iii); 40 CFR Section 63.7545
- The type and quantity of HAPs emitted by the source, reported in units and averaging times and in accordance with the test methods specified in the relevant standard, or if actual emissions data are not yet available, an estimate of the type and quantity of HAPs expected to be emitted by the source reported in units and averaging times specified in the relevant standard. The owner or operator may submit percent reduction information if a relevant standard is established in terms of percent reduction. However, operating parameters, such as flow rate, shall be included in the submission to the extent that they demonstrate performance and compliance. - Certification that the source will not burn residual fuels (to satisfy requirements of Initial Notification of Compliance Status)	40 CFR Section 63.5(d); 40 CFR Section 63.9(b)(1)(iii); 40 CFR Section 63.9(b)(4)(i); 40 CFR Section 63.7545 (continued from above)
Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 63.7545 (e). Must include all performance test results and fuel analyses and/or other compliance demonstrations. The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (9), as applicable, and meet all applicable requirements of Section 63.9(h).	40 CFR Section 63.7530(e); 40 CFR Section 63.7545(e); 40 CFR Section 63.9(h)

TABLE A: LIMITS AND OTHER REQUIREMENTS

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<p>(1) A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.</p> <p>(2) Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.</p> <p>(3) Identification of compliance with the particulate matter emission limit or the alternative total selected metals emission limit.</p> <p>(4) Identification of whether the Permittee plans to demonstrate compliance with each applicable emission limit through performance testing or fuel analysis.</p> <p>(5) Identification of whether the Permittee plans to demonstrate compliance by emissions averaging.</p>	<p>40 CFR Section 63.7530(e); 40 CFR Section 63.7545(e); 40 CFR Section 63.9(h), continued from above.</p>
<p>(6) A signed certification that all applicable emission limits and work practice standards have been met.</p> <p>(7) A summary of the carbon monoxide emissions monitoring data and the maximum carbon monoxide emission levels recorded during the performance test to show that the Permittee has met any applicable work practice standard in Table 1 of 40 CFR 63, Subpart DDDDD.</p> <p>(8) If the new or reconstructed boiler or process heater is in one of the liquid fuel subcategories and burns only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels, submit a signed statement certifying this in the Notification of Compliance Status report.</p> <p>(9) If the Permittee had a deviation from any emission limit or work practice standard, submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.</p>	<p>40 CFR Section 63.7530(e); 40 CFR Section 63.7545(e); 40 CFR Section 63.9(h), continued from above.</p>
<p>Report each deviation from an applicable emission limit, operating limit, and work practice standard in Tables 1 through 4 of 40 CFR 63, Subpart DDDDD that apply. The Permittee must also report each instance during a startup, shutdown, or malfunction when each applicable emission limit, operating limit, and work practice standard was not met. These instances are deviations from the emission limits and work practice standards in this subpart. These deviations must be reported according to the requirements in Sec. 63.7550.</p>	<p>40 CFR Section 63.7540(b)</p>
<p>Consistent with Sec. 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the EPA Administrator's satisfaction that you were operating in accordance with your 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 Sec. 63.6(e).</p>	<p>40 CFR Section 63.7540(d)</p>
<p>The semiannual continuous compliance report must contain the following:</p> <p>a. Information required in Sec. 63.7550(c)(1) through (11); and</p> <p>b. If there are no deviations from any emission limitation (emission limit and operating limit) that are applicable and there are no deviations from the requirements for work practice standards in Table 8 of 40 CFR 63, Subpart DDDDD that apply, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in Sec. 63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and</p>	<p>40 CFR Section 63.7550, Table 9</p>
<p>c. If the Permittee has a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report must contain the information in Sec. 63.7550(d).</p> <p>d. If the boiler had a startup, shutdown, or malfunction during the reporting period and the Permittee took actions consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in Sec.63.10(d)(5)(i)</p>	<p>40 CFR Section 63.7550, Table 9, continued from above</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

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<p>The Permittee must submit an immediate startup shutdown, and malfunction report if the boiler had a startup, shutdown, or malfunction during the reporting period that is not consistent with the Permittee's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard.</p> <p>The report must contain:</p> <ol style="list-style-type: none"> Actions taken for the event; and The information in Sec. 63.10(d)(5)(ii) <p>The Permittee must submit the report:</p> <ol style="list-style-type: none"> By fax or telephone within 2 working days after starting actions inconsistent with the plan; and By letter within 7 working days after the end of the event unless the Permittee has made alternative arrangements with the permitting authority. 	40 CFR Section 63.7550, Table 9
<p>The Permittee must meet the notification requirements in Sec. 63.7545 according to the schedule in Sec. 63.7545 and in subpart A of this part. Some of the notifications must be submitted before compliance with the emission limits and work practice standards in this subpart is required.</p>	40 CFR Section 63.7495(d)
<p>Submit all of the notifications in Sec. 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) that apply by the dates specified.</p>	40 CFR Section 63.7545(a)
<p>Unless the EPA Administrator has approved a different schedule for submission of reports under Sec. 63.10(a), submit each report by the date in Table 9 of 40 CFR 63, Subpart DDDDD and according to the requirements in paragraphs (b)(1) through (5) of this section.</p> <p>(1) The first compliance report must cover the period beginning on the compliance date that is specified for the affected source in Sec. 63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for the source in Sec. 63.7495.</p> <p>(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for the source in Sec. 63.7495.</p>	40 CFR Section 63.7550(b)
<p>(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.</p> <p>(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.</p> <p>(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), the Permittee may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.</p>	40 CFR Section 63.7550(b), continued from above
<p>The compliance report must contain the information required in paragraphs (c)(1) through (11) of this section.</p> <p>(1) Company name and address.</p> <p>(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.</p> <p>(3) Date of report and beginning and ending dates of the reporting period.</p> <p>(4) The total fuel use by each affected source subject to an emission limit, 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.</p>	40 CFR Section 63.7550(c)
<p>5) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 7 of Sec. 63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 11 of Sec. 63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.</p>	40 CFR Section 63.7550(c), continued from above

TABLE A: LIMITS AND OTHER REQUIREMENTS

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<p>(6) A signed statement indicating that the boiler burned no new types of fuel.</p> <p>(7) not applicable</p> <p>(8) The hours of operation for each boiler and process heater that is subject to an emission limit for each calendar month within the semiannual reporting period. This requirement applies only to limited use boilers and process heaters.</p> <p>(9) If the boiler had a startup, shutdown, or malfunction during the reporting period and the Permittee took actions consistent with the SSMP, the compliance report must include the information in Sec. 63.10(d)(5)(i).</p> <p>(10) If there are no deviations from any emission limits or operating limits in 40 CFR 63, Subpart DDDDD that apply, and there are no deviations from the requirements for work practice standards in this subpart, a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period.</p> <p>(11) not applicable</p>	40 CFR Section 63.7550(c), continued from above
<p>For each deviation from an emission limit or operating limit in 40 CFR 63, Subpart DDDDD and for each deviation from the requirements for work practice standards in this subpart that occurs at an affected source where the Permittee is not using a CMSs to comply with that emission limit, operating limit, or work practice standard, the compliance report must contain the information in paragraphs (c)(1) through (10) of this section and the information required in paragraphs (d)(1) through (4) of this section. This includes periods of startup, shutdown, and malfunction.</p> <p>(1) The total operating time of each affected source during the reporting period.</p> <p>(2) A description of the deviation and which emission limit, operating limit, or work practice standard from which was deviated.</p> <p>(3) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.</p> <p>(4) not applicable</p>	40 CFR Section 63.7550(d)
<p>Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in 40 CFR 63, Subpart DDDDD in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 9 of 40 CFR 63, Subpart DDDDD along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.</p>	40 CFR Section 63.7550(f)
<p>Request for extension of compliance. If the owner or operator of an affected source cannot comply with a relevant standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with 63.6(i)(5) of this subpart, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in 63.6(i)(4) through 63.6(i)(6).</p>	40 CFR Section 63.9(c)
<p>Notification that source is subject to special compliance requirements. An owner or operator of a new source that is subject to special compliance requirements as specified in 63.6(b)(3) and 63.6(b)(4) shall notify the Administrator of his/her compliance obligations not later than the notification dates established in Section 63.9(b).</p>	40 CFR Section 63.9(d)
<p>Any change in the information already provided under Section 63.9 shall be provided to the Administrator in writing within 15 calendar days after the change</p>	40 CFR Section 63.9(j)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: EU 031 Duct Burner

Associated Items: CE 015 SCR (Selective Catalytic Reduction)
CE 016 Spray Dryer
CE 017 Fabric Filter - High Temperature, i.e., T>250 Degrees F
GP 005 Synthetic Minor Fuel Usage Limits
GP 006 Ancillary Combustion Sources
SV 001 Main Boiler Stack

What to do	Why to do it
A. OPERATING LIMITS	hdr
Natural Gas Fuel Usage: less than or equal to 39288500 cubic feet/year using 12-month Rolling Sum	Title I Condition: Limit to avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
B. MONITORING & RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping: By the last day of each month, record the amount of natural gas and propane combusted during the previous month in EU 031. Records may be in the form of fuel bills or meter readings.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000
By the 15th day of each month, calculate and record the 12-month rolling sum of fuel oil combusted in EU028, for the previous 12 months.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: CE 015 SCR (Selective Catalytic Reduction)**Associated Items:** EU 001 Boiler 1

EU 030 Ammonia Vaporizer

EU 031 Duct Burner

MR 007 NOX Analyzer

What to do	Why to do it
A. OPERATING REQUIREMENTS	hdr
Operate and maintain the SCR at all times that any source of emissions controlled by the SCR is in operation.	Minn. R. 7007.0800, subp. 2 and 14
Ammonia Injection Rate: normal operating range to be determined, based on the injection rate observed during the first 180 days of SCR operation. The rate or range may be expressed numerically, mathematically, or graphically, to account of the condition and age of the catalyst.	Title I Condition: to avoid classification as a major amendment under 40 CFR Section 52.21 and Minn. R. 7007.3000
During times that MR007 is not in operation, the Permittee shall read and record the ammonia injection rate at a minimum of once every 24 hours when the SCR is in operation.	
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording ammonia injection rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the SCR is in operation.	Minn. R. 7007.0800, subp. 4
B. MONITORING AND RECORDKEEPING REQUIREMENTS	hdr
During times when the Permittee is required to manually monitor ammonia injection rate, the Permittee shall record the time and date of each ammonia injection rate reading and whether or not the recorded value was within the range specified in this permit.	Minn. R. 7007.0800, subp. 4 and 5
Periodic Inspections: At least semiannually, or more frequently as required by the manufacturing specifications, 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: - the recorded ammonia injection rate is outside the required operating range; or - the SCR or any of its components are found during the inspections to need repair. Corrective actions shall return the ammonia injection rate to within the permitted range, 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 SCR.	Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: CE 016 Spray Dryer**Associated Items:** EU 001 Boiler 1

EU 030 Ammonia Vaporizer

EU 031 Duct Burner

MR 006 SO2 Analyzer

What to do	Why to do it
A. OPERATING REQUIREMENTS	hdr
Operate and maintain the spray dryer at all times that any source of emissions controlled by the spray dryer is in operation.	Minn. R. 7007.0800, subp. 2 and 14
Lime Injection Rate: normal operating range to be determined, based on the injection rate observed during the first 180 days of spray dryer operation. During times that MR006 is not in operation, the Permittee shall read and record the lime injection rate at a minimum of once every 24 hours when the spray dryer is in operation.	Title I Condition: to avoid classification as a major amendment under 40 CFR Section 52.21 and Minn. R. 7007.3000
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording lime injection rate as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the spray dryer is in operation.	Minn. R. 7007.0800, subp. 4
B. MONITORING AND RECORDKEEPING REQUIREMENTS	hdr
During times whe the Permittee is required to manually monitor lime injection rate, the Permittee shall record the time and date of each lime injection rate reading and whether or not the recorded value was within the range specified in this permit.	Minn. R. 7007.0800, subp. 4 and 5
Periodic Inspections: At least semiannually, or more frequently as required by the manufacturing specifications, 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: - the recorded lime injection rate is outside the required operating range; or - the spray dryer or any of its components are found during the inspections to need repair. Corrective actions shall return the lime injection rate to within the permitted range, 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 spray dryer.	Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: CE 017 Fabric Filter - High Temperature, i.e., T>250 Degrees F

Associated Items: EU 001 Boiler 1
 EU 012 Ash Silo
 EU 030 Ammonia Vaporizer
 EU 031 Duct Burner
 MR 009 Opacity Monitor

What to do	Why to do it
A. OPERATING REQUIREMENTS	hdr
Operate and maintain the fabric filter at all times that any source of emissions controlled by the fabric filter is in operation.	Minn. R. 7007.0800, subp. 2 and 14
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7007.0800, subp. 4
B. MONITORING AND RECORDKEEPING REQUIREMENTS	hdr
Pressure Drop: greater than or equal to 0.5 inches of water column and less than or equal to 10 inches of water column unless a new range is set pursuant to Minn. R. 7017.2025 subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. During times that MR009 is not in operation, the Permittee shall record the pressure drop once every 24 hours when in operation.	Title I Condition: Limit taken to avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
During times when the Permittee is required to manually monitor the pressure drop, the Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit.	Minn. R. 7007.0800, subp. 4 and 5
Periodic Inspections: At least semiannually, or more frequently as required by the manufacturing specifications, 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: - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for the filter.	Minn. R. 7007.0800, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: FS 003 North Live Coal Pile

What to do	Why to do it
(1) control fugitive particulate emissions by dust suppression methods on such operations so that fugitive particulate emission are minimized. (2) in the alternative, use an underground bottom feed (plow) of coal to an underground conveyor system provided the exhaust gases from the enclosed spaces do not contain particulate matter in excess of 0.020 grains per dry standard cubic foot (gr/dscf).	Minn. R. 7011.1105 (F)(1) and (2)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: FS 004 South Live Coal Pile

What to do	Why to do it
(1) control fugitive particulate emissions by dust suppression methods on such operations so that fugitive particulate emission are minimized. (2) in the alternative, use an underground bottom feed (plow) of coal to an underground conveyor system provided the exhaust gases from the enclosed spaces do not contain particulate matter in excess of 0.020 grains per dry standard cubic foot (gr/dscf).	Minn. R. 7011.1105 (F)(1) and (2)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating
Permit Number: 16300005 - 005

Subject Item: FS 008 Fly Ash Loadout

Associated Items: CE 025 Process Enclosed

What to do	Why to do it
The Permittee shall install and maintain an enclosure to control emissions from the fly ash loadout operation.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: FS 014 Petroleum Coke Unloading Station**Associated Items:** CE 025 Process Enclosed

GP 003 Coal Handling and Coal Yard Traffic - Limited Operation

What to do	Why to do it
Truck and hauler unloading stations: Control fugitive particulate emissions from the unloading of coal and petroleum coke from trucks or haulers by dust suppression methods so that emissions from such sources are minimized.	Minn. R. 7011.1105, subp. C
After first firing of EU001 following rehabilitation, in order to receive petroleum coke, the Permittee shall install and maintain an enclosure to control emissions from the petroleum coke unloading operation.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: FS 015 Cooling towers 1-10

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.	Minn. R. 7011.0715, subp. 1(A)
Equipment Removal and/or Dismantlement: due 60 days after Initial Startup of FS 017 (new cooling towers 15-32). This requirement may be fulfilled by the Decommissioning of FS 015 if equipment removal or dismantlement cannot be completed within the allotted time.	Minn. R. 7007.0800, subp. 6

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: FS 016 Cooling towers 11-14**Associated Items:** GP 011 22 cooling towers (used for PTE accounting only)

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. (The calculated limit at maximum operation is approximately 0.02 gr/dscf; calculated potential emissions are approximately 0.000044 gr/dscf)	Minn. R. 7011.0715, subp. 1(A)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Subject Item: FS 017 Cooling towers 15-32**Associated Items:** GP 011 22 cooling towers (used for PTE accounting only)

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. (The calculated limit at maximum operation is approximately 0.02 gr/dscf; calculated potential emissions are approximately 0.000044 gr/dscf)	Minn. R. 7011.0715, subp. 1(A)

TABLE B: SUBMITTALS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating
Permit Number: 16300005 - 005

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

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:

Permit Technical Advisor
Permit Section
Air Quality 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:

Supervisor
Compliance Determination Unit
Air Quality 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

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

What to send	When to send	Portion of Facility Affected
Initial Compliance Status Report	due 120 days after Start Of Construction. Notification must include certification that the boiler will not burn residual fuel oil. This notification can be satisfied with Application for Construction Approval.	EU028, EU030
Notification of compliance status	due 60 days after Initial Performance Test	EU028, EU030
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	EU004, EU006, EU011, EU017, EU018, EU028, EU030, FS017
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup. For the purposes of this permit, "Initial Startup" means the first firing of the boiler following the rehabilitation project.	EU001
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup. Submit the name and number of the control device and the actual date of initial startup of the control device. The notification shall also state the effective and expiration dates of the Clean Unit Designation for NOX.	CE015
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup. Submit the name and number of the control device and the actual date of initial startup of the control device. The notification shall also state the effective and expiration dates of the Clean Unit Designation for PM and PM10.	CE017
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup. Submit the name and number of the control device and the actual date of initial startup of the control device. The notification shall also state the effective and expiration dates of the Clean Unit Designation for SO2.	CE016
Notification of the Date Construction Began	due 30 days after Start Of Construction. Submit the name and number of the unit and the date construction began.	EU018
Notification of the Date Construction Began	due 30 days after Start Of Construction. Submit the name and number of the unit and the date construction began.	EU017
Notification of the Date Construction Began	due 30 days after Start Of Construction. Submit the name and number of each unit and the date construction of each unit began.	EU004, EU006, EU011, EU028
Notification of the Date Construction Began	due 60 days before Start Of Construction (or as soon as practicable) of Replacements. Submit the name and number of each unit and the date of construction of the replacement parts of each unit begun. The Permittee submitted notifications for EU 016 and EU 019.	GP004
Notification of the date of Equipment Removal/Dismantlement	due 15 days after Equipment Removal and/or Dismantlement and/or Decommissioning	EU002, FS015
Notification	due 30 days before Performance Test required under 40 CFR 63 Subpart DDDDD is scheduled to begin, submit Notification of Intent to conduct a performance test.	EU028, EU030
Performance Test Report	due 60 days after Performance Test required by 40 CFR 63 Subpart DDDDD. This report should also verify that the operating limits for the affected source have not changed or provide documentation of revised operating parameters established according to Sec. 63.7530 and Table 7 of 40 CFR 63, Subpart DDDDD, as applicable. The reports for all subsequent performance tests and fuel analyses should include all applicable information required in Sec. 63.7550. Follow the data analysis, recordkeeping, and reporting requirements in Section 63.7(g).	EU028, EU030

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

Submittal	due 120 days after 11/12/2004, Initial Notification for 40 CFR 63, Subpart DDDDD. Submittal must include applicable information from 40 CFR Section 63.7545(b)(1) and (2).	EU002, EU007, EU008, EU015
Submittal	due 200 days after Initial Startup, submit information documenting the normal ammonia injection rate observed during the first 180 days of operation when the NOX monitor showed NOX emissions to be at or below the NOX limit prescribed under Subject Item EU001. Information may be numerical, mathematical, or graphical, as necessary, to depict the predicted variation of required ammonia injection rate with the age and condition of the catalyst.	CE015
Submittal	due 200 days after Initial Startup, submit information documenting the normal lime injection rate observed during the first 180 days of operation when the SO2 monitor showed SO2 emissions to be at or below the SO2 limit prescribed under Subject Item EU001.	CE016
Testing Frequency Plan	due 60 days after Initial Performance Test for opacity emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	EU028
Testing Frequency Plan	due 60 days after Initial Performance Test for opacity. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	EU004, EU006, EU011
Testing Frequency Plan	due 60 days after Initial Performance Test to measure Opacity.	GP004
Testing Frequency Plan	due 60 days after Performance Test for PM and PM10 emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on 1-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	EU001

TABLE B: RECURRENT SUBMITTALS

03/28/05

Facility Name: Xcel Energy - Allen S King Generating

Permit Number: 16300005 - 005

What to send	When to send	Portion of Facility Affected
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 07/21/1998 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	SV001
Deviations Report	due 30 days after end of each calendar half-year starting 07/21/1998 . The first report covers January 1 - June 30. The second report covers July 1 - December 31.	Total Facility
Semiannual Continuous Compliance Report	due 30 days after end of each calendar half-year following Initial Startup	EU028
Semiannual Continuous Compliance Report	due 30 days after end of each calendar half-year following Initial Startup	EU030
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year starting 01/01/00 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 Sections 72.90(b) and 72.90(c)	EU001
Compliance Certification	due 30 days after end of each calendar year starting 07/21/1998 . This is the annual compliance certification report, covering all deviations experienced during the calendar year.	Total Facility

APPENDIX B

Facility Name: Xcel Energy - Allen S. King Generating Plant
Permit Number: 16300005-005

GP 005 Calculation

$$\text{Equation B.1} \quad \text{VOC (tpy)} = \sum_{\substack{i=\text{EU001, EU028, EU030, EU031} \\ j=\text{coke, coal, natural gas, fuel oil}}} [\text{EF}_{i,j} \times \text{HI}_{i,j}] \times \frac{1 \text{ ton}}{2000 \text{ lb}}$$

Where:

- i = emission units (EU001, EU028, EU030, EU031)
j = fuels used in the previous 12-month period, including coal, coke, natural gas, and/or fuel oil
EF = VOC emission factor obtained from the most recent version of AP-42 or the most recent stack test approved by the MPCA, if any, for each emission unit and each fuel (lb VOC/mmBtu heat input)
HI = 12-month rolling sum heat input for each fuel (mmBtu)

APPENDIX C PM₁₀ Modeling Parameters**Facility Name:** Xcel Energy - Allen S. King Generating Plant**Permit Number:** 16300005-005**PM₁₀ Modeling Parameters**

The following stack and emission parameters were used in the modeling analysis submitted August 16, 2004. Revision of any of these parameters must result in plume dispersion characteristics equivalent to or better than the plume dispersion characteristics modeled and summarized in the model submitted August 16, 2004. Revision of any of these parameters may require a major amendment.

SV ID No.	Source Description	Modeled Height (feet)	Modeled Diameter ¹ (feet)	Stack Exit Velocity (feet/sec)	Direction of Flow	Modeled Temperature (°F)	24-Hour Modeled PM₁₀ (lb/hr)	Annual Modeled PM₁₀ (lb/hr)
001	Main Boiler	785.1	18.5	95.5	Vertical	169	300	300
002	Auxiliary Boiler	210	4.26	34.9	Vertical	300	6.93	1.37
003	Coal Gallery	145	3.4	51.5	Vertical	70	1.92	1.92
004	Transfer House 1	21.3	2.5	78.1	Vertical	70	1.58	1.58
005	Coal Crusher House	76.4	3.28	45.3	Vertical	70	1.58	1.58
006	Railcar Unloading	32.8	3	163.4	Vertical	70	4.66	4.66
007	Railcar Unloading	32.8	3	163.4	Vertical	70	4.66	4.66
008	Boiler 11	40.0	4	91.5	Vertical	525	5.33	1.63
009	Boiler 12	27.9	3	41.0	Vertical	550	5.33	1.63
011	Transfer House 2	26.6	2.7	47.9	Vertical	70	1.13	1.13
012	Transfer House 5	15.7	2.7	54.5	Vertical	70	1.28	1.28
013	Emergency Generator	40.0	1.3	169.3	Vertical	891	0.80	0.071
014	Emergency Generator	40.0	1.3	169.3	Vertical	891	0.80	0.071
017	Boiler 13	27.9	3	41.0	Vertical	550	0.46	0.46
018	Flite Conveyors	104.0	3.3	31.5	Vertical	70	1.1	1.1
020	Emergency Generator	14.1	0.3	0	Horizontal	1150	0.03	0.03
023	Emergency Generator	11.1	0.3	377	Vertical	936	0.27	0.27
024	Propane Vaporizer 1	6.9	1	11.5	Vertical	550	0.014	0.014
025	Propane Vaporizer 2	6.9	1	11.5	Vertical	550	0.014	0.014
026	Radio System Emergency Generator	14.1	0.3	0	Horizontal	1150	0.029	0.029
028	Fire Pump Engine	16.1	0.3	293.3	Vertical	855	0.044	0.044

SV ID No.	Source Description	Modeled Height (feet)	Modeled Diameter ¹ (feet)	Stack Exit Velocity (feet/sec)	Direction of Flow	Modeled Temperature (°F)	24-Hour Modeled PM₁₀ (lb/hr)	Annual Modeled PM₁₀ (lb/hr)
029	Lime Day Bin	68	3.3	4.9	Vertical	70	0.21	0.21
030	Lime Storage Silo	118	3.3	3.5	Vertical	70	0.15	0.15
031	Byproduct/Fly Ash Storage	123.0	3	13.1	Vertical	70	0.56	0.56
032	Byproduct/Fly Ash Storage	115	3	9.8	Vertical	70	0.42	0.42
033	Byproduct/Fly Ash Transfer	50	1.6	53.8	Vertical	70	0.33	0.33
034	Byproduct/Fly Ash Transfer	50	1.6	53.8	Vertical	70	0.33	0.33
035	Byproduct/Fly Ash Transfer	50	1.6	53.8	Vertical	70	0.33	0.33
FS016	Cooling Tower 11	60.3	35.8	20.3	Vertical	70	0.021	0.010
FS016	Cooling Tower 12	60.3	35.8	20.3	Vertical	70	0.021	0.010
FS016	Cooling Tower 13	60.3	35.8	20.3	Vertical	70	0.021	0.010
FS016	Cooling Tower 14	60.3	35.8	20.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 15	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 16	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 17	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 18	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 19	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 20	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 21	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 22	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 23	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 24	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 25	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 26	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 27	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 28	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 29	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 30	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 31	67.3	32.2	25.3	Vertical	70	0.021	0.010
FS017	Cooling Tower 32	67.3	32.2	25.3	Vertical	70	0.021	0.010

¹ If the stack is not round (i.e., it is rectangular), this is the equivalent diameter used in the modeling analysis

APPENDIX D**Facility Name:** Xcel Energy - Allen S. King Generating Plant**Permit Number:** 16300005-005

The tables below lists the insignificant activities that are currently at the facility and their associated general applicable requirements.

Insignificant Activities and Applicable Requirements

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
3(B)	Furnaces, boilers, and incinerators:	
	2. fuel burning equipment with a capacity less than 500,000 Btu/hour but only if the total combined capacity of all fuel burning equipment at the stationary source with a capacity less than 500,000 Btu per hour is less than or equal to 2,000,000 Btu/hour. <ul style="list-style-type: none">Locomotive storage building<ul style="list-style-type: none">⇒ 3 heaters @ 75,000 Btu/hr each⇒ 1 heater @ 130,000 Btu/hr	Minn. R. 7011.0610
3(G)	Emissions from a laboratory, as defined in the subpart <ul style="list-style-type: none">Water lab activities	Minn. R. 7011.0710/0715
3(H)	Miscellaneous:	
	3. brazing, soldering or welding equipment <ul style="list-style-type: none">Welding equipment	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: <ul style="list-style-type: none">4,000 lbs/year of carbon monoxide; and2,000 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. <ul style="list-style-type: none">Loadout of dewatered slagMagnetic separator chuteSolvent use (> 200 gallons, < 1 tpy)	Minn. R. 7011.0710/0715

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
3(K)	<p>Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source, such as spray painting of buildings, machinery, vehicles, and other supporting equipment.</p> <ul style="list-style-type: none"> • Spray paint system (>200 gal/yr) for facility upkeep 	Minn. R. 7011.0710/0715
4	<p>Individual emissions units at a stationary source, each of which has:</p> <p>A. Potential emissions of 5.7 pounds per hour or actual emissions of two tons per year of carbon monoxide;</p> <p>B. 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; and</p> <p>C. For hazardous air pollutants, emissions units with:</p> <p>(1) potential emissions of 25 percent or less of the hazardous air pollutant thresholds listed in subp. 5; or</p> <p>(2) combined HAP actual emissions of one ton per year unless the emissions unit emits one or more of the HAPs listed in this subpart.</p> <p>Temporary emergency heating equipment</p> <p>Internal combustion engines</p> <p>VOC fugitives from pumps, valves, flanges on distillate forwarding system</p> <p>Distillate oil storage tanks</p> <p>Propane vaporizers 1 & 2</p> <p>Plant propane emergency generator</p> <p>Plant diesel fire pump engine</p> <p>Substation diesel emergency generator</p> <p>Plant propane radio system generator</p> <p>Plant vacuum system</p> <p>Slag house vacuum system</p>	Minn. R. 7011.0710/0715 or Minn. R. 7011.2300

Conditionally Insignificant Activities & Applicable Requirements

	Rule Description of the Activity	Applicable Requirement
Minn. R. 7008.4110	Emissions from equipment venting particulate matter (PM) or particulate matter less than 10 microns (PM ₁₀) 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. <ul style="list-style-type: none">• Sandblasting Room• Metal machining equipment	Minn. R. 7011.0710/0715

APPENDIX E – Acid Rain Forms

Facility Name: Xcel Energy - Allen S. King Generating Plant

Permit Number: 16300005-005



Phase II NO_x Compliance Plan

Page 1 of 12

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

This submission is: ☐ New ☒ Revised

STEP 1

Indicate plant name,
State, and ORIS code
from NADB, if applicable

Allen S. King Plant Name	MN State	1915 ORIS Code
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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.

D#	D#	D#	D#	D#	D#
1					
Type	Type	Type	Type	Type	Type
CY					

(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) NO_x Averaging Plan (include NO_x Averaging form)

☒☐☐☐☐☐

(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 NO_x Averaging (check the NO_x Averaging Plan box and include NO_x Averaging form)

☐☐☐☐☐☐

Allen S. King
Plant Name (from Step 1)

STEP 2, cont'd.

D#	D#	D#	D#	D#	D#
Type	Type	Type	Type	Type	Type

(m) EPA-approved common stack apportionment method pursuant to 40 CFR 75.17 (a)(2)(i)(C), (a)(2)(iii)(B), or (b)(2)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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(n) AEL (include Phase II AEL Demonstration Period, Final AEL Petition, or AEL Renewal form as appropriate)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

(o) Petition for AEL demonstration period or final AEL under review by U.S. EPA or demonstration period ongoing

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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(p) Repowering extension plan approved or under review

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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STEP 3
Read the standard requirements and certification, enter the name of the designated representative, sign & date.

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.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name	Gary D. Hudson	
Signature		Date 6/21/02



Phase II NO_x Averaging Plan

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

This submission is: ☐ New ☐ Revised

Page 1

Page 1 of 3

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 (ACEL) 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) ACEL	(c) Annual Heat Input Limit
Allen S. King	MN	1	0.86	1.05	34000000
Black Dog	MN	3	0.46	0.81	5685000
Black Dog	MN	4	0.46	0.81	11036000
High Bridge	MN	3	0.50	0.60	1771500
High Bridge	MN	4	0.50	0.60	1771500
High Bridge	MN	5	0.50	0.60	5037000
High Bridge	MN	6	0.50	0.60	10313000
Minnesota Valley	MN	4	0.46	0.47	1189000
Riverside	MN	6	0.46	0.85	4324500

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

0.54

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

Btu-weighted annual average emission rate for same units operated in compliance with 40 CFR 76.5, 76.6 or 76.7

0.54

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

≤

Where,

R_{Li} = Alternative contemporaneous annual emission limitation for 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

Plant Name (from Step 1) **Allen S. King**

NO_x Averaging - Page 2

STEP 3

Mark one of the two options and enter dates.

☒ This plan is effective for calendar year 2002 through calendar year 2006 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.

STEP 4

Read the special provisions and certification, enter the name of the designated representative, and sign and date.

Special ProvisionsEmission 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.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Gary D. Hudson	
Signature	Date 6/21/02

Plant Name (from Step 1) Allen S. King
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NO_x Averaging - Page 3

			(a)	(b)	(c)
				Alt. Contemp. Emission Limitation	Annual Heat Input Limit
Plant Name	State	ID#	Emission Limitation		

Continue the identification of units from Step 1, page 1, here.

EPA Form 7610-29 (3-97)

Permit Requirements**STEP 3****Read the
standard
requirements**

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

Monitoring Requirements

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

Sulfur Dioxide Requirements

- (1) The owners and operators of each source and each affected unit at the source shall:
 - (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)), or in the compliance subaccount of another affected unit at the same source to the extent provided in 40 CFR 73.35(b)(3), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
 - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
 - (i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
 - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

**STEP 3,
Cont'd.**

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

Excess Emissions Requirements

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

Recordkeeping and Reporting Requirements

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

- (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
- (ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
- (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
- (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
- (2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.

**Step 3,
Cont'd.****Liability, Cont'd.**

(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.

(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO_x averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.

(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;

(2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;

(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,

(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification**STEP 4**

**Read the
certification
statement,
sign, and
date**

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Mark Fritsch	
Signature	Date 1-10-03

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 16300005-005

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 Location (SIC Code: 4911)
Xcel Energy 414 Nicollet Mall Minneapolis, MN 55401	Xcel Energy – Allen S. King Generating Plant Highway 95 and Point Road Oak Park Heights, Washington County, MN 55003
Contact: Rick Rosvold Phone: (612) 330-2807	

1.2. Description of the Permit Action

The Allen S. King Generating Plant (King Plant) is a 525 MW baseload generating plant. The primary source of emissions is the coal fired cyclone boiler. Other sources at the facility include natural gas and fuel oil fired auxiliary boilers, coal and petroleum coke handling, cooling towers, and paved and unpaved haul roads.

The permit action is a reissuance of the Part 70 Operating Permit. The initial Part 70 operating permit was issued on July 21, 1998, for a term of five years. Under 40 CFR § 70.5(a)(1)(iii), an application for renewal of the permit was due on or about January 21, 2003, six months before permit expiration of July 21, 2003. The application for renewal was received on January 17, 2003; therefore, under the provisions of 40 CFR § 70.7(c)(1)(ii), the facility may continue to operate under the provisions of the existing Part 70 permit, as amended, until the Part 70 permit is reissued.

This permit action also authorizes the King Plant Rehabilitation Project, part of the Metro Emissions Reduction Project (MERP). The project results in an emissions decrease in total Particulate Matter (PM), Particulate Matter smaller than 10 microns (PM₁₀), Sulfur Dioxide (SO₂), and Nitrogen Oxides (NO_x), and the net emissions increases of the remaining New Source Review (NSR) pollutants do not exceed the significant emissions thresholds defined in 40 CFR § 52.21(b)(23)(i).

The permit also authorizes a Clean Unit Designation for PM, PM₁₀, SO₂, and NO_x emissions from the coal-fired boiler. The SO₂ and NO_x designations are provided under 40 CFR § 52.21(y), *Clean unit provisions for emissions units that achieve an emission limitation comparable to BACT*. The PM and PM₁₀ designations are provided under 40 CFR § 52.21(x), *Clean Unit Test for emissions units that are subject to BACT or LAER*. See section 3.1 and Attachment 4 of this document for additional information on Clean Units.

1.3 Description of the Activities Allowed by this Permit Action

The permit allows modification and operation of the King Plant. The Rehabilitation Project includes the installation of new pollution control equipment, modification of the plant heat rejection system, and rehabilitation and life extension of the main (coal-fired) boiler. The rehabilitation will allow the plant to operate at a capacity approaching its original design rating.

Boiler improvements will improve efficiency but will not result in an increase in fuel input to the main boiler. A new steam turbine will replace the existing turbine, but the original electric generator will remain, without modification. Therefore, there will be no increase in the generating capacity of the plant. The boiler rehabilitation consists of:

- Replacement of the furnace floor and support system.
- Installation of new cyclone burners and re-entrant throats.
- Replace furnace sidewalls and furnace floor tubes.
- Installation of induced draft fans to accommodate additional draft requirements of new control equipment.

The new (additional) control equipment will consist of:

- Selective Catalytic Reduction (SCR) reactor for control of NO_x emissions.
- Spray dryer absorber lime-based semi-dry Flue Gas Desulfurization (FGD) system for control of SO₂ emissions
- Pulse-Jet cleaned Fabric Filter (PJFF) for additional control of PM.

The project will also involve decommissioning and removal of one existing auxiliary boiler, replacing it with a new auxiliary boiler.

Modification of the heat rejection system involves decommissioning and removing 10 existing cooling tower cells and replacing them with 18 new cooling tower cells equipped with more efficient drift eliminators.

1.4. Facility Emissions:

Table 1. Title I Emissions Increase Summary

Pollutant	Emissions Increase* (tpy)	PSD Significant Thresholds for major sources	NSR Review Required? (Yes or No)
PM	-611.2	25	NO
PM ₁₀	-17.3	15	NO
NO _x	-10367	40	NO
SO ₂	-23880	40	NO
CO	68.4	100	NO
Ozone (VOC)	35.8	40	NO
Lead	0.11	0.6	NO
Sulfuric Acid Mist	-333.1	7	NO
Fluorides	0.0029	3	NO

* This is a summary of the emissions increase, as calculated using projected actuals minus past actuals. More information is shown in Table 22.

Table 2. Total Facility Potential to Emit Summary

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	HCl tpy	H ₂ SO ₄ tpy	All HAPs tpy
Total Facility Limited Potential Emissions	522.1	813.3	3027	2701	439.8	166.8	147	84.2	178
Total Facility Actual Emissions (2002)	351.6	330.6*	23271	11892	459.4	95.8	Not reported in emission inventory		

* Does not include condensable particulate matter emissions, which are included in the new limits

Table 3. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD	Source	Modification	
Part 70 Permit Program	X		
Part 63 NESHAP	X		

2. Regulatory and/or Statutory Basis

Part 70 Permit Program – The King Plant is an existing major source under Part 70 and will remain so after rehabilitation.

New Source Review – The King Plant Rehabilitation Project is not subject to Prevention of Significant Deterioration (PSD) Review for any pollutant, as shown in Table 22. The area surrounding the A.S. King plant is considered attainment for all criteria pollutants. The A.S. King Plant is an existing major PSD source. The Rehabilitation Project will be a “synthetic” minor modification to an existing major source. Xcel Energy will request “synthetic” limits to make the lower emission rates on emissions of NO_x, SO₂, PM, and PM₁₀ from the main coal-fired boiler federally enforceable. Xcel Energy also proposes voluntary synthetic limits on the operation of the duct burners and the new auxiliary boiler. The netting analysis was determined on a past actual to future projected actual emissions basis.

National Emission Standards for Hazardous Air Pollutants (NESHAP) – The new auxiliary boiler will be subject to the Industrial/Commercial/Institutional Boilers and Process Heaters (Industrial Boiler) Maximum Achievable Control Technology (MACT) standard. The Industrial Boiler MACT was promulgated on September 13, 2004, and is codified at 40 CFR pt. 63, Subpart DDDDD.

Case-by-Case MACT – The coal-fired boiler is regulated as an Electric Utility Steam Generating Unit. On December 15, 2003, the U.S. Environmental Protection Agency (EPA) announced the proposed Utility Mercury Reductions Rule (described below). Each Electric Utility Steam Generating Unit that is a major source of Hazardous Air Pollutants (HAP) and constructed or reconstructed between December 14, 2000, and final promulgation of the Utility Mercury Reductions Rule is subject to a case-by-case MACT determination under section 112(g) of the Clean Air Act.

The coal-fired boiler is a major HAP source but will not be considered a reconstructed unit. Reconstruction is defined in the 112(g) MACT rules as:

“the replacement of components at an existing process or production unit...whenever: 1) the fixed capital cost of the new components exceeds 50 percent of the fixed capital costs that would be required to construct a comparable process or production unit; and 2) it is technically and economically feasible for the reconstructed major source to meet the applicable maximum

achievable control technology emission limitation for new sources established under this subpart.” (40 CFR 63.41)

Case-by-case MACT applies if the project cost represents more than 50 percent of the installed capital cost of a new unit. Xcel Energy estimates that the boiler rehabilitation cost is 42 percent of the replacement cost. The basis for this is included in the permit application.

EPA guidance addresses the following aspects of the determination of eligible replacement and rehabilitation costs:

- Affected facility
 - Like-kind replacement
 - Applicability of NSPS guidance
 - Eligible costs
- Affected Facility - The 112(g) case-by-case MACT rule confirmed that the definition of an electric utility steam generating unit under that rule was to be consistent with other Clean Air Act provisions:

*"The definition of electric utility steam generating unit in the proposed rule is taken directly from section 112(a) of the Act."
(61 FR 68390, December 27, 1996)*

The definition of electric utility steam generating unit in section 112(a) of the Clean Air Act indicates that the affected facility is the combustion unit itself that serves a generator. The affected facility does not include the steam turbine and generator. The definition recognizes that there are units that cogenerate steam and electricity.

"Electric utility steam generating unit. - The term "electric utility steam generating unit" means any fossil fuel fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution for sale shall be considered an electric utility steam generating unit."

(Clean Air Act Section 112(a)(8), emphasis added)

The 112(g) case-by-case MACT rules specify that the rules are to be applied to “*reconstruction of existing process or production units at existing facilities.*” The preamble and rules state that a process or production unit must be capable of producing an intermediate or final product:

“The definition of ‘process or production unit’ requires that the unit to which section 112(g) applies should be ‘any collection of structures and/or equipment that processes, assembles, applies, or otherwise uses material inputs to produce an intermediate or final product.’” (61 FR 68390, December 27, 1996, emphasis added)

Although electricity is the final product of an electric generating plant, steam qualifies as an intermediate product because steam from a given boiler could be directed to more than one steam turbine or used for purposes other than generating electricity. Therefore, the boiler, without the steam turbine and generator, is the appropriate “process unit” in the context of the 112(g) rules.

Additional insight into the EPA’s rationale for determining what constitutes an “electric utility steam generating unit” is provided in the Federal Register preamble to the interpretive rule regarding stationary combustion turbines. The preamble language addresses the steam turbine and generator to the extent that they determine the purpose of the combustion unit. The language suggests that the steam turbine and generator are not actually a part of the “electric utility steam generating unit”:

“The phrase ‘steam generating unit’ in the term ‘electric utility steam generating unit’ is critical to interpreting which types of combustion units are covered by this definition and which types are not. The definition clearly covers a conventional fossil fuel fired steam generating unit (e.g. coal-fired boiler) which extracts heat from the combustion of fuel and generates steam for use in a steam turbine, which in turn provides shaft power to spin an electric generator and generate electricity.” (65 FR 34011, May 25, 2000, emphasis added)

- Like-Kind Replacement - Although Xcel Energy could opt to replace the existing cyclone boiler with another type of boiler (e.g. circulating fluidized bed or pulverized coal boiler), it is necessary to compare the rehabilitation cost with the replacement cost of a like-kind cyclone boiler. This is confirmed by an EPA guidance memo concerning a boiler re-tubing project, which states:

"The term "comparable entirely new facility" would consist of a new boiler with identical components to the repaired boiler" (Teknor Apex, September 3, 1999).

- Applicability of NSPS Guidance - The available EPA guidance supports use of the NSPS criteria for determining if a project constitutes reconstruction under the 112(g) case-by-case MACT provisions. As noted previously, the 112(g) rules confirm that the 112(g) rules and the NSPS rules share a common definition of “electric utility steam generating unit” as specified in Section 112(a) of the Clean Air Act. Further, the 112(g) preamble guidance on reconstruction confirms reliance upon the rules and guidance established by the NSPS program:

"3. Reconstruction. Section 112(g) continues the concept of "reconstruction" contained in past regulatory programs. The concept of reconstruction is intended to prevent the circumvention of ‘new source’ requirements by completely overhauling existing equipment. Current air pollutant emission standards under previous requirements of the Act treat replacement of components as a reconstruction if replacement represents more than 50 percent of the capital cost of the new unit." (61 FR 68392, December 27, 1996, emphasis added)

- Determination of Eligible Costs - The guidance indicates that only costs associated with the boiler system are to be considered when determining if work on an electric utility steam generating unit constitutes reconstruction. This boundary was originally defined in EPA guidance issued for determining the applicability of New Source Performance Standards to an electric utility steam generating unit (Florida Electric, November 25, 1986). In summary, the boundary includes:
 - ⇒ Coal handling system starting at the coal bunker
 - ⇒ Steam generating system, which is limited to the firebox, boiler tubes, and circulating pumps at the boiler
 - ⇒ Ash handling system up to the discharge to the ash hopper
 - ⇒ Breeching up to, but not including, the air pollution control equipment or stack

The referenced guidance specifically excludes, among other items, air pollution control equipment, stack, steam turbine and electric generating equipment.

- Comparison of Rehabilitation Project Cost with Replacement Cost -- The overall cost of the A.S. King Rehabilitation Project is estimated to be approximately \$382 million. Of this total, about \$308 million are costs that, in accordance with EPA guidance, must be excluded from the comparison with replacement cost for the purpose of determining if the project qualifies as “reconstruction.” A breakdown of the total project costs, which summarizes the costs to be included and excluded from the comparison, is shown in Appendix F.¹

A comparison of the rehabilitation project costs with the replacement costs for a new cyclone boiler is itemized in Appendix D.² A cost comparison shows that the \$74.6 million rehabilitation cost is 42 percent of the installed cost of a new cyclone boiler. The accounting of the rehabilitation project costs is comprehensive. The cost comparison is considered “conservative” because not all of the corresponding eligible costs have been included in the estimated cost for the replacement boiler, especially for those items for which the guidance directs that they be included only to the extent they directly serve the boiler. Including all eligible costs would serve to increase the replacement costs, thereby decreasing the ratio of rehabilitation cost to replacement costs. If all of these costs were to be included, the ratio of rehabilitation to replacement costs would be significantly less than 42 percent.

Although not required by regulation and policy, Xcel Energy also compiled estimates of the boiler replacement cost if the existing cyclone boiler were to be replaced with a supercritical pulverized coal boiler and a circulating fluidized bed boiler. These two boiler types were chosen for comparison because they represent two of the most common demonstrated technologies for application to new boilers today. The rehabilitation project cost is only 41 percent of the cost of replacing the boiler with a new supercritical pulverized coal boiler and 39 percent of the cost of replacement with a circulating fluidized bed boiler. Again, these are conservative estimates because not all of the corresponding eligible costs have been included in the estimates for the replacement boilers, especially for those items for which the guidance directs that they be included only to the extent they directly serve the boiler. If all of these costs were to be included, the ratio of rehabilitation to replacement costs would be significantly less than the values stated in the permit application.

Conclusion -- The A.S. King Rehabilitation Project does not constitute “reconstruction” under 40 CFR § 63.41. Therefore, it is not necessary to perform a case-by-case determination of MACT for control of Hazardous Air Pollutants in advance of the promulgation of the final Utility Mercury Reductions Rule.

Utility Mercury Reduction Rule -- The coal-fired boiler will be subject to the Utility Mercury Reductions Rule. The proposed Utility Mercury Reductions Rule was announced on December 15, 2003, and was published in the Federal Register on January 31, 2004 (Docket ID No. OAR-2002-0056). With this proposal, the EPA is seeking comments on two approaches for reducing mercury emissions from coal-fired power plants. The first approach calls for the installation of currently available controls that represent the MACT to reduce nationwide mercury emissions by 29 percent by the end of 2007 according to EPA’s estimates. The second approach would set a mandatory declining cap on the total mercury emissions allowed from coal-burning plants nationwide. This approach, which allows emissions trading, is expected to reduce mercury emissions by nearly 70 percent from current levels once facilities reach a final mercury cap, which takes effect in 2018.

Requirements of PUC’s Order approving the Metro Emissions Reduction Project — The Minnesota Public Utilities Commission (PUC) gave final approval to Xcel’s proposed plan titled the “Metro Emissions Reduction Project” (MERP) in its March 8, 2004 Order.³ The approval consists of Xcel’s

¹ MPCA Note: Appendix F is part of the permit application, not included in this document.

² MPCA Note: Appendix D is part of the permit application, not included in this document.

³ PUC, March 8, 2004. Order Approving Xcel’s Proposed Plan, subject to the Terms of a Settlement Agreement and Additional Conditions and Clarifications. Docket No. E-002/M-02-633.

proposed plan and rate rider, subject to the conditions of the Settlement Agreement. The Settlement Agreement stipulates several conditions related to the air emissions permit for AS King.

As a condition of approval of the MERP, Xcel must:

- Ensure that the design of the King plant will incorporate the latest available information about dry sorbent injection (including activated carbon injection technology) so that the plant is designed and built to accommodate the technology in the future.
- Perform a series of assessments of mercury in solid fuels, ash and stack emissions to determine baseline mercury levels after the King plant is returned to service.
- Prepare a report reviewing the current status of mercury-removal technology, the status of regulatory efforts controlling mercury from utilities, and related costs. This report is due prior to of with Xcel's submittal to the PUC of its 2004 Resource plan. According to verbal communication with Xcel, both of these reports (the mercury technology report and its 2004 Resource Plan) will be submitted to the PUC in early November (the mercury report is concurrently submitted to the MPCA).

The air quality control equipment being added at this time is expected to reduce mercury emissions by approximately 20 percent from current levels. Xcel reports that while Xcel Energy has not completed optimization studies or any detail design for potential mercury control technologies, based on current industry information, the design for the King Plant does not preclude the retrofit of dry sorbent technology (including activated carbon injection technology) or other appropriate technology in the future. Based on conceptual information to date, there is sufficient physical space in the design to allow the retrofit of mercury control equipment within the air quality control system footprint.

This permit contains conditions for sampling mercury in coal, ash and air emissions from the King power boiler, thus incorporating the second condition related to assessing mercury at the King facility. Finally, at the time this permit was drafted, the report reviewing the status of mercury control as described by the third condition above was not available for the MPCA for review or comment.

New Source Performance Standards (NSPS) – The existing flite conveyors and the modified EU006, EU011, and EU004 are subject to Subpart Y. The new auxiliary boiler is subject to Subpart Dc. The coal-fired boiler is not subject to any NSPS because the boiler's rehabilitation cost is less 50 percent of the equipment replacement cost. Therefore the boiler is not considered reconstructed, as above for the case-by-case MACT. The flite conveyors are subject to Subpart

Acid Rain Program – Following rehabilitation, the A.S. King Generating Plant will remain subject to the SO₂ and NO_x provisions of Title IV of the Clean Air Act. The King plant will continue to be allocated SO₂ allowances and will meet the requirements of Title IV with these allocations. The King Plant will also continue to meet these requirements by participating in Xcel Energy's NO_x averaging plan for the state of Minnesota. The Title IV documents for the A.S. King Plant are found in Appendix E.

Minnesota State Rules --

Air Emission Standards - The main coal-fired boiler and the existing boilers 11,12, and 13 will continue to be subject to Minnesota's Existing Indirect Heating Equipment Rules, Minn. R. 7011.0510. The ammonia vaporizer, dilution air heater, and supplemental duct burners will be subject to Minnesota's Direct Heating Equipment Rules, Minn. R. 7011.0610. The emergency generators are subject to Minnesota's standards for stationary internal combustion engines, Minn. R. 7011.2300. Coal handling and yard traffic and the flite conveyors are subject to Minnesota's standards for coal handling facilities. The lime and flyash handling and storage activities are subject to Minnesota's standards for industrial process equipment.

Environmental Review -- The Rehabilitation Project does not meet any of the criteria that would trigger a mandatory environmental review requirement.

A Site Permit from the Minnesota Environmental Quality Board (EQB) is required for construction of a new Large Electric Generating Plant (LEGP), which is defined as one having a generating capacity greater than or equal to 50 MW. The A.S. King Generating Plant is an existing LEGP. Certain types of modifications to existing LEGPs also require a Site Permit from the EQB.

Under Minn. R. 4400.0650(C), no Site Permit is required from the EQB for

- 1) maintenance or repair of a LEGP;
- 2) modification of a LEGP as long as the plant capacity is not increased by the greater of 10 percent or 100 MW and the modification does not require expansion beyond the developed portion of the site; or
- 3) refurbishment of a LEGP that does not expand the capacity of the plant or expand the plant beyond the developed portion of the site and the refurbishment does not require a Certificate of Need from the Public Utilities Commission (PUC).

No Site Permit is required for the A.S. King Rehabilitation Project because the project constitutes refurbishment of the main boiler without expanding the rated plant capacity or expanding the plant beyond the developed portion of the site. Although the PUC approved the Rehabilitation Project as part of the MERP, the PUC did not need to issue a Certificate of Need to Xcel Energy to authorize the project.

Exemption from the requirement to obtain a Site Permit does not dismiss the potential to trigger the requirement to prepare an Environmental Assessment Worksheet under Minn. R. 4410.4300. There are 35 subparts in this rule; each subpart describes criteria for a specific category of facility or project that would trigger a mandatory requirement to prepare an Environmental Assessment Worksheet (EAW). The Rehabilitation Project does not meet any of the 35 sets of criteria.

Air Emissions Risk Analysis - The preparation of an Air Emissions Risk Analysis is not required for the A.S. King Rehabilitation Project. The current Air Emissions Risk Analysis Guide specifies that an AERA must be prepared in conjunction with a Site Permit, Environmental Impact Statement, or EAW for a project that causes a change in potential emissions of 100 tons per year or more of any pollutant as specified in Minn. R. 4410.4300, subpart 15.

As noted in the previous section, the Rehabilitation Project does not meet any of the criteria that would trigger a mandatory environmental review requirement. Even if one of the EAW criteria, other than those specified in Subpart 15, were to be met, the change in potential emissions for the King Rehabilitation project are less than the 100 tons per year for all pollutants.

Ambient Air Quality Analysis - There is no regulatory requirement to perform air dispersion modeling before permit issuance because the Rehabilitation Project is not subject to PSD review. The total quantity of air emissions will decline with operation of the proposed air pollution control equipment.

However, Xcel Energy conducted modeling for PM₁₀ emissions using the ISC air dispersion model to demonstrate that the small increase in emissions of particulate matter from all sources other than the main boiler, although offset in magnitude by reductions in emissions from the main boiler stack, will not cause or contribute to a violation of the State and National Ambient Air Quality Standards for PM₁₀ at receptor locations near the facility (See Attachment 2 for additional details).

In addition, NO_x and SO₂ modeling is not required for the Clean Unit Designations for NO_x and SO₂. The MPCA's "New Source Review (NSR) Reform Modeling Guidance: Policies and Procedures" describes the modeling policy for Clean Units. Section 4.2 of the policy specifies the "off-ramps" for units being designated as Clean Units.

Table 4 summarizes the regulations applicable to the new or modified units.

Table 4. Regulatory Overview of Units Affected by the Modification/Permit Amendment

EU, GP, or SV	Applicable Regulations	Comments:
GP003 (coal handling & coal yard traffic)	Modeling limits	Operation of the operations included in GP003 are limited to operating from 6:00 a.m. to 8:00 p.m. daily.
	Minn. R. 7011.1105	Minnesota Standards for coal handling facilities
GP005 (EU001, EU028, EU030, EU031)	Title I Limits – Synthetic minor limits	Fuel usage limits so that the modification is not major under NSR.
EU030, EU031	Minn. R. 7011.0610	Ancillary combustion sources are subject to Minnesota standards for Direct Heating Equipment.
EU034, EU035, EU036, EU037, EU038	Title I Conditions: Synthetic minor limits	Emission limits and hours of operation limits such that the modification is not major under NSR
EU032, EU033, EU034, EU035, EU036, EU037, EU038	Minn. R. 7011.0715	Minnesota Standards for Industrial Process Equipment
EU001	40 CFR § 52.21(x)	BACT limit set for PM and PM ₁₀ . Units are Clean Units under 52.21(x).
	40 CFR § 52.21(y)	Clean Unit limits set for SO ₂ and NO _x .
	Title I Conditions: Synthetic minor limits	PM, PM ₁₀ , SO ₂ , and NO _x are limited so that modification is not major under NSR.
EU004, EU006, EU011	NSPS Subpart Y	Modified coal handling operations (replaced conveyors) are newly subject NSPS.
EU028, EU030	NESHAP Subpart DDDDD	New auxiliary boiler and ammonia vaporizer are subject to the requirements of the Industrial Boiler MACT standard

3. Technical Information

3.1 MERP, Clean Units, BACT, and Determination of Main Boiler Limits

3.1.1. MERP Proposal

The following table was taken from the MPCA's *Review of Xcel Energy's Metropolitan Emission Reduction Proposal*, (MERP Review Document), December 30, 2003 (www.pca.state.mn.us/publications/reports/xcelenergy-metroemissionproposal.pdf). (It was originally Table 2 on page 10 of the document – for references on where the numbers in the table originated, please see the original document.)

Table 5. Comparison of Emission Data, including New Source Performance Standards, recent New Source Review Limits, existing and proposed emission rates for Xcel A. S. King.

	Capacity		NO _x	SO ₂	PM ₁₀
	<i>MW</i>	<i>MMBtu/hr</i>	<i>Lb/MMBtu</i>	<i>Lb/MMBtu</i>	<i>Lb/MMBtu</i>
Current King Emissions	504	5205	0.71	1.39	0.019
New Source Performance Standards			0.60	1.2	0.03
Recent Best Available Control Technology determinations for coal-fired facilities					
Range of recent BACT determinations			0.07 – 0.15	0.12 – 0.25	0.015 – 0.018
Median of BACT determinations			0.095	0.155	0.017
Emissions, King Rehabilitated (MERP)	564	5205	0.10	0.12	0.018

At the time of the MERP Review Document, the proposed NO_x, SO₂, and PM₁₀ emission rates for the rehabilitated boiler reflected control levels that were thought to be representative of the application of BACT.

With the application to implement the MERP project, Xcel Energy seeks a Clean Unit Determination (CUD). Since the project emissions as permitted do not exceed the significant emissions thresholds of 40 CFR § 52.21(b)(40) and are therefore not subject to NSR or BACT, the CUD was initially sought under the provisions of 40 CFR § 52.21(y).

3.1.2 Clean Unit Designations

A Clean Unit is an emissions unit that:

- has been issued a major NSR permit requiring compliance with Best Available Control Technology (BACT)⁴ or Lowest Achievable Emission Rate (LAER), is complying with BACT or LAER requirements, and is meeting the requirements of 40 CFR § 52.21(x), **or**
- has been designated as a clean unit based on achieving an emission limitation deemed comparable to BACT, as defined at 40 CFR § 52.21(y)⁵.

Changes at Clean Units are exempt from NSR review if the change does not cause the Clean Unit to exceed its permitted allowable emissions or require modification of its work practice requirements. Clean

⁴ BACT is defined as “an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under the Act which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant (40 CFR § 52.21(b)(12)).

⁵ “Comparable to BACT” is defined as “achieving an emission limitation that is equal to or better than the average of the emission limitations achieved by all the sources for which a BACT or LAER determination has been made within the preceding 5 years and entered into the RBLC, and for which it is technically feasible to apply the BACT or LAER control technology to the emissions unit.”

Unit status can be valid for up to 10 years after startup of the Clean Unit's control technology or work practices, or depending on the situation, 10 years after permit issuance.

The changes at the King plant are not subject to BACT, since the difference between the projected actual emissions and past actual emissions of NO_x, PM, PM₁₀, and SO₂ are lower than the significance thresholds in the PSD regulation. (In other words, the project nets out of review for these pollutants and is minor for other PSD pollutants.) Because of this, the first option by which an emissions unit can become a Clean Unit (i.e., meeting the requirements of 40 CFR § 52.21(x)) is not available to Xcel Energy for this project.

Xcel instead followed the requirements of 40 CFR § 52.21(y)(4). To demonstrate that the main boiler's NO_x, PM, PM₁₀, and SO₂ emissions are controlled by technology comparable to BACT, Xcel first compiled a list of the BACT and LAER determinations entered in the RACT/BACT/LAER Clearinghouse (RBLC) for each pollutant during the most recent five-year period. The control technology/work practice is presumed to be comparable to BACT if it achieves an emission limitation that is equal to or better than the average of the emission limitations achieved by all sources for which a BACT or LAER determination has been made within the preceding five years and entered into the RBLC. The projects included in the analysis were limited to those that the MPCA agreed are suitable for comparison because of boiler size, fuel, type of service, and other factors. The results of the evaluation are summarized in Table 6. Additional documentation is provided in Attachment 3 of this TSD.

Table 6 Summary of Clean Unit Control Technology Assessment

Pollutant	Proposed Emission Limit (lb/MMBtu)	5-yr Average BACT/LAER (lb/MMBtu)	Number of Representative BACT/LAER Determinations
NO _x	0.10	0.092	13
SO ₂	0.12	0.12	10
PM	0.015	0.043	12
PM ₁₀	0.030	0.022	7

As the table illustrates, the proposed limits for PM and SO₂ fall at or below the average of the representative BACT/LAER determinations. Under the PSD regulation, the main boiler is then considered to be a Clean Unit for SO₂. (This is true also for PM₁₀; however, Xcel chose to perform an additional analysis for PM that is described below.) The Clean Unit status for SO₂ will begin upon startup of the spray dryer absorber and expire 10 years after startup. The Clean Unit status for PM will begin upon startup of the fabric filter and expire 10 years after startup.

The table also shows that the NO_x and PM₁₀ limits exceed the average of the representative BACT/LAER determinations. Even so, the MPCA determined that these limit are comparable to BACT. The rationale for these determinations is somewhat different for the two pollutants.

In its Clean Unit review for NO_x, the MPCA acknowledges that the King plant boiler differs from the boilers for which appropriate BACT/LAER determinations have been made as it is a cyclone boiler.

Cyclone boilers typically have higher NO_x emissions than other types of boilers. The RBLC database does not contain any cyclone units for comparison. The units in the RBLC database are either Pulverized Coal (PC) fired boilers or Circulating Fluidized Bed combustors (CFB). Based on information in AP-42⁶, and assuming the use of the same coal, a cyclone boiler has 3.4 times the uncontrolled NO_x emission rate of a CFB unit and 2.4 times the uncontrolled NO_x emission rate of a NSPS PC unit. After

⁶ Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: *Stationary Point and Area Sources*. (<http://www.epa.gov/ttn/chief/ap42/index.html>).

the A.S. King cyclone boiler is equipped with SCR for NO_x control, the MPCA expects it to have a slightly higher controlled NO_x rate than either a CFB or PC unit with the same NO_x removal percentage. For this reason, the MPCA found that a NO_x emission rate of 0.10 lb NO_x/mmBtu – just higher than the RBLC average level of 0.092 lb NO_x/mmBtu – is justifiable as comparable-to-BACT and eligible for Clean Unit Status. The Clean Unit status for NO_x will begin upon startup of the SCR and will expire 10 years after that startup.

The Clean Unit review of the PM₁₀ limit also started with a listing of the BACT and LAER determinations entered in the RBLC. Xcel Energy's proposed limit of 0.030 lb PM₁₀/mmBtu exceeded the RBLC average of 0.022 lb PM₁₀/mmBtu.

The MPCA investigated the discrepancy between the proposed limit and the RBLC average by contacting the individuals who submitted the RBLC entries. In its analysis, the agency noticed that permitting authorities vary in their methods of establishing PM₁₀ limits; not all BACT determinations currently in the RBLC accounted for the condensible fraction of PM₁₀. (In Minnesota, the required stack testing method used for PM₁₀ includes CPM. See Minn. R. 7017.2060, subp. 4.) Emissions of condensible particulate matter (CPM) can account for a significant portion of total PM₁₀ emissions from a coal-fired boiler, particularly for well-controlled facilities.

Rather than rely solely on a comparison with other BACT determinations, Xcel Energy supplemented that information a top-down analysis, similar to that performed to select Best Available Control Technology, or BACT. Xcel Energy performed this analysis for PM₁₀.

BACT requires a case-by-case determination of the limit. This determination is typically based on the performance that the chosen control equipment actually achieves in practice. In contrast, the "average of all determinations" required for a demonstration that a limit is "comparable to BACT" may be affected by determinations submitted to the RBLC that have not actually been achieved by a functioning emission unit.

The top-down process is described in section 3.1.3. The Clean Unit status for PM₁₀ will begin upon startup of the fabric filter and expires ten years after that startup.

Note that the PM₁₀ emissions rate proposed in this permit is higher than that presented in the MERP Review Document. The limit presented in the MERP Review Document was based on information existing at the time of the review of the MERP proposal. During the preparation of this permit, the MPCA and Xcel conducted additional analysis. They concluded that the PM₁₀ emission limit must be changed from the value in the MERP Review Document.

The MPCA believes that the MERP PM₁₀ limit of 0.018 lb/MMBtu was assumed based on BACT determinations that did not include condensible particulate matter, and is not likely to be achieved using the approved PM₁₀ test methods. In the two years since the MERP project was proposed, utilities and regulatory agencies have also gained experience and understanding about how the use of SCR control for NO_x affects the makeup and measurement of particulate matter emissions from coal-fired boilers.

Attachment 3 of this document includes the CUD Request, submitted by Xcel Energy on August 16, 2004, and the results of the MPCA's. The CUD request includes the results of the search for BACT determinations in the past five years, as well as the BACT average determined from the search results.

A summary of the Clean Unit's basis for determination and required monitoring is given below; further information can be found in Attachment 3.

Table 7 Basis for Clean Unit Designation

Clean Unit/ Control Equipment	Title I Emission Limits	Clean Unit Designation Parameters	Title I Related Monitoring, Recordkeeping and Reporting Requirements
EU001	PM: 0.015 lb/mmBtu heat input, on a fuel basis PM ₁₀ : 0.030 lb/mmBtu heat input, on a fuel basis SO ₂ : 0.12 lb/mmBtu heat input, on a CEMS measured basis NO _x : 0.10 lb/mmBtu heat input, on a CEMS measured basis	Heat Input Total: 5420 mmBtu/hr (EU001, EU030, and EU031, combined).on a fuel-basis; 5710 lb/mmBtu on a CEMs –measured basis Use of selective catalytic reduction (SCR) for NO _x control Use of spray dryer for SO ₂ control Use of fabric filter for PM & PM ₁₀ control	Maintain records of the total heat input to EU001, EU030, and EU031
Total Facility			The requirements related to maintain parameters used in modeling

3.1.3 Top Down Analysis

To supplement its Clean Unit proposal, Xcel Energy provided a top-down analysis for PM₁₀. This analysis is included in Attachment 3 to this document. On August 16, 2004, Xcel Energy proposed a PM₁₀ limit of 0.055 lb/MMBtu, using Methods 201A/202, as prescribed in Minnesota Rules.

The MPCA determined that, based on very recent applicable BACT determinations available (not necessarily the same determinations on which the MERP proposal was made), the demonstrated achievable limit for PM₁₀ is 0.030 lb/MMBtu. Xcel will be required to demonstrate compliance with this PM₁₀ emissions limit EPA test methods 201A and 202, per Minn. R. 7017.2060, subp. 4.

The method for measuring compliance with an emissions limit is integral to the emission limit itself, because the limit was established from the results of a specific test method. There are a number of different methods used for measure particulate matter from coal fired boilers, each measuring a different type or groups of types of particulate matter. Method 5, used to measure compliance with the PM limit of 0.015 lb/mmBtu, collects PM that is solid at 350 degrees. This is referred to as “filterable”PM. Method 201A measures the fraction of filterable PM that has an aerodynamic diameter of less than 10 microns, and Method 202 measures the fraction of PM released from a stack that condenses in the air. Total PM₁₀, the regulated pollutant, is the sum of the filterable PM₁₀ and condensible PM measured by Methods 201A and 202.

During the permitting process, Xcel raised concerns about potential biases that increase the measured quantity of PM₁₀ when using Method 202 at a coal-fired boiler. Xcel states that the use of SCR to control NO_x (which requires injecting ammonia), as planned for the King plant, increases these biases. Minnesota’s rules allow an air emission facility’s owner or operator to propose alternative or equivalent emission testing methods to the MPCA. The permit restates this option with the PM₁₀ limit.

Including this provision does not imply MPCA’s approval nor acceptance of a proposed alternative or equivalent test method. The MPCA will consider the context of such a proposal, the conditions under which it is made, and the results and impacts if such a proposal is accepted. Additionally, the MPCA

would seek input and guidance from EPA, first in determining whether the MPCA would be prohibited by EPA from approving alternative or equivalent test methods in this instance, as well as EPA's expertise in understanding its testing methods.

3.2 Calculations of Potential to Emit and Emissions Increase Analysis

3.2.1 Future Projected Actual/Future Potential Calculations

Calculations of future projected actual and future potential emissions were computed for all new and existing units affected by the Rehabilitation Project. These units include:

- Main Boiler
- New Auxiliary Boiler
- New ammonia vaporizer and supplemental duct burners
- Cooling Towers
- Fuel handling point source and fugitive emission sources
- Pebble lime handling sources
- Flue gas desulfurization (FGD) byproduct/fly ash handling sources

The future projected actual annual emissions are based on an annualized capacity factor of 85 percent of the normal dependable capacity for the main coal boiler and associated fuel-handling emissions sources. The maximum hourly emission rates for the boiler are based on the peak firing rate. It is appropriate to base future annual emission estimates on the normal dependable firing capacity instead of the peak firing rate because the peak firing rate cannot be sustained over an extended period due to slagging. The maximum hourly rates based on the peak firing rate were used in the PM₁₀ air dispersion modeling analysis because it is possible to maintain the peak firing rate for at least 24 hours, which is the averaging period for the short-term PM₁₀ ambient air quality standard.

The cooling towers' future projected actual emissions are based on six months of operation at 100 percent utilization of the cooling tower design capacity. Future projected actual emissions from the new auxiliary boiler are based on synthetic limits on fuel oil consumption.

3.2.1.1 Main Boiler Rehabilitation

The proposed NO_x, SO₂, and PM/PM₁₀ emission rates for the rehabilitated boiler reflect control levels that are representative of the application of BACT or controls that are comparable to BACT (see section 3.1). Xcel's dispersion modeling submittal included the PM₁₀ stack emissions at a rate of 0.055 lb/MMBtu. (0.030 lb/MMBtu is the federally enforceable limit.)

The normal dependable heat input capacity of the main boiler is expected to remain relatively unchanged from the original value of approximately 5,240 MMBtu/hr. The normal dependable heat input is the rate that the main boiler can sustain in baseload operation on a continuous basis over an extended time period. The improvements will also enable the main boiler to operate at a short-term peak heat input of 5,450 MMBtu/hr. The boiler will not be able to sustain this peak input for an extended time period due to excess slag formation under the firing condition.

The annual future actual and future potential emissions of NO_x and SO₂ from the main boiler are calculated using a heat input of 5,710 MMBtu/hr. This value was chosen by Xcel Energy to be consistent with past actual NO_x and SO₂ emissions computed by CEMS data. Heat inputs calculated based on CEMS flow measurements have been shown over time to exceed fuel input-based inputs by about ten percent. Fuel input-based calculations, based on the fuel consumption rate and heating value of each fuel type (each coal type and petroleum coke) provide a more accurate determination of heat input. However, the higher CEMS-based measurements were used to provide a consistent basis for determining the change from past actual levels of NO_x and SO₂, which are also based on CEMS measurements.

Future annual emissions of PM, PM₁₀, CO, VOCs and other regulated pollutants (except NO_x and SO₂) were calculated using the fuel input-based normal dependable heat input of 5,240 MMBtu/hr. The high bias of the CEMS-based heat inputs would overestimate future emissions, and subsequently the net emissions increase, for these pollutants. The actual heat input values of 5,240 MMBtu/hr was used to calculate future potential and future projected emission on the same basis since past actual emissions are based on historical fuel consumption data and fuel heating values for each fuel type.

Several statistical methods were applied by the Permittee to derive the CEMS-based normal dependable heat input value of 5710 MMBtu/hr, used to calculate future potential and future projected actual NO_x and SO₂ emissions:

- Over three years of CEMS heat input data was analyzed
- Only heat input data that corresponded with a load of 500 MW or greater were used
- Erroneous data was filtered using three standard deviations from the normalized linear trend of all data for loads of 500 MW or greater
- The 95 percent upper confidence limit was computed from all heat inputs that were determined at load settings equal to or greater than 602 MW (90 percent of the maximum instantaneous (1-hr average) recorded load value).

The difference between the CEMS-based normal dependable heat input value of 5710 MMBtu/hr derived using the methodology described previously and the rated normal dependable heat input of the boiler of 5240 MMBtu/hr is consistent with the differences obtained from direct comparisons of CEMS-based and fuel-based determinations of heat input during stack testing. The most recent stack tests used for the analysis were performed on June 10, 2003, and October 21, 1998. A comparison of the two heat value calculations indicates that the CEMS-based heat values were 5 to 10 percent higher than the corresponding fuel input-based heat values. A summary of the test data and percent difference between the heat value methods is provided in Table 8. Applying the same CEMS biases (5.63 and 10.34 percent) observed during stack testing to the rated boiler heat input value yields a CEMS-based heat input rating range of 5,535 MMBtu/hr to 5,782 MMBtu/hr. The normal dependable heat input value of 5,710 MMBtu/hr used to calculate the future potential and future projected actual annual emissions of NO_x and SO₂ falls within this range.

Table 8 Comparison of Fuel-Based and CEMS-Based Boiler Heat Inputs During Stack Testing

	Fuel -Based Heat Input (MMBtu/hr)	CEMS-Based Heat Input (MMBtu/hr)	Percent Difference (%)
6-10-03 Stack Test			
Test Run 1	4924.9	5231.5	5.86
Test Run 2	4943.8	5256.9	5.96
<u>Test Run 3</u>	<u>5943.8</u>	<u>5207.9</u>	<u>5.07</u>
Average	4937.5	5232.1	5.63
10-21-98 Stack Test			
Test Run 1	4559.8	5055.6	9.81
Test Run 2	4455.4	5071.8	12.15
<u>Test Run 3</u>	<u>4612.1</u>	<u>5071.7</u>	<u>9.06</u>
Average	4542.4	5066.4	10.34

The future hourly emission rates of PM, PM₁₀, CO, VOCs and other regulated pollutants (except NO_x and SO₂) were calculated with the peak fuel based heat input of 5,450 MMBtu/hr. In addition, a peak CEMS-based heat input of 5,939 MMBtu/hr was used to calculate short-term NO_x and SO₂ emissions from the

main boiler. This value was adjusted upward from the normal dependable CEMS-based heat input of 5,710 MMBtu/hr. The maximum hourly PM₁₀ emission rate based on the peak heat input was used in the PM₁₀ modeling demonstration described in Attachment 2 because, although the peak firing rate cannot be sustained on a long term basis, it is possible that this rate could be sustained for a 24-hour period, which is the averaging period for the short-term ambient air quality standards and increments.

No change in CO and VOC emission performance is expected to result from the boiler rehabilitation. CO emissions are based on CO emission concentration measurements taken at the main boiler air heater inlet and outlet. The CO emission rate was calculated using the method outlined in Title 40 of the Code of Federal Regulations (CFR), Part 60, Appendix A, Method 19. The average CO emission factor (lb/MMBtu) based on all test data was used to compute the future projected actual and future potential emissions. VOC and lead emissions were calculated using AP-42 emission rates. The main boiler can burn subbituminous coal, petroleum coke, and natural gas (as a start-up fuel). The CO, VOC, and lead emissions presented are based on the worst-case (highest emissions) fuel option.

The sulfuric acid calculations are computed using an engineering method (Black & Veatch, 2004) based on the conversion of a portion of the SO₂ emissions to SO₃ and the subsequent conversion of SO₃ to sulfuric acid. It is assumed that 1 (one) percent of the SO₂ is converted to SO₃ in the boiler and that an additional 1 (one) percent is converted in the SDA control system. This method is believed to yield results that are more representative than those from the empirical statistical method relied upon in the original application submitted in April 2004.

The basis of calculation for each pollutant is summarized in Table 9.

Table 9 Basis of Calculation of Future Emissions from the Main Boiler

Pollutant	Basis
PM	Proposed level after control
PM ₁₀	Proposed level after control
SO ₂	Proposed level after control
NO _x	Proposed level after control
CO	Test Data
VOC	AP-42 Sections 1.1 and 1.4
Lead	AP-42 Sections 1.1 and 1.4
Sulfuric Acid	Engineering Method (Black & Veatch, 2004)
Fluorides	AP-42 Sections 1.1 and 1.4

The future actual projected and future potential emissions associated with the main boiler are presented in Table 10. Documentation of the calculations is provided in Attachment 1.

Table 10 Future Projected Actual/Future Potential Annual Emissions for Main Boiler Basis: 5,240 MMBtu/hr (normal dependable fuel-based heat input) except as noted for SO₂ and NO_x

Pollutant	Projected Actual Emissions @ 85% Capacity Factor (tpy)	Future Potential Emissions @ 100% Capacity Factor (tpy)
PM	292.6	344.3
PM ₁₀	585.3	688.5
SO ₂ *	2551.0	3001.2
NO _x *	2125.8	2501.0
CO	236.1	277.7
VOC	127.3	149.7

Lead	0.49	0.57
Sulfuric Acid**	71.6	84.3
Fluorides**	0.02	0.02

* Basis: 5710 MMBtu/hr (normal dependable CEMS-based heat input)

** Does not include potential reductions across SCR, SDA and PJFF.

3.2.1.2 New Auxiliary Boiler

As part of this project, Xcel Energy will install a new auxiliary boiler. The maximum heat input of the proposed boiler is 99 MMBtu/hr. It will be fired with natural gas with fuel oil back-up. Table 11 provides the future actual/future potential emissions associated with the new auxiliary boiler.

Operation of the auxiliary boiler is limited by a proposed two-tier limit on fuel consumption that also involves the main boiler, ammonia vaporizer, and supplemental duct burners. The two-tier limit is designed to ensure that the like-kind net PM₁₀ emissions increase remains below the PSD significant increase threshold. The net increase in like-kind PM₁₀ emissions is the "controlling" parameter for qualifying the Rehabilitation Project as a synthetic minor modification under PSD.

The first tier places firm natural gas consumption limits on the auxiliary boiler. The future actual emissions for the auxiliary boiler are based on a rolling 12-month limit of 380.95 million cubic feet (mmcf) of natural gas consumption and 500,000 gallons per year of fuel oil consumption. Emissions are based on worst-case fuel combination; either all natural gas or a combination of fuel oil and natural gas.

Emissions for NO_x, CO and VOC are worst-case firing natural gas. Emissions for PM/PM₁₀, SO₂, lead, mercury, beryllium, and fluorides are worst-case firing a combination of fuel oil and natural gas. The future actual calculations for those pollutants are based on 500,000 gallons per year limit of fuel oil and the remainder of operation burning natural gas.

The second tier limit essentially allows increased use of the auxiliary boiler in the event that the main boiler utilization is down significantly from the 85 percent capacity factor that is the basis for future projected actual emissions. The second tier limit is designed to maintain the overall netting analysis based on the actual fuel consumption by the auxiliary boiler, main boiler, ammonia vaporizer, supplemental duct burners, and operation of select coal handling dust collectors.

When the main boiler is not operational, the following coal handling sources, which are each controlled by a baghouse, are also not operational: EU003 - Coal Gallery, EU005 - Crusher House, EU010 - Transfer House 2, and EU016 - Flite Conveyors. The second tier limit allows for an increase in fuel oil consumption of the auxiliary boiler on a sliding scale up to 1,750,000 gallons per year depending on how many hours the main boiler and consequently the coal handling sources identified above are not operational over a 12-month rolling time period. The PM₁₀ emissions that would be emitted by the extra fuel oil use in the auxiliary boiler would be off-set by the PM₁₀ emissions not being emitted when the coal handling sources are not operational.

As noted above, when the main boiler is operational at the 85 percent capacity factor (the basis for the future projected actual emissions), the auxiliary boiler must have an annual fuel oil limit of 500,000 gallons per year. If the fuel oil consumption were increased to 1,750,000 gallons per year, the PM₁₀ emissions from the auxiliary boiler would increase by 5.5 tons per year (see calculations in Attachment 3 for additional detail). In order to off-set the 5.5 ton increase in emissions, the main boiler and the specified coal handling sources controlled by a baghouse would need to be shut down (not operational) for 2,000 hours per year. The emissions from these sources were computed using air flow, the proposed allowable PM/PM₁₀ concentration in the exhaust, and hours of operation.

The 1,750,000 gallon limit on annual fuel oil consumption remains in effect under the Tier 2 permit limit to ensure that the net increase in beryllium emissions remains below the PSD significant increase threshold.

Table 11 Projected Actual/Future Potential Emissions for New Auxiliary Boiler (EU 028)

Pollutant	Projected Actual Emissions (tpy)	Future Potential Emissions (tpy)
PM	3.9	30.4
PM ₁₀	3.9	30.4
SO ₂	1.8	21.7
NO _x	19.0	69.4
CO	17.0	36.9
VOC	4.0	8.7
Lead	1.8E-04	1.2E-03
Fluorides	1.6E-06	1.4E-05

^a Emission factors in lb/MMscf

^b Emission factors in lb/Mgal

3.2.1.3 New Ammonia Vaporizer and Supplemental Duct Burners

As part of this project, Xcel Energy will install an ammonia vaporizer to service the SCR NO_x control system and supplemental duct burners. The maximum firing rate of the proposed ammonia vaporizer is 13.5 MMBtu/hr and the supplemental duct burners is 165 MMBtu/hr. All units will be fired with natural gas. Table 12 provides the projected actual/future potential emissions associated with the new equipment. The basis of all emissions is AP-42 Section 1.4. The projected actual emissions are based on operation at 100 percent capacity for 8,760 hours per year, except for the supplemental duct burners for which natural gas consumption is limited by federally enforceable permit condition to 392,885,000 cf per year. Additional documentation is provided in Attachment 3. The emissions from these sources are vented through the main stack. NO_x, SO₂, and PM/PM₁₀ emissions from these sources are controlled by the SCR reactor, SDA lime-based semi-dry FGD system and PJFF, respectively. The appropriate control efficiencies were applied to the uncontrolled emissions. Both uncontrolled and controlled future actual/future potential emissions are provided below.

Table 12 Future Projected Actual Emissions for Ammonia Vaporizer and Supplemental Duct Burners

Pollutant	Emission Factor (lb/MMcf)	Future Potential Emissions, Uncontrolled (tpy)	Limited/Projected Actual Emissions, Controlled (tpy)	Basis for Emissions
Ammonia Vaporizer (EU 030)				
PM	7.6	0.43	4.3E-03	AP-42 Section 1.4
PM ₁₀	5.7	0.43	4.3E-03	AP-42 Section 1.4
SO ₂	0.6	0.03	2.9E-03	AP-42 Section 1.4
NO _x	140	7.9	1.1	AP-42 Section 1.4
CO	84	4.7	4.7	AP-42 Section 1.4
VOC	5.5	0.31	0.31	AP-42 Section 1.4
Lead	5.0E-04	2.8E-05	2.8E-05	AP-42 Section 1.4
Fluorides	2.8E-06	1.6E-07	1.6E-07	AP-42 Section 1.4
Supplemental Duct Burners (EU 031)				
PM	7.6	1.5	1.5E-02	AP-42 Section 1.4
PM ₁₀	5.7	1.5	1.5E-02	AP-42 Section 1.4
SO ₂	0.6	0.12	1.0E-02	AP-42 Section 1.4
NO _x	140	27.5	3.9	AP-42 Section 1.4
CO	84	16.5	16.5	AP-42 Section 1.4
VOC	5.5	1.1	1.1	AP-42 Section 1.4
Lead	5.0E-04	9.8E-05	9.8E-05	AP-42 Section 1.4
Fluorides	2.8E-06	5.5E-07	5.5E-07	AP-42 Section 1.4

3.2.1.4 Cooling Towers

Currently there are 14 cooling tower cells at the A.S. King facility. In conjunction with this project, an additional 18 cells will be added and 10 of the 14 existing cells will be decommissioned and dismantled resulting in a total of 22 installed cells in the final configuration. The drift loss rate for the new cells will be lower than for the 10 decommissioned cells. Table 13 provides documentation for the future actual/future potential emissions from all 22 cooling tower cells that will be operated upon project completion. The future potential and future projected actual cooling tower emissions are based on 100 percent utilization of the maximum capacity.

Table 13 Future Projected Actual/Future Potential Emissions for Cooling Tower Cells

Q =	340,000 gal/min
Drift Loss	0.002 %
TDS	145 ppm
	$E_{PM} = Q * \text{Drift Loss} * \text{TDS}$
E_{PM} =	0.49 lb solids/hr (for all 22 cells)
E_{PM} Future Potential =	2.2 tpy (for all 22 cells)
E_{PM} Future Projected Actual =	2.2 tpy (for all 22 cells)
	94.5% PM ₁₀ /100% PM
E_{PM10} =	0.47 lb solids/hr (for all 22 cells)
E_{PM10} Future Potential =	2.1 tpy (for all 22 cells)
E_{PM10} Future Projected Actual =	2.1 tpy (for all 22 cells)

* PM and PM₁₀ emissions are based on 8760 hours per year.

3.2.1.5 Coal Handling and Fugitive Sources

There are several fugitive sources at the A.S. King facility. The fugitive sources emit only PM and PM₁₀ emissions. The fugitive sources include the following:

- Paved haul roads
- Unpaved haul roads
- Storage piles -wind erosion
- Coal and fly ash unloading
- Coal reclaim hoppers
- Coal storage pile maintenance
- Coal handling
- Petroleum coke unloading station

Xcel Energy will add three (3) haul road segments as part of the project. The existing petroleum coke, slag and fly ash haul road paths will be relocated. The path lengths are slightly different than the current haul road lengths. These changes are taken into account in the future actual and future potential calculations. Additional traffic will occur as a result of this project, namely increased vehicle trips associated with the increase in fuel handling due to the increased boiler utilization, scrubber reagent trucks, SCR reagent trucks, scrubber solids trucks, and slag (main boiler bottom ash) trucks. Future potential haul road emissions are based on the worst case truck traffic counts (maximum number of trips per day x 365 days per year). The future actual annual haul road emissions reflect more appropriate haul truck traffic counts scaled in accordance with the projected actual annual fuel consumption.

Paved and unpaved haul road emissions were calculated using AP-42 paved and unpaved haul road equations. Storage pile wind erosion emissions are based on AP-42 Section 13.2.5 (1995). Maximum sustained wind speed data from St. Cloud, Minnesota for August 1996 to August 1997 were used. Hourly wind erosion emissions were estimated by adjusting the annual average PM₁₀ emission rate by a scalar

factor dependent upon the hourly wind speed using the methodology described in Appendix B of *PM₁₀ Air Quality Modeling Analysis for Xcel Energy's Allen S. King Generating Plant*, March 29, 2002 (McVehil-Monnet Associates, Inc.).

Unloading emissions were based on the methodology prescribed in AP-42, page 12.2.4-3 (1995). Coal storage pile maintenance emissions were calculated using the bulldozing and grading PM₁₀ emission factor equations from Table 11.9-1 (7/1998). A petroleum coke unloading station will also be installed as part of this project. Emissions were based on the calculation procedures prescribed by AP-42, pages 12.2.4-3 (1995) emission factors. Future potential emissions from coal handling sources were based on the potential hours of operation (i.e. 8,760 hours per year) and a grain loading factor as outlined in the A.S. King plant's Part 70 Air Emissions Permit Reissuance Application, January 2003. Future projected actual emissions from coal handling sources were based on the projected actual hours of operation and the proposed allowable PM/PM₁₀ emission concentrations. The future projected actual hours of operation for the coal handling sources controlled by baghouses are as follows:

- 8,760 hours per year: EU003 - Coal Gallery, EU005 - Crusher House, EU010 - Transfer House 2, EU016 - Flite Conveyors
- 5,094 hours per year (14 hours per day): EU004 - Transfer House 1, EU006 - Coal Unloading, EU011 - Transfer House 5

The emissions are broken into four (4) groups: paved roads, unpaved roads, coal handling controlled by a dust collector, and fugitive coal handling sources. The fugitive coal handling group includes unloading, wind erosion, and coal storage maintenance. Table 14 provides the projected actual and future potential emissions for fugitive sources.

Table 14 Future Projected Actual/Future Potential Emissions for Coal Handling and Fugitive Sources

Source Group	Projected Actual PM Emissions (tpy)	Projected Actual PM ₁₀ Emissions (tpy)	Future Potential PM Emissions (tpy)	Future Potential PM ₁₀ Emissions (tpy)
Paved Haul Roads	27.6	5.4	32.5	6.3
Unpaved Haul Roads	26.7	7.4	31.4	8.6
Coal Handling (w/dust collectors)	56.1	56.1	78.4	78.4
Fugitive Coal Handling	5.7	2.4	6.2	2.6
Total	116.2	71.3	148.5	96.0

Future projected actual and future potential emissions of fluorides from the fugitive coal yard activities were also estimated. Xcel Energy performed sampling and analysis to determine the composition of various fuels and materials handled at the facility as part of a study conducted in 1998. The estimates of fugitive PM emissions were apportioned using this composition data to estimate the fugitive emissions of fluorides. To simplify the calculations, it was conservatively assumed that the highest concentrations of fluorides observed in any sample applied to all of the fugitive emission sources in the coal yard. The chemical compositions used to apportion the PM emissions are provided below in Table 15.

Table 14 Future Projected Actual/Future Potential Emissions for Beryllium, Mercury and Fluorides

Pollutant	Percentage of Total PM (%)	Future Projected Actual Emissions (tpy)	Future Potential Emissions (tpy)
PM	100	116.2	148.5
Fluorides	2.2E-03	2.6E-03	3.3E-03

3.2.1.6 Lime and FGD Byproduct/Fly Ash Systems

There are seven (7) additional proposed commodity handling sources associated with the rehabilitation project. Additional documentation for each source is provided below. Emissions from these sources are controlled by fabric filters. Future potential emissions for the lime handling and storage system and FGD byproduct/fly ash system are conservatively based on airflow, a proposed emission concentration limit of 0.01 gr/dscf, and operation 8,760 hours per year. Future projected actual emissions for both systems are based on airflow, a proposed emission concentration limit of 0.01 gr/dscf, and operation 14 hours per day, 7 days per week, 52 weeks per year (or 5,096 hours per year). Table 15 provides additional documentation. These sources have only PM/PM₁₀ emissions.

Table 15 Lime and FGD Byproduct/Fly Ash System Emission Calculations

Source	Maximum Rate (acfm)	Emission Limit (gr/dscf)	Future Projected Actual/Limited Operating Hours	Future Projected Actual/Limited Emissions (tpy)
Lime Silo Day Bin Vent	2,500	0.01	5,096	0.55
Lime Storage Silo Vent	1,800	0.01	5,096	0.39
Byproduct/Fly Ash Storage Silo Bin Vent	6,540	0.01	5,096	1.43
Byproduct/Fly Ash Recycle Silo Bin Vent	4,850	0.01	5,096	1.06
Byproduct/Fly Ash Transfer Station Mechanical Exhauster (3)	3,800	0.01	5,096	0.83 (per exhauster)

Potential emissions are summarized in Table 2 and in Attachment 1. Projected actuals are summarized in Table 1 and, and the calculations shown in Attachment 1.

3.2.2 Past Actual Calculations

The actual emissions baseline was determined in accordance with the New Source Review Reform Rules (67 FR 80186-80314, December 31, 2002). The rules specify that the baseline emissions for Electric Utility Steam Generating Units (EUSGUs) should be based on any consecutive 24-months within the period five years prior to a particular change. The consecutive 24-month period can be different for each pollutant analyzed, but must be consistent among all units analyzed for a particular pollutant. Construction is scheduled to begin in March 2005. Therefore the eligible baseline period starts in March 2000. Below is a summary of the consecutive 24-month periods chosen for each pollutant:

- PM/ PM₁₀ - January 2002 to December 2003
- SO₂ - April 2002 to March 2004
- NO_x - April 2002 to March 2004
- CO - January 2002 to December 2003
- VOC - September 2001 to August 2003
- Lead - January 2002 to December 2003

Past actual emissions were computed for the existing main boiler, cooling towers, and fugitive emissions. In addition, the existing auxiliary boiler will be decommissioned as a result of the project.

The following sections outline the methodology for determining the past actual emissions.

3.2.2.1 Existing Main Boiler

The past actual NO_x and SO₂ emissions for the main boiler are based on CEMS data. Monthly emission totals based on CEMS data are provided in Attachment 1.

The PM emissions are based on the most recent particulate emission compliance test program performed on June 10, 2003. The test consisted of three 60-minute test runs. The average particulate emission rate was used in the calculations. The next most recent test was performed in 1998, which is outside the baseline emissions period. The average emission factor based on the 2003 test is 0.054 lb/MMBtu. This agrees very well with the average of all tests conducted since 1977, which is 0.055 lb/MMBtu.

The PM₁₀ emissions were calculated by apportioning the PM emission rate from the June 2003 stack test using a PM₁₀ fraction value. The PM₁₀ fraction was determined from AP-42 Section 1.1 (9/98), Table 1.1-6 for pulverized coal dry bottom boilers. This is most representative of the cyclone boiler at the A.S. King Plant.

CO emissions are based on engineering testing, where measured CO concentration measurements were taken at the main boiler air heater inlet and outlet. The CO emission rate was calculated using the method outlined in 40 CFR pt. 60, Appendix A, Method 19. The average CO emission factor (lb/MMBtu) was applied to the monthly heat input totals to calculate the total emissions for each month.

Past actual VOC and lead emissions are based on AP-42 emission factors. Monthly fuel usage values for the main boiler were used in conjunction with the specified emission factors to determine the past actual emissions.

Past actual sulfuric acid emissions were calculated using the engineering method described for the future potential and future projected actual emissions. It is assumed that 1 (one) percent of the past actual SO₂ emissions, as reported by the CEMS, were converted to SO₃ and that the SO₃ was converted completely to sulfuric acid.

Table 16 outlines the basis for past actual calculations for the main boiler.

Table 16 Basis of Calculations of Past Actual Emissions from the Main Boiler

Pollutant	Basis
PM	2003 Stack Test
PM ₁₀	2003 PM Stack Test, AP-42 Size Distribution
SO ₂	CEMS
NO _x	CEMS
CO	Test Data
VOC	AP-42 Sections 1.1 and 1.4
Lead	AP-42 Sections 1.1 and 1.4
Sulfuric Acid	Engineering Method (Black & Veatch, 2004)
Fluorides	AP-42 Sections 1.1 and 1.4

Past actual calculations are presented in Table 17. Additional documentation is provided in Attachment 1 to this document.

Table 17 Past Actual Emissions for the Main Boiler

Pollutant	Past Actual Emissions (tpy)
PM	916.9
PM ₁₀	614.3
SO ₂	26433.1
NO _x	12516.4
CO	205.5
VOC	96.9
Lead	0.38
Sulfuric Acid	404.8
Fluorides	1.5E-02

3.2.2.2 Existing Auxiliary Boiler

The existing auxiliary boiler will be decommissioned as part of the proposed modification. Creditable decreases will occur as a result of decommissioning this source. Creditable emission decreases and the basis for determining these values are summarized in Table 18.

Actual PM, PM₁₀, SO₂, NO_x, CO, VOC, lead, and fluoride emissions from the auxiliary boiler are calculated based on AP-42 emission factors as outlined in Table 19. Past actual monthly fuel usage data is available for the existing auxiliary boiler. This data will be used in conjunction with the AP-42 emission factors. Additional documentation is provided in Attachment 1.

Table 18 Past Actual Emissions for the Existing Auxiliary Boiler

Pollutant	Past Actual Emissions (tpy)	Basis for Emissions
PM	0.03	AP-42 Section 1.3 and 1.4
PM ₁₀	0.03	AP-42 Section 1.3 and 1.4
SO ₂	0.002	AP-42 Section 1.3 and 1.4
NO _x	0.20	AP-42 Section 1.3 and 1.4
CO	0.38	AP-42 Section 1.3 and 1.4
VOC	0.03	AP-42 Section 1.3 and 1.4
Lead	2.2E-06	AP-42 Section 1.3 and 1.4
Fluorides	1.3E-08	AP-42 Section 1.3 and 1.4

3.2.2.3 Cooling Towers

Currently there are only 14 cooling tower cells at the A.S. King facility. The drift loss rate for the 10 oldest cells is higher than that for the four newest existing cells. The past actual emissions were calculated using the same methodology as the future actual/future potential emissions. The calculation input parameters and results are summarized in Table 19 below. Additional documentation is provided in Attachment 1.

Table 19 Past Actual Emissions for Cooling Tower Cells

$Q_{10 \text{ oldest}} =$	180,000 gal/min
$Q_{4 \text{ newer}} =$	50,000 gal/min
Drift Loss $_{10 \text{ oldest}} =$	0.02 %
Drift Loss $_{4 \text{ newer}} =$	0.001 % (Vendor Guarantee)
TDS	121 ppm
	$E_{PM} = Q * \text{Drift Loss} * \text{TDS}$
Actual Average Operating Hours (Jan 2002 - Dec 2003) =	3058 hr/yr
$E_{PM} =$	2.21 lb solids/hr (for all 14 cells)
	3.3 8 tpy (for all 14 cells)
	94.5% PM ₁₀ /100% PM
$E_{PM10} =$	2.09 lb solids/hr (for all 14 cells)
	3.19 tpy (for 14 cells)

3.2.2.4 Coal Handling and Fugitive Sources

The fugitive sources of PM and PM₁₀ emissions are described in Section 3.2.1.5. As noted, several haul road paths will change as a result of the Project. The past actual emission calculations are based on the current haul road paths at the facility. Emissions from all fugitive sources were calculated in the same manner as described in Section 3.2.1.5. Table 20 provides a summary of the past actual emissions for fugitive sources. Additional documentation is provided in Attachment 1.

Table 20 Past Actual Emissions for Coal Handling and Fugitive Sources

Source Group	Past Actual Emissions (tpy)	
	PM	PM
Paved Haul Roads	16.2	3.2
Unpaved Haul Roads	39.1	10.7
Coal Handling (w/dust collector)	53.1	53.1
Fugitive Coal Handling	3.3	1.4
Total	111.7	68.3

Past actual emissions for fluorides were calculated in the same manner as described in Section 3.2.1.5. Table 21 provides a summary of the past actual emissions of fluorides.

Table 21 Past Actual Emissions for Fluorides

Pollutant	Past Actual Emissions (tpy)
PM	111.7
Fluorides	2.5E-03

3.2.3 Summary of PSD Netting Emission Calculations

In order to determine if the Rehabilitation Project is subject to PSD review, netting calculations were performed for the units described in Sections 3.2.1 and 3.2.2. Two tests are available to determine PSD applicability:

- Past actual to future potential emissions
- Past actual to future projected actual emissions.

Both tests were applied to the Rehabilitation Project. The past actual emissions were subtracted from the future projected actual and future potential emissions to determine the net emissions increase for the Rehabilitation Project. Table 22 (next page) provides the netting calculations for both PSD applicability tests.

The netting calculations in Table 22 indicate that the net emission increases for all pollutants are below the respective PSD thresholds for the past actual to future projected actual emissions scenario. CO and VOC are the only pollutants that exceed the PSD threshold for the past actual to future potential emissions scenario. Due to these findings, the netting analysis is based on the past actual to future projected actual applicability test.

Xcel Energy also evaluated the "like kind" changes in stack emissions and fugitive emissions of PM and PM₁₀ to ensure that the emissions netting would not have an adverse impact on public health. The definition of "net emissions increase" is specified in 40 CFR § 52.21(b)(3)(vi)(c). The rule states, "a decrease in actual emissions is creditable only to the extent that it has approximately the same qualitative significance for public health." The U.S. Environmental Protection Agency's (EPA's) NSR Workshop Manual (Draft October 1990) further clarifies how the above definition of "net emissions increase" should be applied:

"Current EPA policy is to assume that an emissions decrease will have approximately the same qualitative significance for public health and welfare as that attributed to an increase, unless the reviewing agency has reason to believe the reduction in ambient concentrations from the emissions decrease will not be sufficient to prevent the proposed emissions increase from causing or contributing to a violation of any NAAQS or PSD increment. "

Table 23 (following Table 22) segregates the netting calculations for PM/ PM₁₀ emissions for the main boiler from the emission calculations for all other sources in the analysis. This is based on the location of the maximum modeled 24-hour average impacts for these emission source groups as demonstrated through previous modeling submittals. The maximum PM₁₀ impacts from the main stack emissions occur approximately 5 kilometers (km) from the plant boundary. All other source impacts are generally at a maximum on or near the facility fenceline.

Table 22 Netting Calculations

Pollutant	Projected Actual Emissions						Past Actual Emissions				Difference (tpy)	PSD Threshold (tpy)
	Main Boiler	Auxiliary Boiler	Cooling Towers	Coal Handling/ Fugitives	Ancillary Sources*	Lime/Fly Ash	Main Boiler	Auxiliary Boiler	Cooling Tower	Coal Handling/ Fugitives		
PM	292.6	3.9	2.17	116.2	0.02	5.9	916.9	0.03	3.4	111.7	-611.2	25
PM ₁₀	585.3	3.9	2.05	71.3	0.01	5.9	614.3	0.03	3.2	68.3	-17.3	15
SO ₂	2551.0	1.8	--	--	0.01	--	26433.1	0.002	--	--	-23880	40
NO _x	2125.8	19.0	--	--	5.0	--	12516.4	0.20	--	--	-10367	40
CO	236.1	17.0	--	--	21.2	--	205.5	0.38	--	--	68.4	100
VOC	127.3	4.0	--	--	1.4	--	96.9	0.03	--	--	35.8	40
Lead	0.49	1.8E-04	--	--	1.3E-04	--	0.38	2.2E-06	--	--	0.11	0.6
Sulfuric Acid	71.7	--	--	--	--	--	404.8	--	--	--	-333.1	7
Fluorides	1.8E-02	1.6E-06	--	3.4E-03	7.1E-07	--	1.6E-02	1.3E-08	--	2.5E-03	2.9E-03	3
Pollutant	Future Potential Emissions						Past Actual Emissions				Difference (tpy)	PSD Threshold (tpy)
	Main Boiler	Auxiliary Boiler	Cooling Towers	Coal Handling/ Fugitives	Ancillary Sources*	Lime/Fly Ash	Main Boiler	Auxiliary Boiler	Cooling Tower	Coal Handling/ Fugitives		
PM	344.3	30.4	2.17	148.5	0.06	10.2	916.9	0.03	3.4	111.7	-496.4	25
PM ₁₀	688.5	30.4	2.05	96.0	0.04	10.2	614.3	0.03	3.2	68.3	141.4	15
SO ₂	3001.2	21.7	--	--	0.04	--	26433.1	0.002	--	--	-23410	40
NO _x	2501.0	69.4	--	--	14.7	--	12516.4	0.20	--	--	-9932	40
CO	277.7	36.9	--	--	62.5	--	205.5	0.38	--	--	171.2	100
VOC	149.7	8.7	--	--	4.1	--	96.9	0.03	--	--	65.6	40
Lead	0.57	1.2E-03	--	--	3.7E-04	--	0.38	2.2E-06	--	--	0.19	0.6
Sulfuric Acid	84.3	--	--	--	--	--	404.8	--	--	--	-320.6	7
Fluorides	2.1E-02	1.4E-05	--	3.9E-03	1.9E-06	--	1.6E-02	1.3E-08	--	2.5E-03	6.4E-03	3

* Ancillary sources include Ammonia Vaporizer and Supplemental Duct Burner.

Table 23 "Like-Kind" Netting Analysis

Main Boiler Emissions				
Pollutant	Projected Actual Emissions (tpy)	Past Actual Emissions (tpy)	Difference (tpy)	PSD Threshold (tpy)
PM	292.6	916.9	-624.3	25
PM ₁₀	585.3	614.3	-29.1	15
All Other Source Emissions				
PM	128.2	115.1	13.1	25
PM ₁₀	83.2	71.5	11.6	15

The "like-kind" netting calculations show that there is a large net reduction in the main boiler emissions for both PM and PM₁₀. The netting analysis calculations for all other source emissions alone indicate that the future projected actual fugitive PM and PM₁₀ emissions do not exceed the respective PSD thresholds.

The NSR Draft Workshop Manual also specifies that the applicant may need to "demonstrate that the proposed netting transaction will not cause or contribute to an air quality violation before the emissions reduction may be credited." Xcel Energy conducted PM₁₀ air dispersion modeling using the ISC air dispersion model to satisfy the Clean Unit Designation modeling requirement (see Attachment 2 for additional documentation) and to demonstrate that the slight increases in PM and PM₁₀ emissions from the sources other than the main boiler, which are below the respective PSD thresholds, will not cause or contribute to an air quality violation. Attachment 2 provides additional documentation for the air dispersion modeling analysis.

3.2.4 Comparison of Current Potential and Future Potential Emissions

An EAW must be prepared for projects that cause potential emissions to change by more than 100 tons per year of any pollutant.

The future potential emissions were determined by the methodology outlined in Section 3.2.1 of this document. The current potential emissions are computed for the main boiler, existing auxiliary boiler, cooling tower, and fugitives.

3.2.4.1 Current Potential Emissions

3.2.4.1.1 Main Boiler

The NO_x and SO₂ emissions from the main boiler are based on current emission rates presented in Table 24 below. (These emission rates were also presented in Table 2 of the MPCA's Review of MERP Proposal [Reference 1].) The PM emissions were computed in a similar manner as the past actual emissions discussed in Section 3.2.2 for the main boiler. The PM emission factor was based on the June 10, 2003 stack test. Similarly, the PM₁₀ emissions were based on the June 2003 PM stack test data and the size distribution provided in AP-42 Section 1.1 (9/98) Table 1.1-6. The CO emissions are based on engineering testing, which measured CO concentrations at the air heater inlet and outlet. The CO emission rate was calculated using the method outlined in 40 CFR 60, Appendix A, Method 19. The average CO emission factor (lb/MMBtu) was used in the calculations. The VOC and lead emission rates were calculated from AP-42 emission factors. Additional documentation is provided in Attachment 1.

Table 24 Current Emission Rates for the Main Boiler

NO _x	0.71 lb/MMBtu
SO ₂	1.391b/MMBtu

3.2.4.1.2 Existing Auxiliary Boiler

The emissions from the existing auxiliary boiler were computed using AP-42 emission factors using the worst case fuel. Additional data is provided in Attachment 1.

3.2.4.1.3 Cooling Tower

The current potential emissions for the cooling tower are computed in the same manner as the past actual emission outlined in Section 3.2.2. Additional documentation is provided in Attachment 1.

3.2.4.1.4 Coal Handling and Fugitives

The fugitive sources considered for the current potential emissions are the same sources identified in the past actual emissions calculation portion of Section 3.2.2. The current haul road paths were used to compute the roadway current potential emissions. Emissions from all sources were calculated in the same manner as described in Section 3.2.1.5. Additional documentation is provided in Attachment 1.

3.2.4.2 Change in Potential Emissions

The change in potential emissions is presented in Table 25.

Table 25 Potential Emissions Changes for the A.S. King Rehabilitation Project

Pollutant	Future Potential Emissions (tpy)	Current Potential Emissions (tpy)	Difference (tpy)	EAW Threshold (tpy)
PM	535.66	1414.9	-879.24	100
PM ₁₀	826.24	942.0	-115.76	100
SO ₂	3025.14	34970.7	-31945.6	100
NO _x	2585.1	17815.3	-15230.2	100
CO	377.1	310.4	66.7	100
VOC	162.5	145.6	16.9	100
Lead	0.58	0.55	0.03	100

Potential emissions will remain the same or decrease for all pollutants except CO and VOC. However, the net changes in potential emissions for these two pollutants do not exceed the EAW threshold.

3.3 Periodic Monitoring

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

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

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

Table 26 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 26 Periodic Monitoring

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
Boilers EU007 & EU008 (GP001)	Fuel usage: limited to a total of 770 million cubic feet per year of natural gas (synthetic minor limit set in a previous permit to keep a previous modification non-major for NSR)	Monthly calculations of natural gas usage	
	NO _x : limited to 0.1 lb/MMBtu from each boiler (synthetic minor limit set in a previous permit to keep a previous modification non-major for NSR)	Performance testing: Annual for EU007, every 36 months for EU008	Performance test frequency is based on the results of previous tests, in accordance with current MPCA stack test frequency guidance.
	PM ₁₀ : Limited to 0.037 lb/MMBtu from each boiler	None	Potential emissions based on AP-42 factors for natural gas combustion are approximately 0.01 lb/MMBtu. Violation of the limit is unlikely.
	Compliance with Industrial Boiler MACT (Subpart DDDDD) by 9/13/07)	Initial Notification submittal	
Emergency generators EU013 & EU014 (GP002)	SO ₂ : 0.5 lb/MMBtu for each generator Opacity: ≤ 20 % (Minn. R. 7011.2300) Sulfur content of fuel: 0.5% by weight	Recordkeeping of sulfur content of fuel	If the sulfur content of the fuel is less than or equal to 0.5% by weight, then mass balance dictates that the SO ₂ emissions will be less than 0.5 lb/MMBtu.
	Hours of operation: 816 hours per year combined (synthetic minor limit set in a previous permit to keep a previous modification non-major for NSR)	Recordkeeping of hours of operation, calculation of 12-month rolling sum	
Coal & coke handling and coal yard traffic (GP003)	Operating hours: limited to 6:00 a.m. to 8:00 p.m. (modeling limit)	Recordkeeping of operating hours	
Flite Conveyors (GP004)	PM: 0.02 gr/dscf Opacity: 20% opacity (NSPS Limits)	Testing as required by the NSPS	
	PM ₁₀ : 0.008 gr/dscf (modeling limit)	Baghouse O&M, daily visible emission readings	

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
GP005	Natural gas and fuel oil usage limitations (Title I limit)	Daily recordkeeping of quantity and heat content of each fuel used Monthly calculation of rolling sum	
	VOC emission limitation (Title I limit)	Daily records of quantity and heat content of each fuel, hours of operation Monthly calculation of rolling sum	
EU030 and EU031 (GP006)	PM: 0.3 gr/dscf or as allowed depending on gas flow rate (Minnesota rules)	Periodic testing, as described for EU001	These units exhaust through SV001 along with EU001, which is subject to more restrictive limitations. The emissions from SV001 (including EU001 and EU030 and EU031) are already subject to testing requirements.
Lime storage and handling, FGD byproduct and fly ash storage and handling (GP007 and GP008)	PM/PM ₁₀ : 0.01 gr/dscf (Title I limits)	Proper baghouse O & M, daily reading of pressure drops	With proper operation and maintenance of the baghouses controlling these sources of dust, it is not expected that significant emissions will occur. Condensable particulate is not an issue
	Annual hours of operation (Title I limit, modeling limit)	Daily recordkeeping of operating hours Monthly calculation of rolling sum	
Watered fugitive emission sources (GP010)	Frequency of watering	Recordkeeping of weather and ground conditions, records of water applications	
EU001 (Main Boiler)	PM: 0.015 lb/MMBtu (Title I, BACT, Clean Unit)	Proper baghouse O & M, periodic testing	
	PM ₁₀ : 0.030 lb/MMBtu (Title I, BACT, Clean Unit)	Proper baghouse O & M, periodic testing	
	SO ₂ : 0.12 lb/MMBtu (30 day rolling average) (Title I, Clean Unit) SO ₂ : 1.6 lb/MMBtu (annual average) (MN acid deposition rules) SO ₂ : 3.0 lb/MMBtu (1-hr average) (modeling limit)	Proper O & M of dry scrubber, operation of continuous emissions monitoring system	

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
EU001 (Main Boiler)	NO _x : 0.10 lb/MMBtu (30 day rolling average) (Title I, Clean Unit)	Proper O & M of SCR system, operation of continuous emissions monitoring system, periodic testing of ammonia slip	
	Determination of mercury emission rate (to establish baseline prior to promulgation of mercury standards)	Daily samples of as-burned solid fuel blend and fly ash, testing of quarterly composite samples to determine mercury content, periodic testing of mercury emissions	
EU002 (existing auxiliary boiler)	Compliance with Industrial Boiler MACT (Subpart DDDDD) by 9/13/07)	None	It is expected that this boiler will be removed prior to that date
EU003, EU005, EU010 (Coal handling)	PM ₁₀ : 0.008 gr/dscf (modeling limit, state only) Opacity: 20% opacity (Minnesota rules)	Proper O & M of fabric filters, visible emission monitoring	With proper operation and maintenance of the baghouses controlling these sources of dust, it is not expected that significant emissions will occur. Condensable particulate is not an issue
EU004, EU006, EU011 (Coal handling)	PM ₁₀ : 0.008 gr/dscf (modeling limit, state only) Opacity: 20% opacity (NSPS Subpart Y)	Proper O & M of fabric filters, visible emission monitoring	With proper operation and maintenance of the baghouses controlling these sources of dust, it is not expected that significant emissions will occur. Condensable particulate is not an issue
	Annual hours of operation (Title I limit)	Daily recordkeeping of operating hours, monthly calculation of rolling sum	
EU015 (Boiler)	NO _x : 0.13 lb/MMBtu (limit set in a previous permit for undocumented reasons, carried forward here)	Annual performance testing	Performance test frequency is based on the results of previous tests, in accordance with current MPCA stack test frequency guidance.
	Compliance with Industrial Boiler MACT (Subpart DDDDD) by 9/13/07)	Initial Notification submittal	
EU028 (New auxiliary boiler)	PM: 0.03 lb/MMBtu (Industrial Boiler MACT standard)	Records of fuel usage, limited to natural gas and distillate oil	As required by standard
	Hydrogen chloride (Hydrochloric acid): 0.0005 lb/MMBtu (Industrial Boiler MACT standard)	Records of fuel usage, limited to natural gas and distillate oil	As required by standard

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
EU028 (New auxiliary boiler)	Carbon monoxide: 400 ppb (Industrial Boiler MACT Standard)	Performance test	As required by standard
	SO ₂ : 0.5 lb/MMBtu (NSPS Subpart Dc)	Recordkeeping of sulfur contents of fuel oil used	
	Opacity: 20% opacity (NSPS Subpart Dc)	Performance test as required by rule	
EU030 (ammonia vaporizer)	Carbon monoxide: 400 ppb (Industrial Boiler MACT Standard)	Performance test	As required by standard
EU031 (Duct burner)	Annual fuel usage limitation (Title I limit)	Daily records of fuel used, monthly calculation of rolling sum	
Cooling towers (FS015, FS016, FS017)	PM: 0.3 gr/dscf, or as required based on actual conditions (Minnesota rules)	None	Calculated potential emissions are less than the applicable limit.

3.4 Insignificant Activities

The following were listed as current insignificant activities in the Permittee's permit application and supplemental submittals: several natural gas combustion units, laboratory operations, welding, emergency generators, and maintenance paintings. The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this facility are only subject to general applicable requirements. Using the criteria outlined in Section 3.4, the following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities. See Attachment 1 for PTE information for the insignificant activities.

Table 27 Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
4 natural gas fired heaters in the locomotive storage building, each with a capacity <500,000 Btu/hr, and a combined capacity of 355,000 Btu/hr	PM, variable depending on airflow Opacity \leq 20 % (Minn. R. 7011.0610)	For these units based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are operated and vented inside a building, so testing for PM or opacity is not feasible.
Processing operations: Sandblasting and metal machining equipment venting PM/PM ₁₀ 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	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0715)	For these units, it is highly unlikely that they could violate the applicable requirement. In addition, these units are vented inside a building, so testing for PM or opacity is not feasible.

Insignificant Activity	General Applicable Emission limit	Discussion
time		
Emissions from water laboratory operations,	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0715)	These are very small operations that typically do not even have any emissions. It is highly unlikely that they could violate the applicable requirement.
Brazing, soldering or welding equipment	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0715)	For these units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are operated and vented inside a building, so testing for PM or opacity is not feasible.
Individual emissions units, each of which have a potential to emit the following pollutants in amounts less than: 1. 2 tpy of CO; and 2. 1 tpy each of NO _x , SO ₂ , PM/PM ₁₀ , VOC (including HAP - containing VOC), and ozone	PM, variable depending on airflow Opacity \leq 20% (with exceptions) (Minn. R. 7011.0715)	These are a magnetic separator, a loadout chute for dewatered slag, and cleaning solvent. All of these units are operated and vented inside a building, so testing for PM or opacity is not feasible. The solvent usage is not expected to generate particulate matter.
Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities	PM, variable depending on airflow or process weight rate Opacity \leq 20% (Minn. R. 7011.0715)	While spray equipment will have the potential to emit particulate matter, these particular activities are those not associated with production, so they would be infrequent and usually occur outdoors. Testing or monitoring is not feasible.
Individual emissions units, each of which have a potential to emit the following pollutants in amounts less than: 1. 2 tpy of CO; and 2. 1 tpy each of NO _x , SO ₂ , PM/PM ₁₀ , VOC (including HAP - containing VOC), and ozone or that have actual emissions less than 1 tpy of each criteria pollutant.	PM, variable depending on airflow Opacity \leq 20% (with exceptions) (Minn. R. 7011.0715 and Minn. R. 7011.610) or SO ₂ \leq 0.5 lb/MMBtu Opacity \leq 20% (Minn. R. 7011.2300)	These are a fire pump engines, other emergency generators, temporary heating equipment, vacuum systems, and distillate oil storage tanks. For these units based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are operated and vented inside a building, so testing for PM or opacity is not feasible. The storage tanks are not expected to generate particulate matter.

3.5 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. One area where this permit deviates slightly from Delta guidance is in the use of appendices. While appendices are fully enforceable parts of the permit, in general, any requirement that the MPCA thinks should be tracked (e.g., limits, submittals, etc.), should be in Table A or B. The main reason is that the appendices are word processing sections and are not part of the tracking system. Violation of the appendices can be enforced, but the computer system will not automatically generate the necessary enforcement notices or documents. Staff must generate these.

In addition, the Industrial Boiler MACT standard dictates a hydrogen chloride limit, which will be applicable to EU028 and EU030 upon startup. Delta does not offer “hydrogen chloride” as a drop-down option for pollutants, but instead offers “hydrochloric acid.” Since hydrogen chloride and hydrochloric acid are the same chemical (CAS number 7647-01-0), hydrochloric acid is listed in the permit as the regulated pollutant.

3.6 Comments Received and Changes to Draft Permit

Comments were received during the public comment period. Some comments resulted in clarifying changes to the draft permit, while some comments required only an answer to clarify an issue. The following changes were made to the draft permit and/or technical support document as a result of the comments received.

- Language change under GP004 (Flite Conveyors), clarifying that the notification and testing requirements have already been met for 2 of the 4 units.
- Language change under GP010 (Areas Served by Watering Trucks), clarifying that a rainfall of 0.1 inch or more during the previous 24 hours may substitute for only one water application event.
- Changed the mercury testing deadline under EU001 (Main Boiler), to coincide with the testing deadline for the majority of other pollutants.
- Language changes under EU001 and EU012 (Main Boiler and Ash Silo), clarifying that until initial startup of the fabric filter, the electrostatic precipitators must be used (both before and after boiler rehabilitation) at all times that the main boiler and/or ash handling is in operation. After startup of the fabric filter, the fabric filter must be used at all times that the main boiler and/or ash handling is in operation, and operation of the electrostatic precipitators is no longer required.
- Language change under FS014 (Petroleum Coke Unloading Station), clarifying that the enclosure around the petroleum coke unloading operation is not required under the current operation, but is only required after the boiler rehabilitation and coal yard reconfiguration is complete, before receiving petroleum coke.

All written comments and responses are included in Attachment 5.

In addition to changes initiated in response to comments, the following additional changes were made to the draft permit:

- Changes to the Clean Unit citations under EU001. In the original permit, the Clean Unit requirements were listed with a citation of 40 CFR Section 52.21(x) as the applicable requirement. That was incorrect. The actual permit limits, conditions, and requirements are correct, but the correct citations are 40 CFR Section 52.21(y) (not 52.21(x)). The project nets out of PSD review, so BACT is not a requirement. Although Xcel Energy submitted a top-down

analysis as supplemental justification for the requested comparable-to-BACT determination for PM and PM₁₀, the project is not subject to BACT. It is believed that this may have caused some confusion. Sections 3.1.2 and 3.1.3 of this technical support document have also been modified to clarify this issue.

- Changes to the language for EU004 and EU011. The previous version of the permit included the language “Solid fuel handling equipment shall not be vented to the atmosphere when emissions are not controlled by pollution control equipment. This emission unit is physically capable of operating without venting to the atmosphere, and therefore can operate when control equipment is not operational.” This language was inadvertently left out of the draft reissued permit. Inclusion of this language does not result in any emissions to the atmosphere. The control equipment must be in operating if the equipment is to be vented indoors, per the permit. Emission of particulate matter inside a building is an insignificant activity under Minn. R. 7007.1300, subp. 2(D)(3).

The proposed permit was sent to EPA on January 3, 2005 (overnight delivery). Assuming receipt on January 4, 2005, the first day of EPA’s 45-day review period was January 5, 2005, and the last day was February 18, 2005. No comments were received from EPA during this time, and so the Part 70 permit was issued on February 22, 2005 (the next business day). Letters announcing the permit issuance were mailed to all who commented on the draft permit during the public comment period, on February 22, 2005. The 30-day period for filing a petition with the Environmental Appeals Board (EAB) began on this day. Per section III.D.2(a) of the Environmental Appeals Board Practice Manual:

When the permitting authority serves the notice by mail, service is deemed to be completed when the notice is placed in the mail, not when it is received. However, to compensate for the delay caused by mailing, the 30-day deadline for filing a petition is extended by three days if the final permit decision being appealed was served on the petitioner by mail.

Therefore, any petitions must be received by the EAB by March 26, 2005.

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. 16300005-005 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team:

- Ainars Silis (project lead)
- Toni Volkmeier (permit writer/engineer)
- Bob Berg (enforcement)
- Chris Nelson (modeling)
- Dick Cordes (peer reviewer/NSR lead)
- Anne Jackson (MERP expert)

Attachments:

1. PTE Calculations and Summary
2. Section 6.0 of permit application, Air Modeling Analysis
3. BACT Analysis and Clean Unit Requests
4. Facility Description and CD-01 Forms
5. Public Comments and Responses