AIR EMISSION PERMIT NO. 06100004- 004
Major Amendment

IS ISSUED TO

MINNESOTA POWER DIVISION OF ALLETE INC

Wisconsin Public Power Inc System
Minnesota Power Inc - Boswell Energy Ctr
1210 3rd Street Northwest
Cohasset, Itasca County, MN 55721

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

This permit amendment supersedes Air Emission Permit No. 06100004-003 and authorizes the Permittee to construct the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

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

Permit Type: Federal; Pt 70/Major for NSR;
Operating Permit Issue Date: March 28, 2007
Major Amendment Issue Date: August 12, 2009
Expiration Date: 03/28/2012 – Title I Conditions do not expire.

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

for Paul Eger
Commissioner
Minnesota Pollution Control Agency

Permit Applications Table

Permit Type	Application Date	Permit Action
Total Facility Operating Permit - Reissuance	September 24, 2001	003
Major Amendment	June 26, 2008	004
Major Amendment	September 15, 2008	004
Major Amendment	December 3, 2008	004
Major Amendment	September 5, 2008	004
Reopening	January 22, 2009	004
Reopening	October 9, 2008	004
Reopening	June 5, 2008	004

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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 Boswell Energy Center (facility) is a coal-fired electric utility steam generating plant. Emission units at the facility include four power boilers, emergency engine generators, and fuel, additive and ash handling equipment. The main fuel for all boilers is sub bituminous coal. They may also burn distillate oil, limited amounts of boiler cleaning agents, used oil, oily coal, oily paper-based floor dry, wastewater treatment plant sludge, and oily materials (earth substrate with petroleum product). Emissions are controlled by baghouses, over fire air, selective Non-Catalytic Reduction on Boilers 1 and 2. Low Nitrogen Oxide (NO_X) burners, over fire air, selective catalytic reduction, baghouse filter a wet scrubber on Boiler 3, and a wet venturi scrubber / electrostatic precipitator, and sulfur dioxide spray towers on Boiler 4.

AMENDMENT DESCRIPTION:

This permit amendment authorizes installation of natural gas fired igniters/heat guns on all boilers; EU001, EU002, EU003, and EU004. All boilers currently have a set of oil-fired igniter/heat guns. A Prevention of Significant Deterioration (PSD) analysis was conducted for Carbon Monoxide (CO) and Volatile Organic Compounds (VOC). A CO limit across the four boilers will be used to avoid a significant increase in CO.

This permit amendment revises the size of emergency generator (EU 023) from 100 kW to 300 kW. This emergency generator unit (EGU) is part of the retrofitting project for EU003, permit No. 06100004-003 issued March 28, 2007. The EGU is to provide power for safe shutdown of pollution control equipment during power outages. The original generator has not yet been installed. The original project was subject to PSD for CO. Because of the increase in CO emission due to the larger EGU the facility has submitted a revised PSD analysis for CO. This includes updated Best Available Control Technology and CO air dispersion modeling.

This permit amendment includes installation of new Continuous Emissions Monitors Systems. This would allow the facility to separately monitor the Nitrogen Oxides (NO_X), Sulfur Oxides (SO_X), Carbon Dioxide, Opacity, and Air Flow for EU001, EU002, and EU003. This change does not involve any emissions increases or change to emission permit limits.

This permit action incorporates multiply minor amendments and reopenings initiated by the MPCA. These are the incorporated Reopenings; Certified MR 040 to replace MR 005 for monitoring opacity for EU004, Certified MR 041 to replace MR 023 for monitoring air flow for EU004, March 21, 2008, letter from Jeff Smith to Minnesota Power. This permit incorporates the requirements that stem from Title V modeling that was done by the permittee. This permit also incorporates a propane fired slag shock system. This system qualifies as an insignificant modification due to emissions. The system will be installed to target tougher-to-remove slag deposits by using the percussion of a small controlled explosion to shock the deposits off of the boiler. Since the system will operate within the boiler propane has to be added to the allowable fuels list for all boilers at the facility. This permit amends the maximum achievable operating rates for boilers 3 and 4 (EU003, EU004). These updates stem from recent stack tests. This amendment corrects allowable fuel for emergency generator 1 (EU007).

TABLE A: LIMITS AND OTHER REQUIREMENTS

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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
DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW	hdr
These requirements apply if a reasonable possibility (RP) as defined in 40 CFR Section 52.21(r)(6)(vi) exists that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test (either by itself or as part of the hybrid test at Section 52.21(a)(2)(iv)(f)) and found to not be part of a major modification, may result in a significant emissions increase (SEI). If the ATPA test is not used for the project, or if there is no RP that the proposed project could result in a SEI, these requirements do not apply to that project. The Permittee is only subject to the Preconstruction Documentation requirement for a project where a RP occurs only within the meaning of Section 52.2(r)(6)(vi)(a). Even though a particular modification is not subject to New Source Review (NSR), or where there isn't a RP that a proposed project could result in a SEI, a permit amendment, recordkeeping, or notification may still be required by Minn. R. 7007.1150 - 7007.1500.	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2
Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following: 1. Project description 2. Identification of any emission unit (EU) whose emissions of an NSR pollutant could be affected 3. Pre-change potential emissions of any affected existing EU, and the projected post-change potential emissions of any affected existing or new EU. 4. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the EU could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination. The Permittee shall maintain records of this documentation.	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.1200, subp. 4; Minn. R. 7007.0800, subps. 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 in the hybrid test. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if the hybrid test was used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 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 1-4 under Preconstruction Documentation, above) to the Agency.	Title I Condition: 40 CFR Section 52.21(r)(6)(ii) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
For any project which includes any EUSGU, the Permittee must submit an annual report to the Agency, within 60 days after the end of the calendar year. The report shall contain: a. The name and ID number of the facility, and the name and telephone number of the facility contact person b. The quantified annual emissions analyzed using the ATPA test, plus the potential emissions associated with the same project analyzed as part of a hybrid test. c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection, if that is the case.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5

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For any project which does not include any EUSGU, the Permittee must submit a report to the Agency if the annual summed (actual, plus potential used in hybrid test) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain: a. The name and ID number of the facility, and the name and telephone number of the facility contact person b. The annual emissions (actual, plus potential if any part of the project was analyzed using the hybrid test) for each pollutant for which the preconstruction projection and significant emissions rate is exceeded. c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
OPERATIONAL REQUIREMENTS	hdr
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
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)
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.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state requirement only and is not federally enforceable.	Minn. R. 7030.0010-7030.0080
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises, to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location. The Permittee may require that MPCA inspectors be accompanied by MP staff during the inspection. Permittee's staff shall be available whenever the plant is operating.	Minn. R. 7007.0800, subp. 9(A)
Comply with general conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Comply with Fugitive Emissions Control Plan: Follow the actions and record keeping specified in the control plan. The plan may be amended with the Commissioner's approval. If the Commissioner determines that you are out of compliance with Minn. R. 7011.0150 or the control plan, then you may be required to amend the control plan and/or install and operate particulate matter ambient monitors.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2; Minn. R. 7011.0150; Minn. R. 7009.0020
Oily Floor Dry: Limit combustion to: 1) cellulose based only, 2) 25 tons per year, and 3) 1.25 tons per hour.	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21and Minn. R. 7007.3000
The following does not apply to Boilers No. 001, 002, 003, and 004. These units contain specific operating and/or production limits requirements. Operating and/or production limits will 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
PERFORMANCE TESTING	hdr

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Performance Test Notifications and Submittals: Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements. Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subp. 1-4, 7017.2018 and Minn. R. 7017.2035, subp. 1-2
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017
MONITORING REQUIREMENTS	hdr
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
RECORDKEEPING	hdr
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
REPORTING	HDR
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 Minn. R. 7007.1500
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000 subp. 1
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3

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Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Shutdown and Breakdown Reporting Requirement for the Dust Collector Systems for Material Handling Equipment: Shutdowns and breakdowns shall be reported on a quarterly basis to the Agency. The quarterly report shall include an identification of the dust collector that broke down or was shutdown, the time and reason for the breakdown or shutdown, a description of any repairs made, and the date and time the dust collector was placed back in service.	Minn. R. 7019.1000, subp. 2
Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3100
Emission Fees: due 60 days after receipt of an MPCA bill	Minn. R. 7002.0005 through Minn. R. 7002.0095
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)
ACID RAIN PROGRAM REQUIREMENTS	hdr
Emissions from the stationary source cannot exceed any allowances that the source lawfully holds under federal acid rain regulations, except as allowed by Minn. R. 7007.0800, subp. 7.	Minn. R. 7007.0800, subp. 7
Acid Rain Certification Report: due 60 days after end of each calendar year.	40 CFR Section 72.90(b) and 40 CFR Section 72.90(c)
If the unit has excess emissions, the designated representative shall submit a proposed offset plan in accordance with 40 CFR Section 72.9(e).	40 CFR Section 72.9(e)
Keep the certificate of representation, all emissions monitoring information, copies of all reports, compliance certifications and related submissions and all records made or required under the Acid Rain Program on site for a period of 5 years from the date the document was created.	40 CFR Section 72.9(f)
Hold allowances as of the allowance transfer deadline, in the facility's compliance account. Allowances may not be less than the total annual emissions of sulfur dioxide from the previous calendar year from the facility.	40 CFR Section 72.9(c)
DISPERSION MODELING REQUIREMENTS	hdr
The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080. Compliance shall be demonstrated upon written request by the MPCA.	40 CFR pt. 50; Minn. Stat. Sec. 116.07, subds. 4a and 9; Minn. R. 7007.0100, subps. 7A, 7L and 7M; Minn. R. 7007.0800, subps. 1, 2, and 4; Minn. R. 7009.0010-7009.0080
The parameters used in SO2, PM10, CO modeling 06100004-004 are listed in Appendix B of this permit.	Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7009.0020; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2
The parameters used in NOx modeling 06100004-004 are listed in Appendix B of this permit. Modeling Triggers: For changes that do not require a permit amendment or that require a minor permit amendment, and that affect any modeled parameter or emission rate, a Remodeling Submittal requirement is not triggered. The Permittee shall keep updated records on site of all parameters and emission rates. The Permittee shall submit any changes to parameters and emission rates with the next required remodeling submittal. For changes that require a moderate or major permit amendment and affect any modeled parameter or increase in an emission rate, a Remodeling Submittal requirement is triggered. The Permittee shall include previously made changes to parameters and emission rates that did not trigger a remodeling submittal with this modeling submittal.	Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7009.0020; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2

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Remodeling Submittal: The Permittee must submit to the Commissioner for approval changes meeting the above criteria and must wait for a written approval (in the form of an issued permit amendment) before making such changes. The information submitted must include, for stack and vent sources, source emission rate, location, height, diameters, exit velocity, exit temperature, discharge direction, use of rain caps or rain hats, and, if applicable, locations and dimensions of nearby buildings. For non-stack/vent sources, this includes the source emission rate, location, size and shape, release height, and, if applicable, any emissions rate scalars, and the initial lateral dimensions and initial vertical dimensions and adjacent building heights.	Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7009.0020; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2
(continued) The plume dispersion characteristics due to the revisions of the information must be equivalent to or better than the latest dispersion characteristics modeled. The Permittee shall demonstrate this equivalency in the proposal. 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 submit full remodeling.	Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7009.0020; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2
CLEAN AIR INTERSTATE RULE	hdr
At the present time, the permittee must comply with all the applicable requirements in 40 CFR pt. 97 for a CAIR NOx source, a CAIR SO2 source, a CAIR NOx unit, and a CAIR SO2 unit as defined in 40 CFR Sections 97.102 and 97.202. If the US Environmental Protection Agency promulgates a rule to stay 40 CFR pt. 97 in Minnesota, this requirement will be of no further force and effect upon the effective date of the rule.	40 CFR pt. 97; 40 CFR Section 52.1240; Minn. R. 7007. 0800, subp. 2.
Oil & Natural Gas Carbon Monoxide Emissions Limit	hdr
Carbon Monoxide: less than or equal to 319 tons/year using 12-month Rolling Sum. This limit was taken to avoid a Air Emissions Increase Analysis when installing natural gas igniter/heat guns. This limit is derived from limited potential to emit increase of 95 tons/yr of CO. Combined CO emissions from oil and natural gas combustion used in all igniters and warm-up guns in EU 001, EU 002, EU 003, and EU 004 shall not exceed 319 tons per year of CO. This excludes CO emissions from coal combustion and other permitted fuels. This limit applies on a 12-month rolling sum basis and must be evaluated monthly. The 12-month rolling sum becomes effective at the end of the 12th calendar month following issuance of permit 06100004-004. The following emission factors shall be used: Fuel Oil - 5 lbs CO/1000 gallons; Natural Gas - 84 lbs CO/million cubic feet.	Minn. R. 7007.0800 subp. 2
Recordkeeping: evaluate 12-month rolling sum of Carbon Monoxide on a monthly basis.	Minn. R. 7007.0800 subp. 5

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Subject Item: **GP 002 Opacity Monitors**

Associated Items: MR 020 Blr 1 Opacity

MR 021 Blr 2 Opacity

MR 027 Boiler 3 Opacity

MR 040 Blr 4 Opacity

What to do	Why to do it
CONTINUOUS OPACITY MONITORING SYSTEMS (COMS) Requirements (Additional requirements are located under the associated MR subject items and in Table B)	hdr
All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data for each successive 6-minute period.	Minn. R. 7017.1200, subp. 1, 2 & 3; 40 CFR Section 60.13(e)(1); 40 CFR Section 60.13(h)
Continuous Operation: COMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A COMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2.	Minn. R. 7017.1090, subp. 1; 40 CFR Section 60.13(e)
COMS QA/QC: The owner or operator of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each COMS according to the QA/QC procedures in Minn. R. 7017.1210.	40 CFR Section 60.13(a); Minn. R. 7017.1210
COMS Daily Calibration Drift Check: The Permittee must automatically, intrinsic to the opacity monitor, check the zero and upscale (span) calibration drifts at least once daily. The acceptable range is as defined in 40 CFR pt. 60, Appendix B, PS-1. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity. Minimum procedures must include an automated method for producing a simulated zero opacity condition and an upscale opacity condition as specified in 40 CFR 60.13(d)(2).	Minn. R. 7017.1210, subp. 2; 40 CFR Section 60.13(d)(l) regarding COMS and 60.13(d)(2)
Attenuator Calibration: The Permittee shall have an independent testing company conduct calibrations of each of the neutral density filters used in the calibration error audit according to the procedure in Code of Federal Regulations, Title 40, Part 60, Appendix B, Section 7.1.3.1 within the time frame of opacity stability guaranteed by the attenuator manufacturer. The manufacturer's guarantee of stability shall be on site available for inspection.	Minn. R. 7017.1210, subp. 4
Recordkeeping: The owner or operator must retain records of all COMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7017.1130

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Subject Item: **GP 003 NOx and SO2 Monitors**

Associated Items: MR 002 Blr 1, 2, and 3 SO2

MR 004 Blr 1 and 2 NOx

MR 007 Blr 4 SO2

MR 008 Blr 4 NOx

MR 016 Blr 3 NOx

MR 028 Blr 1 SO2

MR 029 Blr 1 NOx

MR 032 Blr 2 SO2

MR 033 Blr 2 NOx

MR 036 Blr 3 SO2

MR 037 Blr 3 NOx

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (Additional requirements are located under the associated MR subject items and in Table B)	hdr
CEMS QA/QC: The owner or operator of an affected facility shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 75, appendix B as amended.	40 CFR Section 75.21
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
Relative Accuracy Test Audit (RATA) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA)).	Minn. R. 7017.1180, subp. 2
Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7017.1130; and 40 CFR Part 75, Subpart F
Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.	40 CFR Section 60.13(e); Minn. R. 7017.1090
ALTERNATIVE OPERATING SCENARIOS	hdr
Operating Scenario 1: Use MR 002, MR 004, and MR 016 to continuously monitor emissions for SO2 and NOx from EU 001, EU 002, and EU 003. This scenario applies until EU 003 is shut down to tie in the new pollution control retrofit equipment permitted in 06100004-003. Operating Scenario 2: Use MR 028, MR 032, and MR 036 to continuously monitor SO2 emissions from EU 001, EU 002, and EU 003. Use MR 029, MR 033, and MR 037 to continuously monitor NOx emissions from EU 001, EU 002, and EU 003. Requirements for MR 002, MR 004, and MR 016 no longer apply. This scenario will apply to EU 001 and EU 002 immediately at the time EU 003 is shut down to tie in the new pollution control retrofit equipment. Operating Scenario 2 will apply to EU003 once the unit is returned to service. Operating Scenario 1 will no longer apply once Operating Scenario 2 becomes effective.	Minn. R. 7007.0800, subp. 4, 5 & 6

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **GP 004 Boilers 1-4 Sulfur Dioxide Limits**

Associated Items: EU 001 Power Boiler 1

EU 002 Power Boiler 2

EU 003 Power Boiler 3

EU 004 Power Boiler 4

What to do	Why to do it
BOILER 3 AND 4 COMBINED LIMITS	hdr
When EU 001 and EU 002 are not operating, sulfur dioxide emissions are limited to less than or equal to the following: Condition 1) 3.52 lb/mmBtu for SV 003 and 1.2 lb/mmBtu for SV 004, both on a one-hour average; OR, Condition 2) 4.0 lb/mmBtu for SV 003 and 0.88 lb/mmBtu for SV 004, both on a one-hour average; OR, Condition 3) 3.67 lb/mmBtu for SV 003 and 1.10 lb/mmBtu for SV 004, both on a one-hour average.	Minn. R. ch. 7009; 40 CFR pt. 50
BOILER 1 EMISSION LIMITS	hdr
When the EU 001 flue gasses are vented through SV 001: Sulfur Dioxide: less than or equal to 1.18 lbs/million BTU heat input using 1 Hour Average	Minn. R. 7009.0020
Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input using 1-Hour Average and a 3-Hour Average for solid fuels, and 2.0 lbs/mmBtu when burning liquid fuels. When solid and liquid fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the following formula: w=[2y+4z]/(y+z) where y is the % heat input from liquid fossil fuel and z is the % heat from solid fuels. This limit applies only when EU001 is vented through SV003.	Minn. R. 7011.0510, subp. 1 Minn. R. 7009
BOILER 2 EMISSION LIMITS	hdr
When EU 002 flue gasses are vented through SV 001. Sulfur Dioxide: less than or equal to 1.18 lbs/million Btu heat input using 1-Hour Average	Minn. R. 7009.0020
Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input using 1-Hour Average and a 3-Hour Average for solid fuels, and 2.0 lbs/mmBtu when burning liquid fuels. When liquid and solid fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the following formula: w=[2y+4z]/(y+z) where y is the % heat input from liquid fossil fuel and z is the % heat from solid fuels. This limit applies only when EU 002 is vented through SV 003.	Minn. R. 7011.0510, subp. 1 Minn. R. 7009
BOILER 3 LIMITS	hdr
Sulfur Dioxide: less than or equal to 2.97 lbs/million Btu heat input using 1-Hour Average when EU 001 and EU 002 are operating, and the EU 001 and EU 002 emissions are vented through SV 001.	Minn. R. 7009.0020
Sulfur Dioxide: less than or equal to 0.09 lbs/million Btu heat input based on a 30-day rolling average. This limit does not apply during times of startup, shutdown or malfunction. (Boiler 3 limit). This limit applies regardless of the operation and venting of the other boilers. This limit applies after return to regular operation of Unit 3 following modification of the boiler and its pollution control equipment stream.	Minn. R. 7007.0800, subp. 2
Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input using 1-Hour Average and a 3-Hour Average for solid fuels, and 2.0 lbs/mmBtu when burning liquid fuels. When solid and liquid fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the following formula: w=[2y+4z]/(y+z) where y is the % heat input from liquid fossil fuel and z is the % heat from solid fuels. The EU003 sulfur dioxide limit applies regardless if EU001 and EU002 are operating.	Minn. R. 7011.0510, subp. 1 Minn. R. 7009
BOILER 4 EMISSION LIMITS	hdr

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Sulfur Dioxide: less than or equal to 1.2 lbs/million Btu heat input using 1-Hour Average period for solid fossil fuel, and 0.8 lb/million BTU using 1 Hour Average period for liquid fossil fuel. When solid and liquid fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the following formula: w=[0.8y+1.2z]/(y+z) where y is the % heat input from liquid fossil fuel and z is the % heat from solid fuels.	Title I Condition: 40 CFR Section 52.21(j) PSD BACT limit and ambient impacts analysis; 40 CFR Section 60.43
Sulfur Dioxide: less than or equal to 0.33 lbs/million Btu heat input based on an annual average.	Minn. R. 7021.0050, subp. 5

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **GP 005 Low Temperature Fabric Filters**

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

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

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

CE 015 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 016 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 017 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

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

What to do	Why to do it
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent control efficiency	Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment.	Minn. R. 7007.0800, subp. 2 and 14
Visible Emissions: The Permittee shall check the fabric filter stacks for any visible emissions once each day of operation during daylight hours.	Minn. R. 7007.0800, subp. 4 and 5
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
Periodic Inspections: At least once per calendar quarter, 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 001 Power Boiler 1**

Associated Items: CE 001 Fabric Filter - High Temperature, i.e., T>250 Degrees F

GP 004 Boilers 1-4 Sulfur Dioxide Limits

MR 002 Blr 1, 2, and 3 SO2

MR 003 Blr 1, 2, and 3 CO2

MR 004 Blr 1 and 2 NOx

MR 020 Blr 1 Opacity

MR 028 Blr 1 SO2

MR 029 Blr 1 NOx

MR 030 Blr 1 CO2

MR 031 Blr 1 Air Flow

SV 001

SV 003

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.1 lbs/million BTU heat input	Title I condition: 40 CFR Section 52.21(k) (ambient air impacts analysis); also meets the requirements of 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
See GP004 for sulfur dioxide limits.	hdr
Comply with the applicable Acid Rain emissions limitation for sulfur dioxide.	40 CFR Section 72.9(c)(1)(ii), 40 CFR Section 72.9(g)(4)
NOx Averaging Plan Maintain an annual average NOx emission rate of 0.46 lbs/MMBtu and limit the annual heat input to less than or equal to 3,500,000 mmBtu per year. OR Maintain a Btu-weighted annual average emission rate in lbs/mmBtu, averaged over the units specified in the NOx averaging plan, that is less than or equal to the Btu-weighted annual average emission rate averaged over the same units had they each been operated during the same period of time in compliance with the applicable emission limitations in 40 CFR Sections 76.5, 76.6, or 76.7. Units covered in the plan are: Plant — Boiler ID# Clay Boswell — 1, 2, 3, 4 Syl Laskin — 1, 2 Taconite Harbor — 1, 2, 3	40 CFR Section 76.11 Minn. R. 7011.0553
OPERATIONAL LIMITS AND REQUIREMENTS	hdr
Fuel use: limited to sub-bituminous coal, boiler cleaning agents, distillate oil, oily coal, used oil, oily paper-based floor dry, pipeline quality nature gas, and propane.	Minn. R. 7007.0800, subp. 2
Boiler cleaning agents limited to: EDTA type and Ammonium Bromate, are generated on-site, 5% of total mass input, oxygen limited to 3% or greater, agents may only be burned while the boiler is operating at 75 percent of rated capacity or greater.	Minn. R. 7007.0800, subp. 2
Burn off-specification and on-specification used oil in accordance with Minn. R. ch. 7045, not to exceed 17.5% of rated heat input on an hourly basis (equal to 963 gallons/hr.).	Minn. R. 7007.0800, subp. 2

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Vent all emissions to a fabric filter that meets the requirements of CE001 for particulate matter control when burning coal. The fabric filter may be bypassed during startup. Bypassing of the fabric filter shall be for as short a time as is practicable while avoiding damage to the fabric filter and it components, but shall not exceed 8 hours.	Title I Condition: control of particulate emissions.
CONTINUOUS MONITORING REQUIREMENTS	hdr
The owner or operator shall measure opacity, and all SO2, NOx, and CO2 emissions from affected units in accordance with 40 CFR Section 75.10. See GP002 for requirements regarding opacity monitoring, and GP003 for requirements regarding SO2 and NOx monitoring. The SO2 and NOx monitors shall be capable of producing emission rates in units of lb/mmBtu on a one-hour average, a three-hour average and on a 30-day rolling average.	40 CFR Section 75.10 Minn. R. 7017.1020
Operate and maintain the continuous opacity monitor as a partial indicator of compliance with the particulate matter limit.	40 CFR Part 64
PERFORMANCE TESTING	hdr
Performance Test: due before end of each 60 months starting 09/16/1997 to determine compliance with the Title I condition particulate matter emission limit. The tests shall be conducted at an interval not to exceed 60 months between test dates.	Title I Condition: monitoring for the particulate matter emission limit set under 40 CFR 52.21; Minn. R. 7017.2020, subp. 1, and 40 CFR Part 64
Boiler Alternative Operating Conditions for Performance Testing: Alternative Operating Conditions during testing are defined as 90% to 100% of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, Subp. 2(A) and 3(B)
Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following: (1) If the results of the performance test are greater than 80% of any applicable emission limit for which compliance is demonstrated, then boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 80% of all applicable emission limits for which compliance is demonstrated, boiler operation will be limited to 110% of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, Subp. 3(B)
STET (Short Term Emergency and Testing) Operating hours limit: The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Maintain documentation of all STET operation to demonstrate compliance with this limit. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, Subp. 2.
STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing: If performance test results demonstrate compliance 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. If performance test results demonstrate compliance 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. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, Subp. 2.

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001 - 7017.2060.	Minn. R. 7017.2020, Subp. 4.
Performance Test: due 180 days after Permit Issuance to measure PM10 emissions. This test shall be conducted with the rotating opposed fired air and selective non-catalytic reduction control systems in operation. Testing is required to confirm conclusion of the permitting assessment conducted in June 2008 for the addition of rotating opposed fired air and selective non-catalytic reduction. The Permittee shall submit a report updating the June 2008 permitting assessment incorporating results of this testing no later than 90 days following completion of testing.	Title I condition: 40 CFR Section 52.21; Test to confirm the modification is not subject to PSD; Minn. R. 7017.2020, subp. 1

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 002 Power Boiler 2**

Associated Items: CE 002 Fabric Filter - High Temperature, i.e., T>250 Degrees F

GP 004 Boilers 1-4 Sulfur Dioxide Limits

MR 002 Blr 1, 2, and 3 SO2

MR 003 Blr 1, 2, and 3 CO2

MR 004 Blr 1 and 2 NOx

MR 021 Blr 2 Opacity

MR 032 Blr 2 SO2

MR 033 Blr 2 NOx

MR 034 Blr 2 CO2

MR 035 Blr 2 Air Flow

SV 001

SV 003

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.1 lbs/million BTU heat input	Title I condition: 40 CFR Section 52.21(k) (ambient air impacts analysis); also meets the requirements of 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
See GP004 for sulfur dioxide limits.	hdr
Comply with the applicable Acid Rain emissions limitation for sulfur dioxide.	40 CFR Section 72.9(c)(1)(ii), 40 CFR Section 72.9(g)(4)
NOx Averaging Plan Maintain an annual average NOx emission rate of 0.46 lbs/MMBtu and limit the annual heat input to less than or equal to 3,500,000 mmBtu per year. OR Maintain a Btu-weighted annual average emission rate in lbs/mmBtu, averaged over the units specified in the NOx averaging plan, that is less than or equal to the Btu-weighted annual average emission rate averaged over the same units had they each been operated during the same period of time in compliance with the applicable emission limitations in 40 CFR Sections 76.5, 76.6, or 76.7. Units covered in the plan are: Plant Boiler ID# Clay Boswell 1, 2, 3, 4 Syl Laskin 1, 2 Taconite Harbor 1, 2, 3	40 CFR Section 76.11 Minn. R. 7011.0553
OPERATIONAL LIMITS AND REQUIREMENTS	hdr
Fuel use: limited to sub-bituminous coal, boiler cleaning agents, distillate oil, oily coal, used oil, oily paper-based floor dry, pipeline quality natural gas, and propane.	Minn. R. 7007.0800, subp. 2
Boiler cleaning agents limited to: EDTA type and Ammonium Bromate, are generated on-site, 5% of total mass input, oxygen limited to 3% or greater, agents may only be burned while the boiler is operating at 75 percent of rated capacity or greater.	Minn. R. 7007.0800, subp. 2
Burn off-specification and on-specification used oil in accordance with Minn. R. ch. 7045, not to exceed 17.5% of rated heat input on an hourly basis (equal to 963 gallons/hr.).	Minn. R. 7007.0800, subp. 2

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Vent all emissions to a fabric filter that meets the requirements of CE002 for particulate matter control when burning coal. The fabric filter may be bypassed during startup. Bypassing of the fabric filter shall be for as short a time as is practicable while avoiding damage to the fabric filter and it components, but shall not exceed 8 hours.	Title I Condition: control of particulate emissions.
CONTINUOUS MONITORING REQUIREMENTS	hdr
The owner or operator shall measure opacity, and all SO2, NOx, and CO2 emissions from affected units in accordance with 40 CFR Section 75.10. See GP002 for requirements regarding opacity monitoring, and GP003 for requirements regarding SO2 and NOx monitoring. The SO2 and NOx monitors shall be capable of producing emission rates in units of lb/mmBtu on a one-hour average, a three-hour average and on a 30-day rolling average.	40 CFR Section 75.10 Minn. R. 7017.1020
Operate and maintain the continuous opacity monitor as a partial indicator of compliance with the particulate matter limit.	40 CFR Part 64
PERFORMANCE TESTING	hdr
Performance Test: due before end of each 60 months starting 09/16/1997 to determine compliance with the Title I condition particulate matter emission limit. The tests shall be conducted at an interval not to exceed 60 months between test dates.	Title I Condition: monitoring for the particulate matter emission limit set under 40 CFR 52.21; Minn. R. 7017.2020, subp. 1, and 40 CFR Part 64
Boiler Alternative Operating Conditions for Performance Testing: Alternative Operating Conditions during testing are defined as 90% to 100% of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, Subp. 2(A) and 3(B)
Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following: (1) If the results of the performance test are greater than 80% of any applicable emission limit for which compliance is demonstrated, then boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 80% of all applicable emission limits for which compliance is demonstrated, boiler operation will be limited to 110% of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, Subp. 3(B)
STET (Short Term Emergency and Testing) Operating hours limit: The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Maintain documentation of all STET operation to demonstrate compliance with this limit. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, Subp. 2.
STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing: If performance test results demonstrate compliance 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. If performance test results demonstrate compliance 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. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, Subp. 2.

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

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The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001 - 7017.2060.	Minn. R. 7017.2020, Subp. 4.
Performance Test: due 180 days after Permit Issuance to measure PM10 emissions. This test shall be conducted with the over-fire air and selective non-catalytic reduction control systems in operation. Testing is required to confirm conclusion of the permitting assessment conducted in June 2008 for the addition of rotating opposed fired air and selective non-catalytic reduction. The Permittee shall submit a report updating the June 2008 permitting assessment incorporating results of this testing no later than 90 days following completion of testing.	Title I condition: 40 CFR Section 52.21; Test to confirm the modification is not subject to PSD; Minn. R. 7017.2020, subp. 1

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 003 Power Boiler 3**

Associated Items: CE 012 Wet Scrubber - High Efficiency

CE 019 Modified Furnace or Burner Design

CE 020 Catalytic Reduction

CE 021 Fabric Filter - High Temperature, i.e., T>250 Degrees F

CE 022 Wet Limestone Injection

GP 004 Boilers 1-4 Sulfur Dioxide Limits

MR 002 Blr 1, 2, and 3 SO2

MR 003 Blr 1, 2, and 3 CO2

MR 016 Blr 3 NOx

MR 024 Boiler 3 CO

MR 025 Blr 3 Mercury

MR 027 Boiler 3 Opacity

MR 036 Blr 3 SO2

MR 037 Blr 3 NOx

MR 038 Blr 3 CO2

MR 039 Blr 3 Air Flow

SV 003

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input . This limit applies prior to modification of Boiler 3 and its pollution control stream.	Minn. R. 7011.0510, subp. 1
Total Particulate Matter: less than or equal to 0.014 lbs/million Btu heat input for filterable PM. This limit applies upon return of Unit 3 to regular operation after modification of the boiler and its pollution control equipment stream.	Minn. R. 7007.0800, subp. 2
Particulate Matter < 10 micron: less than or equal to 0.035 lbs/million Btu heat input filterable plus organic and inorganic condensables. This limit applies upon return of Unit 3 to regular operation after modification of the boiler and its pollution control equipment stream.	Minn. R. 7007.0800, subp. 2
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
NOx Averaging Plan Maintain an annual average NOx emission rate of 0.40 lbs/MMBtu and limit the annual heat input to less than or equal to 19,000,000 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: Plant Boiler ID# Clay Boswell 1, 2, 3, 4 Syl Laskin 1, 2 Taconite Harbor 1, 2, 3	40 CFR Section 76.8 Early election for Group 1, Phase II boilers and 40 CFR Section 76.5(a)(1) Minn. R. 7011.0553

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Nitrogen Oxides: less than or equal to 0.07 lbs/million Btu heat input based on a 30-day rolling average. This limit does not apply during times of startup, shutdown or malfunction. This limit applies upon return of Unit 3 to regular operation after modification of the boiler and its pollution control equipment stream.	Minn. R. 7007.0800, subp. 2
See GP004 for sulfur dioxide limits.	hdr
Hydrogen fluoride: less than or equal to 0.0018 lbs/million Btu heat input . This limit applies upon return of Unit 3 to regular operation after modification of the boiler and its pollution control equipment stream.	Title I Condition: to avoid major modification classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 0.15 lbs/million Btu heat input on a 24-hour rolling average. This limit does not apply during periods of startup, shutdown, or malfunction. This limit applies upon return of Unit 3 to regular operation after modification of the boiler and its pollution control equipment stream.	Title I Condition: 40 CFR Section 52.21 BACT limit
Lead: less than or equal to 0.00004 lbs/million Btu heat input . This limit applies upon return of Unit 3 to regular operation after modification of the boiler and its pollution control equipment stream.	Title I Condition: to avoid major modification classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
OPERATING REQUIREMENTS	hdr
Regular operation for Unit 3 is defined as operation at more than 200 net MW of load for more than 7 days in a row after modification of the boiler and its pollution control equipment stream.	Minn. R. 7007.0800, subp. 2
Fuel use: limited to sub-bituminous coal, boiler cleaning agents, distillate oil, oily coal, used oil, wastewater treatment plant sludge, oily paper-based floor dry, pipeline quality natural gas, propane, and oily materials (includes mixtures of earth substrate (soil, rocks, sod, etc.) or man-made petroleum adsorption material and various petroleum derived fuels (hydraulic, transformer (less than 50 ppm PCB), crankcase or lubricating oils, diesel fuel, and crude oil)). Note: the Permittee is prohibited from using oily materials or wastewater treatment plant sludge as fuel until the Permittee satisfactorily completes the performance testing requirements for these fuels under EU003.	Minn. R. 7007.0800, subp. 2
Boiler cleaning agents limited to: EDTA type and Ammonium Bromate, are generated on-site, 5% of total mass input, oxygen limited to 3% or greater, agents may only be burned while the boiler is operating at 75 percent of rated capacity or greater.	Minn. R. 7007.0800, subp. 2
Burn off-specification and on-specification used oil in accordance with Minn. R. ch. 7045, and not to exceed 2,456 gallons per hour.	Minn. R. 7007.0800, subp. 2
Vent all emissions to a scrubber for particulate control until the boiler and its pollution control equipment stream are modified. After return to regular operation vent all emissions to a selective catalytic reduction system, a fabric filter, and sulfur dioxide scrubber.	Minn. R. 7007.0800, subp. 2
CONTINUOUS MONITORING	hdr
Measure all Opacity, SO2, NOx, and CO2 emissions from affected units in accordance with 40 CFR Section 75.10. See GP002 for requirements regarding opacity monitoring, and GP003 for requirements regarding SO2 and NOx monitoring. The SO2 and NOx monitors shall be capable of producing emission rates in units of lb/mmBtu on a one-hour average, a three-hour average and on a 30-day rolling average. The opacity monitor shall be installed upon return of Unit 3 to regular operation as defined in this permit, and shall be located after the fabric filter and prior to the flue gas desulfurization unit.	40 CFR Section 75.10 Minn. R. 7017.1020 40 CFR Part 64
Install and operate a continuous emission monitor to measure all CO emissions. The monitor shall be capable of producing emission rates in units of lb/mmBtu on a 24 hour rolling average. See GP003 for requirements regarding CO monitoring. The carbon monoxide monitor shall be installed upon return of Unit 3 to regular operation as defined in this permit.	Title I Condition: monitoring for BACT limit and Minn. R. 7007.0800, subp. 4
Operate and maintain the continuous opacity monitor as a partial indicator of compliance with the particulate matter limit after return to regular operation following modification of the boiler and its pollution control equipment stream.	40 CFR Part 64
Mercury Emissions Monitoring: Use a Hg CEMS to measure Hg emissions from EU 003 by July 1, 2007. Additional Hg monitoring requirements are located under subject item MR 025.	Minn. Statute 216B.681

Establish Baseline Mercury Emission Rate: Use mercury monitors to establish the baseline mercury emission rate for EU 003. This is a state only requirement and is not enforceable by the EPA administrator and citizens under the Clean Air Act.	Minn. Stat. 216B.681
PERFORMANCE TESTING	hdr
Initial Performance Test: due 180 days after achieving maximum capacity for PM and PM10 after modification of Boiler 3 and its pollution control equipment stream.	Minn. R. 7017.2020, subp. 1 40 CFR Part 64
Initial Performance Test: due 180 days after achieving maximum capacity for hydrogen fluoride after modification of Boiler 3 and its pollution control equipment stream.	Title I Condition: to avoid major modification classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Initial Performance Test: due 180 days after achieving maximum capacity for Lead after modification of Boiler 3 and its pollution control equipment stream.	Title I Condition: to avoid major modification classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Boiler Alternative Operating Conditions for Performance Testing: Alternative Operating Conditions during testing are defined as 90% to 100% of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, Subp. 2(A) and 3(B)
Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following: (1) If the results of the performance test are greater than 80% of any applicable emission limit for which compliance is demonstrated, then boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 80% of all applicable emission limits for which compliance is demonstrated, boiler operation will be limited to 110% of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, Subp. 3(B)
STET (Short Term Emergency and Testing) Operating hours limit: The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Maintain documentation of all STET operation to demonstrate compliance with this limit. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, Subp. 2.
STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing: If performance test results demonstrate compliance 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. If performance test results demonstrate compliance 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. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, Subp. 2.
The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001 - 7017.2060.	Minn. R. 7017.2020, Subp. 4.

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Performance Test: due 30 days after Performance Test Notification (written) of intent to conduct a performance test while burning waste water sludge. The test shall be for determining compliance with the particulate matter emission limit in Minn. R. 7011.0510, subp. 1. The Permittee shall also concurrently measure CO emissions. Except for the purpose of conducting this performance test, the Permittee shall not use this material as a fuel until the Permittee receives notification from the agency that compliance was demonstrated during the Waste Water Sludge Performance Test.	Minn. R. 7017.2020, subp. 1.
Performance Test: due 30 days after Performance Test Notification (written) of intent to conduct a performance test while burning oily materials. The test shall be for determining compliance with the particulate matter emission limit in Minn. R. 7011.0510, subp. 1. The Permittee shall also concurrently measure CO emissions. Except for the purpose of conducting this performance test, the Permittee shall not use this material as a fuel until the Permittee receives notification from the agency that compliance was demonstrated during the Oily Materials Performance Test.	Minn. R. 7017.2020, subp. 1.
Opacity monitoring alternative - monitor the following operating parameters for CE 003: 1) prequench slurry flow; 2) prequench slurry pressure; 3) high pressure slurry flow; 4) high pressure slurry pressure. (See requirements under CE 003).	Minn. R. 7007.0800, subp. 4
Compliance Assurance Monitoring Plan: Sixty days after return to regular operation as defined in this permit, submit a plan for developing opacity magnitude and duration levels to be used as triggers for fabric filter investigation. This plan will also identify specific investigation actions to be taken by plant personnel when the triggers are reached. Submit trigger levels and related specific actions with 180 days after return to regular operation in the form of a major amendment application. Implement plan upon submittal. Terms identified in the permit application will be incorporated as permit conditions.	Minn. R. 7007.0800 , subp. 4 and 40 CFR Part 64
SUBMITTALS AND REPORTING	hdr
See Table B.	hdr

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 004 Power Boiler 4**

Associated Items: CE 004 Venturi Scrubber

CE 005 Electrostatic Precipitator - High Efficiency

CE 006 Spray Tower

CE 011 Fly Ash Injection

GP 004 Boilers 1-4 Sulfur Dioxide Limits

MR 006 Blr 4 CO2

MR 007 Blr 4 SO2

MR 008 Blr 4 NOx

MR 026 Blr 4 Mercury

MR 040 Blr 4 Opacity

MR 041 Blr 4 Air Flow

SV 004

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.1 lbs/million BTU heat input	Title I Condition: 40 CFR Section 52.21(j) PSD BACT limit and ambient impacts analysis; 40 CFR Section 60.42(a)(1)
Opacity: less than or equal to 20 percent opacity based on a six minute average, except for one six-minute average per hour not to exceed 27%	40 CFR Section 60.42(a)(2) Minn. R. 7011.0555
See GP004 for sulfur dioxide limits.	hdr
Comply with the applicable Acid Rain emissions limitation for sulfur dioxide. Takes effect for years beginning January 1, 2000.	40 CFR Section 72.9(c)(1)(ii), 40 CFR Section 72.9(g)(4)
Nitrogen Oxides: less than or equal to 0.7 lbs/million Btu heat input using 3-hour Average for solid fossil fuels, less than 0.3 lb/mmBtu from liquid fossil fuels, and less then 0.2 lb/mmBtu for gaseous fossil fuels. When fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the following formula: PS = [0.2x + 0.3y + 0.7z]/(x+y+z) where PS is the prorated NOx standard, x is the % heat input from gaseous fossil fuels, y is the % heat input from liquid fossil fuels, and z is the % heat input from solid fossil fuels.	Title I Condition: 40 CFR Section 52.21(j) PSD BACT limit and ambient impacts analysis; 40 CFR Section 60.44
NOx Averaging Plan Maintain an annual average NOx emission rate of 0.40 lbs/MMBtu and limit the annual heat input to less than or equal to 33,000,000 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: Plant — Boiler ID# Clay Boswell — 1, 2, 3, 4 Syl Laskin — 1, 2 Taconite Harbor — 1, 2, 3	40 CFR Section 76.11 Minn. R. 7011.0553
OPERATING REQUIREMENTS	hdr
Fuel use: limited to sub-bituminous coal, boiler cleaning agents, distillate oil, oily coal, oily paper-based floor dry, used oil, pipeline quality natural gas, and propane.	Minn. R. 7007.0800, subp. 2
Boiler cleaning agents limited to: EDTA type and Ammonium Bromate, are generated on-site, 5% of total mass input, oxygen limited to 3% or greater, agents may only be burned while the boiler is operating at 75 percent of rated capacity or greater.	Minn. R. 7007.0800, subp. 2

Burn off-specification and on-specification used oil in accordance with Minn. R. ch. 7045, not to exceed 3824 gallons/hour (approximately 10 percent of rated capacity of 5,109 mmBtu/hour) on an hourly basis.	Minn. R. 7007.0800, subp. 2
Maintain SV 004 exit flue gas temperature at a minimum of 135 degrees F.	Minn. R. 7009
Vent all emissions to a venturi scrubber, electrostatic precipitator and spray tower.	Title I Condition: control of particulate matter and sulfur dioxide
PERFORMANCE TESTING	hdr
Performance Test: due before end of each 60 months starting 09/27/1997 to determine compliance with the Title I condition particulate matter emission limit. The tests shall be conducted at an interval not to exceed 60 months between test dates.	Title I Condition: monitoring for the particulate emission limit set under 40 CFR Section 52.21; Minn. R. 7017.2020, subp. 1
Boiler Alternative Operating Conditions for Performance Testing: Alternative Operating Conditions during testing are defined as 90% to 100% of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, Subp. 2(A) and 3(B)
Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following: (1) If the results of the performance test are greater than 80% of any applicable emission limit for which compliance is demonstrated, then boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 80% of all applicable emission limits for which compliance is demonstrated, boiler operation will be limited to 110% of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, Subp. 3(B)
STET (Short Term Emergency and Testing) Operating hours limit: The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Maintain documentation of all STET operation to demonstrate compliance with this limit. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, Subp. 2.
STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing: If performance test results demonstrate compliance 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. If performance test results demonstrate compliance 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. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, Subp. 2.
The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001 - 7017.2060.	Minn. R. 7017.2020, Subp. 4.
CONTINUOUS MONITORING REQUIREMENTS	hdr

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Measure all Opacity, SO2, NOx, and CO2 emissions from affected units in accordance with 40 CFR Section 75.10. See GP002 for requirements regarding opacity monitoring, and GP003 for requirements regarding SO2 and NOx monitoring. The SO2 and NOx monitors shall be capable of producing emission rates in units of lb/mmBtu on a one-hour average, a three hour average and on a 30-day rolling average. Using the 30-day averages for SO2, calculate and submit the annual SO2 emission rate along with the annual compliance certification.	40 CFR Section 75.10 and Minn. R. 7017
Operate and maintain the continuous opacity monitor as a partial indicator of compliance with the particulate matter limit.	40 CFR Part 64
Measure stack gas exit temperature.	Minn. R. 7009
Mercury Emissions Monitoring: Use a Hg CEMS to measure Hg emissions from EU 004 by July 1, 2007. Additional Hg monitoring requirements are located under subject item MR 026.	Minn. Stat. 216B.681
Establish Baseline Mercury Emission Rate: Use mercury monitors to establish the baseline mercury emission rate for EU 004. This is a state only requirement and is not enforceable by the EPA administrator and citizens under the Clean Air Act.	Minn. Stat. 216B.681
REPORTING	hdr
Submit the calculations and annual average emission rate of sulfur dioxide along with the annual compliance certification.	Minn. R. 7021.0050

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 007 Emergency Generator 1**

Associated Items: SV 007

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
Fuel type: liquid propane only	Minn. R. 7005.0100, subp. 35a

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 009 Emergency Generator 3**

Associated Items: SV 009 Diesel Emergency Generator 3

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
Fuel type: Diesel fuel oil or distillate fuel oil only	Minn. R. 7005.0100, subp. 35a
Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of fuel oil, certifying that the sulfur content does not exceed 0.5% by weight.	Minn. R. 7007.0800, subps. 4 & 5

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 010 Emergency Generator 4**

Associated Items: SV 010

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
Fuel type: Diesel fuel oil or distillate fuel oil only	Minn. R. 7005.0100, subp. 35a
Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of fuel oil, certifying that the sulfur content does not exceed 0.5% by weight.	Minn. R. 7007.0800, subps. 4 & 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 011 Coal Handling-Crusher Building**

Associated Items: CE 007 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 011

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)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Operate fabric filter when emissions from the equipment are vented to the atmosphere that meets the requirements of GP005.	Minn. Stat. Section 116.07, subd. 4(a); Minn. R. 7007.0800, subp. 2

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 012 Coal Handling-Crusher & Sampler House**

Associated Items: CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 012

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)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Operate fabric filter when emissions from the equipment are vented to the atmosphere that meets the requirements of GP005.	Minn. Stat. Section 116.07, subd. 4(a); Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 013 Fly Ash - #1&2 Storage Silo**

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

SV 013

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)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Operate fabric filter when emissions from the equipment are vented to the atmosphere that meets the requirements of GP005.	Minn. Stat. Section 116.07, subd. 4(a); Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 014 Fly Ash - #1&2 Ash Hoppers**

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

SV 014

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)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Operate fabric filter when emissions from the equipment are vented to the atmosphere that meets the requirements of GP005.	Minn. Stat. Section 116.07, subd. 4(a); Minn. R. 7007.0800, subp. 2

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 015 Hg Additive Handling and Storage**

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

SV 015 Additive Handling and Storage

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.01 grains/dry standard cubic foot unless required to further reduce emissions to comply with the less stringent of either Minn. R. 7011.0730 or Minn. R. 7011.0735.	Title I Condition: to avoid major modification classification under 40 CFR Section 52.21 and Minn. R. 7007.3000, also meets the requirements of Minn. R. 7011.0715 subp. 1(A)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING CONDITIONS	hdr
Vent all emissions to a fabric filter that meets the requirements of GP005.	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 017 Fly Ash Storage - Bin Vent**

Associated Items: CE 015 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 017 Fly Ash Storage-Bin Vent

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot unless required to further reduce emissions to comply with the less stringent of either Minn. R. 7011.0730 or Minn. R. 7011.0735.	Title I Condition: to limit potential emission increases to less than significant under 40 CFR 52.21 and Minn. R. 7007.3000, also meets the requirements of Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING CONDITIONS	hdr
Vent all emissions to a fabric filter that meets the requirements of GP005.	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 018 Fly Ash Loadout**

Associated Items: SV 018 Fly Ash Loadout via general vent

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot 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)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING REQUIREMENTS	hdr
Add moisture to the flyash prior to loadout. Operation of the unit without moisture addition shall be a reportable deviation.	Minn. R. 7007.0800, subp. 2

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 019 Limestone Storage - Bin Vent**

Associated Items: CE 016 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 019 Limestone Storage - Bin Vent

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot unless required to further reduce emissions to comply with the less stringent of either Minn. R. 7011.0730 or Minn. R. 7011.0735.	Title I Condition: to limit potential emission increases to less than significant under 40 CFR 52.21 and Minn. R. 7007.3000, also meets the requirements of Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING CONDITIONS	hdr
Vent all emissions to a fabric filter that meets the requirements of GP005.	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 020 Limestone Day Bin 1**

Associated Items: CE 017 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 020 Limestone Day Bin 1 - Bin Vent

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735.	Title I Condition: to limit potential emissions increases to less than significant under 40 CFR 52.21 and Minn. R. 7007.3000, also meets Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING REQUIREMENTS	hdr
Vent all emissions to a fabric filter that meets the requirements of GP005.	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 021 Limestone Day Bin 2**

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

SV 021 Limestone Day Bin 2 - Bin Vent

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735.	Title I Condition: to limit potential emission increases to less than significant under 40 CFR 52.21 and Minn. R. 7007.3000 , also meets Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING REQUIREMENTS	hdr
Vent all emissions to a fabric filter that meets the requirements of GP005.	Title I Condition: to avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **EU 023 Emergency Gen. Unit 3 - 300Kw - CI**

Associated Items: SV 022 Emergency Generator - Unit 3

What to do	Why to do it
EMISSION LIMITS	hdr
Opacity: less than or equal to 20 percent once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Opacity: less than or equal to 20 percent during accelartion mode; 15 percent during lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.	40 CFR Section 60.4205(b)
Carbon Monoxide: less than or equal to 3.0 grams per kilowatt-hour.	Title I Condition: 40 CFR Section 52.21(j), BACT emission limit, also meets the requirements of 40 CFR Section 60.4202.
Non-methane Hydrocarbons plus Nitrogen Oxides: Less than or equal to 4.0 grams per kilowatt-hour	40 CFR Section 60.4205(b)
Total Particulate Matter: less than or equal to 0.20 grams per kilowatt-hour.	40 CFR Section 60.4205(b)
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input . Combustion of fuel with a sulfur content of 0.5 percent by weight or less meets this requirement.	Minn. R. 7011.2300, subp. 2
OPERATING REQUIREMENTS	hdr
Beginning October 1, 2007, use diesel fuel that meets the requirements of 40 CFR Section 80.510(a): (1) Sulfur content. 500 parts per million (ppm) maximum. (2) Cetane index or aromatic content, as follows: (i) A minimum cetane index of 40; or (ii) A maximum aromatic content of 35 volume percent.	40 CFR Section 60.4207(a)
Beginning October 1, 2010, use diesel fuel that meets the requirements of 40 CFR Section 80.510(b): (1) Sulfur content. 15 ppm maximum for Non-Road diesel fuel. (2) Cetane index or aromatic content, as follows: (i) A minimum cetane index of 40; or (ii) A maximum aromatic content of 35 volume percent.	40 CFR Section 60.4207(b)
Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of paragraphs (a) and (b) of this section beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.	40 CFR Section 60.4207(c)
Operate and maintain the engine according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. Only change those settings that are permitted by the manufacturer. The permittee shall also meet the requirements of 40 CFR parts 89, 94, and 1068 as they apply to you.	40 CFR Section 60.4211(a)
Meet the definition of "Emergency stationary internal combustion engine" - any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.	40 CFR Section 60.4219

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Operate the emergency engine for the purpose of maintenance checks and readiness testing provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor; or the insurance company associated with the engine. Maintenance checks and readiness testing for the emergency engine is limited to 100 hours per year. Anyone may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that the Federal State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. There is no time limit of the use of emergency stationary ICE in emergency situations. Any operation other than emergency operation, maintenance and testing, as permitted in Section 60.4211, is prohibited.	40 CFR Section 60.4211(e)
After December 31, 2008, the permittee may not install a stationary CI ICE that does not meet the applicable requirements for 2007 model year engines.	40 CFR Section 60.4208(a)
MONITORING	hdr
Install a non-resettable hour meter prior to startup of the engine.	40 CFR Section 60.4209(a)
PERFORMANCE TESTING	hdr
If the permittee conduct performance tests, the tests must be completed in accordance with 40 CFR Section 60.4212(a) through 40 CFR Section 60.4212(d).	40 CFR Section 60.4212
Performance Test: due 180 days after achieving maximum capacity for CO emissions.	Title I Condition: monitoring for CO BACT limit
COMPLIANCE DEMONSTRATION	hdr
Operate and maintain the unit in accordance with the standards as required by 40 CFR Section 60.4205, according to the manufacturer's written instructions, or according to the procedures developed by the owner or operator that are approved by the engine manufacturer, for the entire life of the engine. Settings for the unit may not be changed unless permitted by the manufacturer.	40 CFR Section 60.4206 and 40 CFR Section 60.4211(a)
The permittee must demonstrate compliance by purchasing an engine certified to conform with the emission standards listed in 40 CFR Section 52.05(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.	40 CFR Section 60.4211(c)
Recordkeeping - Hours of operation: The permittee shall maintain documentation on-site that the unit is to be used for emergency (including training and testing) purposes, only that qualifies under the limitation above of 100 hours per year for checks and readiness testing. (40 CFR Section 60.4211(e)).	Minn. R. 7007.0800, subps. 4 and 5
Recordkeeping - Fuel Type: The permittee shall keep records of the type of fuel burned in this unit when in operation.	Minn. R. 7007.0800, subp. 4 and 5
The permittee shall maintain records of the operation of the engine in emergency service that is recorded through the non-resettable hour meter. The record must include the time of operation and the reason the generator was in operation during that time. This requirement is applicable when using a generator whose model year is 2012 or later, if the emergency engine also does not meet the standards for non-emergency engines for the 2012 model.	40 CFR Section 60.4214(b)
40 CFR Part 63, Subp. ZZZZ	hdr
Initial Notification: Submit an initial notification to the administrator as required by 40 CFR Section 63.9 within 120 days of initial startup. The initial notification shall include the following information: (i) The name and address of the owner or operator; (ii) The address (i.e., physical location) of the affected source; (iii) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date; (iv) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; and (v) A statement of whether the affected source is a major source or an area source.	40 CFR Section 63.9(b)(2)

In addition, the notification shall contain a statement that the facilities stationary RICE has no additional requirements and explain the basis of the exclusion of the unit from the requirements of 40 CFR Part 63, Subp. ZZZZ (for example, that it operates exclusively as an emergency/limited use stationary RICE or is less than 500 hp).	continued from above

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **CE 001 Fabric Filter - High Temperature, i.e., T>250 Degrees F**

Associated Items: EU 001 Power Boiler 1

What to do	Why to do it
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent collection efficiency	Title I Condition and Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded opacity is outside the permitted range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the opacity 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 each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
COMPLIANCE ASSURANCE MONITORING	hdr
The owner or operator shall comply with the approved monitoring for opacity. The owner or operator shall measure the opacity by means of a COM. Parameter range indicating normal operation is opacity as a six-minute average less than or equal to 20 percent opacity.	40 CFR Section 64.3(b) or (d) 40 CFR Section 64.6(c)(1)(i) 40 CFR Section 64.6)c)(1)(ii) Minn. R. 7017.0200
The owner or operator shall conduct the monitoring required under this part upon permit issuance.	40 CFR Section 64.7(a) Minn. R. 7017.0200
The owner or operator shall maintain the monitoring instruments and recorders, including but not limited to maintaining necessary parts for routine repairs of the monitoring equipment.	40 CFR Section 64.7(b) Minn. R. 7017.0200
Continuous Operation: Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities, the owner or operator shall conduct all monitoring in continuous operation at all times the pollutant-specific emissions unit is operating.	40 CFR Section 64.7(c) Minn. R. 7017.0200
Response to excursions or exceedances: Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.	40 CFR Section 64.7(d)(1) Minn. R. 7017.0200
Documentation of need for improved monitoring: After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the part 70 permit to address the necessary monitoring changes.	40 CFR Section 64.7(e) Minn. R. 7017.0200
The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained. The owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.	40 CFR Section 64.9(b) Minn. R. 7017.0200
The owner or operator shall report exceedances or excursions under Section 64.7 and Section 64.8 when the exceedance or excursion are greater than the limit and averaging period with the Semiannual Deviations Report.	40 CFR Section 64.9(a)(2)(i) Minn. R. 7017.0200

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **CE 002 Fabric Filter - High Temperature, i.e., T>250 Degrees F**

Associated Items: EU 002 Power Boiler 2

What to do	Why to do it
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent collection efficiency	Title I Condition and Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded opacity is outside the permitted operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the opacity 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 each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
COMPLIANCE ASSURANCE MONITORING	hdr
The owner or operator shall comply with the approved monitoring for opacity. The owner or operator shall measure the opacity by means of a COM. Parameter range indicating normal operation is opacity as a six-minute average less than or equal to 20 percent opacity.	40 CFR Section 64.3(b) or (d) 40 CFR Section 64.6(c)(1)(i) 40 CFR Section 64.6)c)(1)(ii) Minn. R. 7017.0200
The owner or operator shall conduct the monitoring required under this part upon permit issuance.	40 CFR Section 64.7(a) Minn. R. 7017.0200
The owner or operator shall maintain the monitoring instruments and recorders, including but not limited to maintaining necessary parts for routine repairs of the monitoring equipment.	40 CFR Section 64.7(b) Minn. R. 7017.0200
Continuous Operation: Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities, the owner or operator shall conduct all monitoring in continuous operation at all times the pollutant-specific emissions unit is operating.	40 CFR Section 64.7(c) Minn. R. 7017.0200
Response to excursions or exceedances: Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.	40 CFR Section 64.7(d)(1) Minn. R. 7017.0200
Documentation of need for improved monitoring: After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the part 70 permit to address the necessary monitoring changes.	40 CFR Section 64.7(e) Minn. R. 7017.0200
The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained. The owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.	40 CFR Section 64.9(b) Minn. R. 7017.0200
The owner or operator shall report exceedances or excursions under Section 64.7 and Section 64.8 when the exceedance or excursion are greater than the limit and averaging period with the Semiannual Deviations Report.	40 CFR Section 64.9(a)(2)(i) Minn. R. 7017.0200

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: CE 003 Alkaline Fly Ash Scrubbing

What to do	Why to do it
Opacity monitoring alternative - monitor the following operating parameters for CE003: 1)prequench slurry flow; 2)prequench slurry pressure; 3)high pressure slurry flow; 4)high pressure slurry pressure. These requirements apply until the modification of Boiler 3 and its pollution control equipment stream.	Minn. R. 7007.0800, subp. 4
Operate CE003 wet scrubber in accordance with the following operating parameters, in order to determine compliance with the opacity limit under Minn. R. 7011.0510, subp. 2: a. Prequench slurry flow >4592 gpm Prequench slurry pressure >32 psig b. High pressure slurry flow >4536 gpm High pressure slurry pressure >158 psig	Minn. R. 7007.0800, subp. 2
Record once each hour of operation of EU003 for CE003: 1)prequench slurry flow rate; 2)prequench slurry pressure; 3)high pressure slurry flow rate; 4)high pressure slurry pressure.	Minn. R. 7007.0800, subp. 5
COMPLIANCE ASSURANCE MONITORING	hdr
The owner or operator shall conduct the monitoring required under this part upon permit issuance.	40 CFR Section 64.7(a) Minn. R. 7017.0200
The owner or operator shall maintain the monitoring instruments and recorders, including but not limited to maintaining necessary parts for routine repairs of the monitoring equipment.	40 CFR Section 64.7(b) Minn. R. 7017.0200
Continuous Operation: Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities, the owner or operator shall conduct all monitoring in continuous operation at all times the pollutant-specific emissions unit is operating.	40 CFR Section 64.7(c) Minn. R. 7017.0200
Response to excursions or exceedances: Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.	40 CFR Section 64.7(d)(1) Minn. R. 7017.0200
Documentation of need for improved monitoring: After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the part 70 permit to address the necessary monitoring changes.	40 CFR Section 64.7(e) Minn. R. 7017.0200
The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained. The owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.	40 CFR Section 64.9(b) Minn. R. 7017.0200
The owner or operator shall report exceedances or excursions under Section 64.7 and Section 64.8 when the exceedance or excursion are greater than the limit and averaging period with the Semiannual Deviations Report.	40 CFR Section 64.9(a)(2)(i) Minn. R. 7017.0200

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **CE 004 Venturi Scrubber**

Associated Items: EU 004 Power Boiler 4

What to do	Why to do it
A minimum of one venturi slurry pump for each particulate scrubber module in service shall be operated at all times during the operation of EU004.	Title 1 Condition: monitoring for the particulate matter emission limit set under 40 CFR Section 52.21 and 40 CFR Section 60.42(a)(1)
COMPLIANCE ASSURANCE MONITORING	hdr
The owner or operator shall comply with the approved monitoring for opacity. The owner or operator shall measure the opacity by means of a COM. Parameter range indicating normal operation is opacity as a six-minute average less than or equal to 20 percent opacity.	40 CFR Section 64.3(b) or (d) 40 CFR Section 64.6(c)(1)(i) 40 CFR Section 64.6)c)(1)(ii) Minn. R. 7017.0200
The owner or operator shall conduct the monitoring required under this part upon permit issuance.	40 CFR Section 64.7(a) Minn. R. 7017.0200
The owner or operator shall maintain the monitoring instruments and recorders, including but not limited to maintaining necessary parts for routine repairs of the monitoring equipment.	40 CFR Section 64.7(b) Minn. R. 7017.0200
Continuous Operation: Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities, the owner or operator shall conduct all monitoring in continuous operation at all times the pollutant-specific emissions unit is operating.	40 CFR Section 64.7(c) Minn. R. 7017.0200
Response to excursions or exceedances: Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.	40 CFR Section 64.7(d)(1) Minn. R. 7017.0200
Documentation of need for improved monitoring: After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the part 70 permit to address the necessary monitoring changes.	40 CFR Section 64.7(e) Minn. R. 7017.0200
The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained. The owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.	40 CFR Section 64.9(b) Minn. R. 7017.0200
The owner or operator shall report exceedances or excursions under Section 64.7 and Section 64.8 when the exceedance or excursion are greater than the limit and averaging period with the Semiannual Deviations Report.	40 CFR Section 64.9(a)(2)(i) Minn. R. 7017.0200

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **CE 005 Electrostatic Precipitator - High Efficiency**

Associated Items: EU 004 Power Boiler 4

What to do	Why to do it
When bypass reheat is required to maintain compliance with the minimum flue gas exit temperature specified under SV004 in this permit, a portion of the total flue gas from EU004 may bypass the particulate matter emissions scrubber (CE004) and sulfur dioxide absorber (CE006), and be treated by a minimum of one unit of CE005 (electrostatic precipitator). When required to operate, CE005 shall not be operated with more than three of the bus-sections de-energized. When bypass reheat is not required to maintain compliance with the minimum flue gas exit temperature, all of the EU004 flue gas shall be treated by the particulate matter emissions scrubber (CE004) and sulfur dioxide absorber (CE006). After closing the inlet and outlet dampers to CE005, the Permittee may de-energize CE005.	Title 1 Condition: To ensure compliance with the particulate matter emission limit set under 40 CFR Section 52.21 and 40 CFR Section 60.42(a)(1)
COMPLIANCE ASSURANCE MONITORING	hdr
The owner or operator shall comply with the approved monitoring for opacity. The owner or operator shall measure the opacity by means of a COM. Parameter range indicating normal operation is opacity as a six-minute average less than or equal to 20 percent opacity	40 CFR Section 64.3(b) or (d) 40 CFR Section 64.6(c)(1)(i) 40 CFR Section 64.6)c)(1)(ii) Minn. R. 7017.0200
The owner or operator shall conduct the monitoring required under this part upon permit issuance.	40 CFR Section 64.7(a) Minn. R. 7017.0200
The owner or operator shall maintain the monitoring instruments and recorders, including but not limited to maintaining necessary parts for routine repairs of the monitoring equipment.	40 CFR Section 64.7(b) Minn. R. 7017.0200
Continuous Operation: Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities, the owner or operator shall conduct all monitoring in continuous operation at all times the pollutant-specific emissions unit is operating.	40 CFR Section 64.7(c) Minn. R. 7017.0200
Response to excursions or exceedances: Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.	40 CFR Section 64.7(d)(1) Minn. R. 7017.0200
Documentation of need for improved monitoring: After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the part 70 permit to address the necessary monitoring changes.	40 CFR Section 64.7(e) Minn. R. 7017.0200
The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained. The owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.	40 CFR Section 64.9(b) Minn. R. 7017.0200
The owner or operator shall report exceedances or excursions under Section 64.7 and Section 64.8 when the exceedance or excursion are greater than the limit and averaging period with the Semiannual Deviations Report.	40 CFR Section 64.9(a)(2)(i) Minn. R. 7017.0200

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **CE 021 Fabric Filter - High Temperature, i.e., T>250 Degrees F**

Associated Items: EU 003 Power Boiler 3

What to do	Why to do it
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent collection efficiency	Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded opacity is outside the permitted range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the opacity 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 each filter.	Minn. R. 7007.0800, subp. 4, 5, and 14
COMPLIANCE ASSURANCE MONITORING	hdr
The owner or operator shall comply with the approved monitoring for opacity. The owner or operator shall measure the opacity by means of a COM. Parameter range indicating normal operation is opacity as a six-minute average less than or equal to 20 percent opacity. These requirements apply upon return of Unit 3 to regular operation.	40 CFR Section 64.3(b) or (d) 40 CFR Section 64.6(c)(1)(i) 40 CFR Section 64.6)c)(1)(ii) Minn. R. 7017.0200
An excursion or exceedance from the specified parameter range occurs when: 1. the measured pressure drop (observed once per operating day) deviates from the specified minimum or maximum by 0.1 inch WC or more.	40 CFR Section 64.6(c)(2)
The owner or operator shall conduct the monitoring required under this part upon permit issuance.	40 CFR Section 64.7(a) Minn. R. 7017.0200
The owner or operator shall maintain the monitoring instruments and recorders, including but not limited to maintaining necessary parts for routine repairs of the monitoring equipment.	40 CFR Section 64.7(b) Minn. R. 7017.0200
Continuous Operation: Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities, the owner or operator shall conduct all monitoring in continuous operation at all times the pollutant-specific emissions unit is operating.	40 CFR Section 64.7(c) Minn. R. 7017.0200
Response to excursions or exceedances: Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.	40 CFR Section 64.7(d)(1) Minn. R. 7017.0200
Documentation of need for improved monitoring: After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the part 70 permit to address the necessary monitoring changes.	40 CFR Section 64.7(e) Minn. R. 7017.0200
The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained. The owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.	40 CFR Section 64.9(b) Minn. R. 7017.0200
The owner or operator shall report exceedances or excursions under 64.7 and 64.8 when the exceedance or excursion are greater than the limit and averaging period with the Semiannual Deviations Report.	40 CFR Section 64.9(a)(2)(i) Minn. R. 7017.0200

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: FS 004 Unpaved Roads

What to do	Why to do it
OPERATING CONDITIONS These requirements apply after 4/1/2007.	hdr
Fugitive Dust Control - EU003 dry fly ash haul roads: - apply at least 3 gallons for each 100 square feet every 24 hours, - a rainfall of at least 0.1 inch during the previous 24 hours shall substitute for one water application, - if the road cannot be watered because the ambient air temperature is less than 35 degrees F or if 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, - water application is not required on days when there is no vehicle traffic, and - 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. 7011.0150
RECORDKEEPING	hdr
Maintain daily records of: - whether there was 0.1 inch or more of rainfall in the last 24 hours, - temperature, - if conditions exist where watering would create hazardous driving, - dates of watering and areas watered, and - amounts of water applied.	Minn. R. 7007.0800, subp. 4

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: FS 007 Paved Roads

What to do	Why to do it
OPERATING REQUIREMENTS These requirements apply after 4/1/2007.	hdr
Under dry pavement conditions, if the temperature is less than 35 degrees, or if conditions due to weather in combination with the application of water, could create hazardous driving conditions, paved plant roads shall be swept weekly. Sweeping is not required if the pavement is snow or ice covered. Under dry pavement conditions, if the temperature is greater than 35 degrees, and conditions due to weather in combination with the application of water will not create hazardous driving conditions, paved plant roads shall be swept and flushed weekly.	Title I Condition: to avoid major modification classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
RECORDKEEPING	hdr
Maintain daily records of: - whether and which areas are snow and ice covered, - whether and which areas are dry, - dates of sweeping and areas swept, - dates of flushing and areas flushed, and - amounts of water applied when flushing.	Minn. R. 7007.0800, subp. 4

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 002 Blr 1, 2, and 3 SO2**

Associated Items: EU 001 Power Boiler 1

EU 002 Power Boiler 2

EU 003 Power Boiler 3

GP 003 NOx and SO2 Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (additional requirements are located under the associated GP subject item and in Table B.)	hdr
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, section 2.3.1; Minn. R. 7017.1020
Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar half-year following CEMS Relative Accuracy Test Audit (RATA) in which a CEMs RATA was conducted for MR002.	Minn. R. 7017.1180, subp. 3
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (as defined in Section 72.) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2. Perform a leak check at least once during each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) and no less than 30 days apart.	40 CFR pt. 75, Appendix B, section 2.2.1 & section 2.2.2; Minn. R. 7017.1020
Linearity Test Results Summary: due 30 days after end of each calendar quarter following Linearity and Leak Check Test (Acid Rain Program), if performed.	Minn. R. 7007.0800, subp. 4

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 004 Blr 1 and 2 NOx**

Associated Items: EU 001 Power Boiler 1

EU 002 Power Boiler 2

GP 003 NOx and SO2 Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (additional requirements are located under the associated GP subject item and in Table B.)	hdr
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, section 2.3.1; Minn. R. 7017.1020
Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar half-year following CEMS Relative Accuracy Test Audit (RATA) in which a CEMs RATA was conducted for MR002.	Minn. R. 7017.1180, subp. 3
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (as defined in Section 72.) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2. Perform a leak check at least once during each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) and no less than 30 days apart.	40 CFR pt. 75, Appendix B, section 2.2.1 & section 2.2.2; Minn. R. 7017.1020
Linearity Test Results Summary: due 30 days after end of each calendar quarter following Linearity and Leak Check Test (Acid Rain Program), if performed.	Minn. R. 7007.0800, subp. 4

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 007 Blr 4 SO2**

Associated Items: CM 002 Boiler 4: 1.2 lbs SO2/mmBtu, EU004, 1-hr ave.

EU 004 Power Boiler 4

GP 003 NOx and SO2 Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (Additional requirements are located under the associated GP subject item and in Table B.)	hdr
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test for MR007, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, Section 2.3.1, Minn. R. 7017.1020
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (as defined in Section 72.) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2. Perform a leak check at least once during each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) and no less than 30 days apart.	40 CFR pt. 75, Appendix B, Section 2.2.1 & Section 2.2.2; Minn. R. 7017.1020

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 008 Blr 4 NOx**

Associated Items: CM 003 Boiler 4: 0.7 lbs NOx/mmBtu, EU004, 3-hr ave.

EU 004 Power Boiler 4

GP 003 NOx and SO2 Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (Additional requirements are located under the associated GP subject item and in Table B.)	hdr
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test for Monitor 008, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, Section 2.3.1, Minn. R. 7017.1020
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (as defined in Section 72.) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2. Perform a leak check at least once during each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) and no less than 30 days apart.	40 CFR pt. 75, Appendix B, Section 2.2.1 & Section 2.2.2; Minn. R. 7017.1020

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 016 Blr 3 NOx**

Associated Items: EU 003 Power Boiler 3

GP 003 NOx and SO2 Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (additional requirements are located under the associated GP subject item and in Table B.)	hdr
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, section 2.3.1; Minn. R. 7017.1020
Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar half-year following CEMS Relative Accuracy Test Audit (RATA) in which a CEMs RATA was conducted for MR002.	Minn. R. 7017.1180, subp. 3
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (as defined in Section 72.) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2. Perform a leak check at least once during each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) and no less than 30 days apart.	40 CFR pt. 75, Appendix B, section 2.2.1 & section 2.2.2; Minn. R. 7017.1020
Linearity Test Results Summary: due 30 days after end of each calendar quarter following Linearity and Leak Check Test (Acid Rain Program), if performed.	Minn. R. 7007.0800, subp. 4

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 020 Blr 1 Opacity**

Associated Items: CM 004 Boiler 1: 20% Opacity, EU001, 6-min ave.

EU 001 Power Boiler 1

GP 002 Opacity Monitors

What to do	Why to do it
CONTINUOUS OPACITY MONITORING SYSTEMS (COMS) Requirements (Additional requirements are located under the associated GP subject item)	hdr
COMS Calibration Error Audit: due before end of each calendar half-year starting 03/28/2007 for MR020. Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart. Conduct audits in accordance with Minn. R. 7017.1210, subp. 3.	Minn. R. 7017.1210, subp. 3

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 021 Blr 2 Opacity**

Associated Items: CM 005 Boiler 2: 20% Opacity, EU002, 6-min ave.

EU 002 Power Boiler 2

GP 002 Opacity Monitors

What to do	Why to do it
CONTINUOUS OPACITY MONITORING SYSTEMS (COMS) Requirements (Additional requirements are located under the associated GP subject item and in Table B.)	hdr
COMS Calibration Error Audit: due before end of each calendar half-year starting 03/28/2007 for MR021. Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart. Conduct audits in accordance with Minn. R. 7017.1210, subp. 3.	Minn. R. 7017.1210, subp. 3

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 024 Boiler 3 CO**

Associated Items: EU 003 Power Boiler 3

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (Additional requirements are located in Table B.)	hdr
CEMS Relative Accuracy Test Audit (RATA): due before end of each year following CEM Certification Test for MR024. A RATA is not required in any calendar year if a RATA conducted in the previous year demonstrated a relative accuracy value of less than 15 percent or if the associated emissions unit operated less than 48 hours during the calendar year. If the exception is used, the next RATA shall be conducted during the first half of the following calendar year. RATAs shall be conducted at least 3 months apart according to 40 CFR pt. 60, Appendix F, section 5.1.1.	Minn. R. 7017.1170, subp. 5
Relative Accuracy Test Audit (RATA) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA)).	Minn. R. 7017.1180, subp. 2
Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7017.1130
Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.	Minn. R. 7017.1090

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 025 Blr 3 Mercury**

Associated Items: EU 003 Power Boiler 3

GP 006 Boilers 3 and 4 Mercury Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements: (Additional requirements are located under the Subject Item EU 003 and in Table B.)	hdr
CEMS QA/QC: The owner or operator shall meet the applicable QA/QC requirements in 40 CFR Section 75.80(e) or as approved by the MPCA.	Minn. Stat. 216B.681
CEMS Relative Accuracy Test Audit (RATA): due before end of each year following CEM Certification Test A RATA is not required in any calendar year if a RATA conducted in the previous year demonstrated a relative accuracy value of less than 15 percent or if the associated emissions unit operated less than 48 hours during the calendar year. If the exception is used, the next RATA shall be conducted during the first half of the following calendar year. RATAs may be conducted using an alternate test method as approved by the MPCA.	40 CFR Section 75.80(e); Minn. R. 7017.1170, subp. 5
Recordkeeping and Recording: Follow the provisions listed under 40 CFR Section 75.84. This requirement is effective beginning January 1, 2009.	Minn. Stat. 216B.681

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 026 Blr 4 Mercury**

Associated Items: EU 004 Power Boiler 4

GP 006 Boilers 3 and 4 Mercury Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (Additional requirements are found under the Subject Item EU 004 and in Table B)	hdr
CEMS QA/QC: The owner or operator shall meet the applicable QA/QC requirements in 40 CFR Section 75.80(e) or as approved by the MPCA.	Minn. Stat. 216B.681
CEMS Relative Accuracy Test Audit (RATA): due before end of each year starting 03/28/2007 A RATA is not required in any calendar year if a RATA conducted in the previous year demonstrated a relative accuracy value of less than 15 percent or if the associated emissions unit operated less than 48 hours during the calendar year. If the exception is used, the next RATA shall be conducted during the first half of the following calendar year. RATAs may be conducted using an alternative test method as approved by the MPCA.	40 CFR Section 75.80(e); Minn. R. 7017.1170, subp. 5
Recordkeeping and Recording: Follow the provisions listed under 40 CFR Section 75.84. This requirement is effective beginning January 1, 2009.	Minn. Stat. 216B.681

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 027 Boiler 3 Opacity**

Associated Items: EU 003 Power Boiler 3

GP 002 Opacity Monitors

What to do	Why to do it
CONTINUOUS OPACITY MONITORING SYSTEMS (COMS) Requirements (Additional requirements are located under the associated GP subject item and in Table B.)	hdr
COMS Calibration Error Audit: due before end of each calendar half-year following COMS Certification Test for MR027. Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart. Conduct audits in accordance with Minn. R. 7017.1210, subp. 3.	Minn. R. 7017.1210, subp. 3
REQUIREMENTS FOR INSTALLATION OF MR027, BOILER 3 FOR OPACITY.	hdr
COMS Certification Test Pretest Meeting: due 7 days before COMS Certification Test.	Minn. R. 7017.1060, subp. 3
COMS Certification Test: due 60 days after achieving maximum capacity.	Minn. R. 7017.1050, subp.1
COMS Certification Test Report: due 45 days after COMS Certification Test.	Minn. R. 7017.1080, subp. 1, 2 & 4
COMS Certification Test Report - Microfiche or CD Copy: due 105 days after COMS Certification Test.	Minn. R. 7017.1080, subp. 3

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 028 Blr 1 SO2**

Associated Items: CM 009 Boilers 1, 2 & 3: SO2, 1-hr ave.

EU 001 Power Boiler 1

GP 003 NOx and SO2 Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (additional requirements are located under the associated GP subject item and in Table B.)	hdr
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, section 2.3.1; Minn. R. 7017.1020
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (as defined in Section 72.) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2. Perform a leak check at least once during each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) and no less than 30 days apart.	40 CFR pt. 75, Appendix B, section 2.2.1 & section 2.2.2; Minn. R. 7017.1020
CEM Certification Test: due 60 days after achieving normal operation but not later than 180 days after initial startup or within 90 days after the due date of the first excess emissions report, whichever is more stringent.	Minn. R. 7017.1050, subp. 1
CEMS Certification Test Plan: due 30 days before CEMS Certification Test.	Minn. R. 7017.1080, subp. 1, 2, & 4
CEMS Certification Test Pretest Meeting: due 7 days before CEMS Certification Test.	Minn. R. 7017.1060, subp. 3
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 029 Blr 1 NOx**

Associated Items: CM 010 Boilers 1 & 2: NOx Title IV

EU 001 Power Boiler 1

GP 003 NOx and SO2 Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (additional requirements are located under the associated GP subject item and in Table B.)	hdr
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, section 2.3.1; Minn. R. 7017.1020
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (as defined in Section 72.) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2. Perform a leak check at least once during each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) and no less than 30 days apart.	40 CFR pt. 75, Appendix B, section 2.2.1 & section 2.2.2; Minn. R. 7017.1020
CEM Certification Test: due 60 days after achieving normal operation but not later than 180 days after initial startup or within 90 days after the due date of the first excess emissions report, whichever is more stringent.	Minn. R. 7017.1050, subp. 1
CEMS Certification Test Plan: due 30 days before CEMS Certification Test.	Minn. R. 7017.1080, subp. 1, 2, & 4
CEMS Certification Test Pretest Meeting: due 7 days before CEMS Certification Test.	Minn. R. 7017.1060, subp. 3
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 032 Blr 2 SO2**

Associated Items: CM 009 Boilers 1, 2 & 3: SO2, 1-hr ave.

EU 002 Power Boiler 2

GP 003 NOx and SO2 Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (additional requirements are located under the associated GP subject item and in Table B.)	hdr
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, section 2.3.1; Minn. R. 7017.1020
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (as defined in Section 72.) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2. Perform a leak check at least once during each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) and no less than 30 days apart.	40 CFR pt. 75, Appendix B, section 2.2.1 & section 2.2.2; Minn. R. 7017.1020
CEM Certification Test: due 60 days after achieving normal operation but not later than 180 days after initial startup or within 90 days after the due date of the first excess emissions report, whichever is more stringent.	Minn. R. 7017.1050, subp. 1
CEMS Certification Test Plan: due 30 days before CEMS Certification Test.	Minn. R. 7017.1080, subp. 1, 2, & 4
CEMS Certification Test Pretest Meeting: due 7 days before CEMS Certification Test.	Minn. R. 7017.1060, subp. 3
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 033 Blr 2 NOx**

Associated Items: CM 010 Boilers 1 & 2: NOx Title IV

EU 002 Power Boiler 2

GP 003 NOx and SO2 Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (additional requirements are located under the associated GP subject item and in Table B.)	hdr
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, section 2.3.1; Minn. R. 7017.1020
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (as defined in Section 72.) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2. Perform a leak check at least once during each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) and no less than 30 days apart.	40 CFR pt. 75, Appendix B, section 2.2.1 & section 2.2.2; Minn. R. 7017.1020
CEM Certification Test: due 60 days after achieving normal operation but not later than 180 days after initial startup or within 90 days after the due date of the first excess emissions report, whichever is more stringent.	Minn. R. 7017.1050, subp. 1
CEMS Certification Test Plan: due 30 days before CEMS Certification Test.	Minn. R. 7017.1080, subp. 1, 2, & 4
CEMS Certification Test Pretest Meeting: due 7 days before CEMS Certification Test.	Minn. R. 7017.1060, subp. 3
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 036 Blr 3 SO2**

Associated Items: CM 009 Boilers 1, 2 & 3: SO2, 1-hr ave.

EU 003 Power Boiler 3

GP 003 NOx and SO2 Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (additional requirements are located under the associated GP subject item and in Table B.)	hdr
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, section 2.3.1; Minn. R. 7017.1020
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (as defined in Section 72.) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2. Perform a leak check at least once during each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) and no less than 30 days apart.	40 CFR pt. 75, Appendix B, section 2.2.1 & section 2.2.2; Minn. R. 7017.1020
CEM Certification Test: due 60 days after achieving normal operation but not later than 180 days after initial startup or within 90 days after the due date of the first excess emissions report, whichever is more stringent.	Minn. R. 7017.1050, subp. 1
CEMS Certification Test Plan: due 30 days before CEMS Certification Test.	Minn. R. 7017.1080, subp. 1, 2, & 4
CEMS Certification Test Pretest Meeting: due 7 days before CEMS Certification Test.	Minn. R. 7017.1060, subp. 3
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 037 Blr 3 NOx**

Associated Items: CM 008 Boiler 3, Title IV NOx

EU 003 Power Boiler 3

GP 003 NOx and SO2 Monitors

What to do	Why to do it
CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS) Requirements (additional requirements are located under the associated GP subject item and in Table B.)	hdr
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, section 2.3.1; Minn. R. 7017.1020
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (as defined in Section 72.) in accordance with procedures in 40 CFR pt. 75, Appendix B, Sections 2.2.1 and 2.2.2, and Appendix A, Section 6.2. Perform a leak check at least once during each QA operating quarter (calendar quarter in which there are at least 168 unit operating hours) and no less than 30 days apart.	40 CFR pt. 75, Appendix B, section 2.2.1 & section 2.2.2; Minn. R. 7017.1020
CEM Certification Test: due 60 days after achieving normal operation but not later than 180 days after initial startup or within 90 days after the due date of the first excess emissions report, whichever is more stringent.	Minn. R. 7017.1050, subp. 1
CEMS Certification Test Plan: due 30 days before CEMS Certification Test.	Minn. R. 7017.1080, subp. 1, 2, & 4
CEMS Certification Test Pretest Meeting: due 7 days before CEMS Certification Test.	Minn. R. 7017.1060, subp. 3
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3
CEMS Certification Test Report - Microfiche or CD Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Subject Item: **MR 040 Blr 4 Opacity**

Associated Items: EU 004 Power Boiler 4

GP 002 Opacity Monitors

What to do	Why to do it
CONTINUOUS OPACITY MONITORING SYSTEMS (COMS) Requirements (Additional requirements are located under the associated GP subject item and in Table B.)	hdr
COMS Calibration Error Audit: due before end of each calendar half-year following COMS Certification Test for MR040. Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart. Conduct audits in accordance with Minn. R. 7017.1210, subp. 3.	Minn. R. 7017.1210, subp. 3

TABLE B: SUBMITTALS

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

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

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

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

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

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

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

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

Send any application for a permit or permit amendment to:

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
COMS Certification Test Notification	due 30 days before COMS Certification Test for MR027, Boiler 3 Opacity.	MR027
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup after modification of Boiler 3 and its pollution control equipment stream.	EU003
Plans and Specifications	due before 07/01/2011 for mercury removal. The plan shall contain the information specified in Minn. Stat. 216B.682, subd. 3.	EU004
Testing Frequency Plan	due 60 days after Initial Performance Test for Hydrogen Fluoride emissions.	EU003
Testing Frequency Plan	due 60 days after Initial Performance Test for Lead emissions.	EU003
Testing Frequency Plan	due 60 days after Initial Performance Test for PM and PM10 emissions.	EU003

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

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 following Initial Startup of the Monitor (Submit Deviations Reporting Form DRF-1 as amended). The EER must contain all of the information requested in 40 CFR60.7(c). The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	GP002, GP003, MR024
Linearity Test Results Summary	due 30 days after end of each calendar quarter following CEM Certification Test in which a Linearity and Leak Check Test was conducted.	MR028, MR029, MR032, MR033, MR036, MR037
Linearity Test Results Summary	due 30 days after end of each calendar quarter following Linearity and Leak Check Test (Acid Rain Program), if performed.	MR007, MR008
Quarterly Report	due 30 days after end of each calendar quarter starting 01/01/2009 as referenced by 40 CFR Section 75.84(f).	MR026
Quarterly Report	due 30 days after end of each calendar quarter starting 01/01/2009 as required by 40 CFR Section 75.84(f).	MR025
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar quarter following CEM Certification Test in which the CEMS RATA was conducted.	MR028, MR029, MR032, MR033, MR036, MR037
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar quarter following CEMS Relative Accuracy Test Audit (RATA)	MR025, MR026
COMS Calibration Error Audit Results Summary	due 30 days after end of each calendar half-year following COMS Certification Test for MR027, Boiler 3 Opacity.	MR027
COMS Calibration Error Audit Results Summary	due 30 days after end of each calendar half-year following COMS Certification Test for MR040, Boiler 3 Opacity.	MR040
COMS Calibration Error Audit Results Summary	due 30 days after end of each calendar half-year starting 03/28/2007 for MR 020, Boiler 1 Opacity.	MR020
COMS Calibration Error Audit Results Summary	due 30 days after end of each calendar half-year starting 03/28/2007 for MR 021, Boiler 2 Opacity.	MR021
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar half-year following CEMS Relative Accuracy Test Audit (RATA) in which the CEMs RATA was conducted for MR007, Boiler 4 SO2.	MR007
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar half-year following CEMS Relative Accuracy Test Audit (RATA) in which the CEMs RATA was conducted for MR008, Boiler 4 NOx.	MR008
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 03/28/2007. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Compliance Certification	due 31 days after end of each calendar year starting 03/28/2007 (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility

Facility Name: Minnesota Power Inc - Boswell Energy Ctr

Permit Number: 06100004 - 004

Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar year following CEMS Relative Accuracy Test Audit (RATA) in which the CEMs RATA was conducted for MR024, Boiler 3 CO.	MR024

APPENDIX A
Insignificant Activities
Minnesota Power - Boswell Energy Center
Permit Number: 06100004-004

Insignificant Activities

Activity	Rule Citation	Applicable Regulations
Grinders	Minn. R. 7007.1300, subp. 3.D.(2)	Minn. R. 7011.0715
Gasoline Tanks	Minn. R. 7007.1300, subp. 3.E(1)	NA
Welding Equipment	Minn. R. 7007.1300, subp. 3.H(4)	Minn. R. 7011.0715
Sandblasting	Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0715
Coal Stockpile loading	"	Minn. R. 7011.0150
Coal Stockpile, equipment traffic	"	Minn. R. 7011.0150
Conveyor drop onto stockpile, reclaimer	"	Minn. R. 7011.0150
Conveyor Drop onto Stockpile –Side Chute	"	Minn. R. 7011.0150
Rail Car Unloading	"	Minn. R. 7011.0150
Rail Car Load Out	"	Minn. R. 7011.0150
Lab Hoods (4)	"	Minn. R. 7011.0715
Coal Transfer Tower A	"	Minn. R. 7011.0150
Coal Transfer Tower B	"	Minn. R. 7011.0150
Coal Conveyer Belt C3	"	Minn. R. 7011.0150
Coal Rotary Car Dumper	"	Minn. R. 7011.0150
Coal Rotary Car TP	"	Minn. R. 7011.0150
Coal Transfer and Sampling House	"	Minn. R. 7011.0150
Coal Storage Silo	"	Minn. R. 7011.0715
Coal Tripper Transfer	"	Minn. R. 7011.0715
#4 Coal Bunker	"	Minn. R. 7011.0715

APPENDIX B
Dispersion Modeling Parameters
Minnesota Power - Boswell Energy Center
Permit Number: 06100004-004

Dispersion Modeling Parameters

*** N01 Itr 2; INL-INL, MN Metdata 1987 *** 17:19:28
**MODELOPTs: PAGE 2
CONC DFAULT ELEV

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	EMIS RATE SCALAR VARY BY
BEC_SV03	0	0.11653E+03	450543.2	5234354.5	392.6	192.44	361.48	12.64	8.84	YES	NO	NO	
BEC_SV04	0	0.25749E+03	450653.8	5234624.5	394.6	170.31	343.15	35.85	6.10	YES	NO	NO	
BEC_SV09	0	0.63000E-01	450631.3	5234411.0	396.2	13.72	699.82	20.21	0.24	YES	NO	NO	
BEC_SV10	0	0.60480E+01	450683.1	5234583.0	395.4	8.23	699.82	8.80	0.64	YES	NO	NO	
BEC_SV22	0	0.60000E-02	450555.3	5234413.5	394.3	9.14	847.04	10.49	0.20	YES	NO	NO	

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***
** CONC OF NOX IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS 59.05281	AT (450572.66, 5234629.00, 392.04, 392.04, 0.00)	DC	

*** N04 Itr 2; INL-INL, MN Metdata 1987 *** 18:49:21
**MODELOPTs: PAGE 2
CONC DFAULT ELEV

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	EMIS RATE SCALAR VARY BY
BEC_SV03	0	0.29590E+02	450543.2	5234354.5	392.6	192.44	329.26	8.50	8.84	YES	NO	NO	

APPENDIX B
Dispersion Modeling Parameters
Minnesota Power - Boswell Energy Center
Permit Number: 06100004-004

BEC_SV04	0	0.25749E+03	450653.8	5234624.5	394.6	170.31	343.15	35.85	6.10	YES	NO	NO
BEC_SV09	0	0.63000E-01	450631.3	5234411.0	396.2	13.72	699.82	20.21	0.24	YES	NO	NO
BEC_SV10	0	0.60480E+01	450683.1	5234583.0	395.4	8.23	699.82	8.80	0.64	YES	NO	NO
BEC_SV22	0	0.60000E-02	450555.3	5234413.5	394.3	9.14	847.04	10.49	0.20	YES	NO	NO

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF NOX IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	59.05276 AT (450572.66, 5234629.00, 392.04, 392.04, 0.00)	DC	

*** P01 Itr 2; INL-INL, MN Metdata 1990 *** 14:21:08 *

**MODELOPTs: PAGE 2

CONC DFAULT ELEV MULTYR

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	EMIS RATE SCALAR VARY BY
BEC_SV03	0	0.33695E+02	450543.2	5234354.5	392.6	192.44	361.48	12.64	8.84	YES	NO	NO	
BEC_SV04	0	0.64372E+02	450653.8	5234624.5	394.6	170.31	343.15	35.85	6.10	YES	NO	NO	
BEC_SV09	0	0.78000E-01	450631.3	5234411.0	396.2	13.72	699.82	20.21	0.24	YES	NO	NO	
BEC_SV10	0	0.94000E-01	450683.1	5234583.0	395.4	8.23	699.82	8.80	0.64	YES	NO	NO	
BEC_SV15	0	0.27000E-01	450581.8	5234460.0	394.4	17.98	294.26	0.00	0.15	YES	NO	NO	
BEC_SV16	0	0.43000E-01	450296.8	5234813.5	396.2	46.33	294.26	0.00	0.15	YES	NO	NO	
BEC_SV17	0	0.15000E-01	450303.2	5234810.0	396.2	46.33	294.26	0.00	0.15	YES	NO	NO	
BEC_SV18	0	0.12000E-01	450298.0	5234808.0	396.2	46.33	294.26	0.00	0.15	YES	NO	NO	
BEC_SV20	0	0.18000E-01	450620.7	5234623.5	394.4	17.22	294.26	0.00	1.23	YES	NO	NO	
BEC_SV21	0	0.18000E-01	450617.9	5234627.0	394.4	17.22	294.26	0.00	1.23	YES	NO	NO	
BEC_SV22	0	0.80000E-02	450555.3	5234413.5	394.3	9.14	847.04	10.49	0.20	YES	NO	NO	
BEC_SV23	0	0.25200E+00	450736.8	5234139.0	397.5	6.40	294.26	46.04	1.42	YES	NO	NO	

APPENDIX B
Dispersion Modeling Parameters
Minnesota Power - Boswell Energy Center
Permit Number: 06100004-004

*** THE SUMMARY OF MAXIMUM PERIOD (8784 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS 7.50431	AT (450543.22, 5234704.50, 391.86, 391.86, 0.00)	DC	

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL HIGH	1ST HIGH VALUE IS 61.66373	ON 89112024:	AT (450687.31, 5233790.50, 394.96, 394.96, 0.00)	DC	
HIGH	2ND HIGH VALUE IS 56.72338	ON 90011124:	AT (450687.31, 5233790.50, 394.96, 394.96, 0.00)	DC	
HIGH	3RD HIGH VALUE IS 52.64199c	ON 86011224:	AT (450687.31, 5233790.50, 394.96, 394.96, 0.00)	DC	
HIGH	4TH HIGH VALUE IS 47.35564c	ON 86011224:	AT (450677.31, 5233790.50, 395.00, 396.24, 0.00)	DC	
HIGH	5TH HIGH VALUE IS 34.63295	ON 90041624:	AT (450687.31, 5233790.50, 394.96, 394.96, 0.00)	DC	
HIGH	6TH HIGH VALUE IS 30.75789	ON 89092224:	AT (450657.31, 5233790.50, 396.03, 396.03, 0.00)	DC	

CONC DFAULT ELEV MULTYR

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	EMIS RATE SCALAR VARY BY
BEC_SV01	0	0.47250E+01	450572.1	5234322.5	394.8	76.20	394.26	10.57	2.90	YES	NO	NO	
BEC_SV03	0	0.73980E+01	450543.2	5234354.5	392.6	192.44	305.37	4.25	8.84	YES	NO	NO	
BEC_SV04	0	0.32186E+02	450653.8	5234624.5	394.6	170.31	330.37	17.92	6.10	YES	NO	NO	

APPENDIX B
Dispersion Modeling Parameters
Minnesota Power - Boswell Energy Center
Permit Number: 06100004-004

BEC_SV15	0	0.27000E-01	450581.8	5234460.0	394.4	17.98	294.26	0.00	0.15	YES	NO	NO
BEC_SV16	0	0.43000E-01	450296.8	5234813.5	396.2	46.33	294.26	0.00	0.15	YES	NO	NO
BEC_SV17	0	0.15000E-01	450303.2	5234810.0	396.2	46.33	294.26	0.00	0.15	YES	NO	NO
BEC_SV18	0	0.12000E-01	450298.0	5234808.0	396.2	46.33	294.26	0.00	0.15	YES	NO	NO
BEC_SV20	0	0.18000E-01	450620.7	5234623.5	394.4	17.22	294.26	0.00	1.23	YES	NO	NO
BEC_SV21	0	0.18000E-01	450617.9	5234627.0	394.4	17.22	294.26	0.00	1.23	YES	NO	NO
BEC_SV23	0	0.25200E+00	450736.8	5234139.0	397.5	6.40	294.26	46.04	1.42	YES	NO	NO

*** THE SUMMARY OF MAXIMUM PERIOD (8784 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS 7.54244	AT (450543.22, 5234704.50, 391.86, 391.86, 0.00)	DC	

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	62.38565	ON 89112024:	AT (450687.31, 5233790.50, 394.96, 394.96, 0.00)	DC	
	HIGH 2ND HIGH VALUE IS	56.71721	ON 90011124:	AT (450687.31, 5233790.50, 394.96, 394.96, 0.00)	DC	
	HIGH 3RD HIGH VALUE IS	54.43631c	ON 86011224:	AT (450687.31, 5233790.50, 394.96, 394.96, 0.00)	DC	
	HIGH 4TH HIGH VALUE IS	49.72771	ON 89050524:	AT (450687.31, 5233790.50, 394.96, 394.96, 0.00)	DC	
	HIGH 5TH HIGH VALUE IS	34.65719	ON 90041624:	AT (450687.31, 5233790.50, 394.96, 394.96, 0.00)	DC	
	HIGH 6TH HIGH VALUE IS	31.19517	ON 89092224:	AT (450667.31, 5233790.50, 395.46, 395.46, 0.00)	DC	

*** POINT SOURCE DATA ***

APPENDIX B
Dispersion Modeling Parameters
Minnesota Power - Boswell Energy Center
Permit Number: 06100004-004

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	EMIS RATE SCALAR VARY BY
BEC_SV03	0	0.79403E+03	450543.2	5234354.5	392.6	192.44	361.48	12.64	8.84	YES	NO	NO	
BEC_SV04	0	0.21243E+03	450653.8	5234624.5	394.6	170.31	343.15	35.85	6.10	YES	NO	NO	
BEC_SV09	0	0.70000E-02	450631.3	5234411.0	396.2	13.72	699.82	20.21	0.24	YES	NO	NO	
BEC_SV10	0	0.94500E+00	450683.1	5234583.0	395.4	8.23	699.82	8.80	0.64	YES	NO	NO	
BEC_SV22	0	0.20000E-02	450555.3	5234413.5	394.3	9.14	847.04	10.49	0.20	YES	NO	NO	

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF SO2 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS 9.22156 AT	(450572.66, 5234629.00, 392.04, 392.04, 0.00)	DC	

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	EMIS RATE SCALAR VARY BY
BEC_SV03	0	0.24469E+04	450543.2	5234354.5	392.6	192.44	361.48	12.64	8.84	YES	NO	NO	
BEC_SV04	0	0.77246E+03	450653.8	5234624.5	394.6	170.31	343.15	35.85	6.10	YES	NO	NO	
BEC_SV09	0	0.12600E+00	450631.3	5234411.0	396.2	13.72	699.82	20.21	0.24	YES	NO	NO	
BEC_SV10	0	0.94500E+00	450683.1	5234583.0	395.4	8.23	699.82	8.80	0.64	YES	NO	NO	
BEC_SV22	0	0.35000E-01	450555.3	5234413.5	394.3	9.14	847.04	10.49	0.20	YES	NO	NO	

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

APPENDIX B
Dispersion Modeling Parameters
Minnesota Power - Boswell Energy Center
Permit Number: 06100004-004

** CONC OF SO2 IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	796.42310	ON 89032314:	AT (449175.12, 5238113.50, 392.89, 392.89, 0.00)	DC	
	HIGH 2ND HIGH VALUE IS	548.07581	ON 89032314:	AT (449935.44, 5237801.50, 392.58, 392.58, 0.00)	DC	

*** THE SUMMARY OF HIGHEST 3-HR RESULTS ***

** CONC OF SO2 IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	456.37442	ON 89071812:	AT (450334.84, 5233172.50, 390.14, 390.14, 0.00)	DC	
	HIGH 2ND HIGH VALUE IS	424.45447	ON 89071412:	AT (450334.84, 5233172.50, 390.14, 390.14, 0.00)	DC	

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF SO2 IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	179.11818c	ON 87070824:	AT (450300.12, 5232976.00, 390.40, 390.40, 0.00)	DC	
	HIGH 2ND HIGH VALUE IS	157.92535	ON 87071224:	AT (450230.66, 5232582.00, 390.14, 390.14, 0.00)	DC	

CONC DFAULT ELEV

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	EMIS RATE SCALAR VARY BY

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- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
  BEC_SV03      0   0.59552E+03  450543.2 5234354.5   392.6   192.44   355.37     9.48     8.84    YES     NO    NO
  BEC_SV04      0   0.15932E+03  450653.8 5234624.5   394.6   170.31   338.71    26.89     6.10    YES     NO    NO

                                     *** THE SUMMARY OF MAXIMUM PERIOD (  8760 HRS) RESULTS ***
                                 ** CONC OF SO2      IN MICROGRAMS/M**3                          **
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)   OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
ALL      1ST HIGHEST VALUE IS       3.70379 AT (  452275.28,  5233354.50,    388.01,    388.01,      0.00)  DC



                                 ***  S02 Short-term Itr 2; INL-INL, MN Metdata 1989                    ***        23:50:43
**MODELOPTs:                                                                                                      PAGE   2
CONC                          DFAULT ELEV
                                             *** POINT SOURCE DATA ***
             NUMBER EMISSION RATE                       BASE     STACK   STACK    STACK     STACK    BLDG   URBAN  CAP/  EMIS RATE
   SOURCE     PART.  (GRAMS/SEC)     X        Y       ELEV.    HEIGHT  TEMP.   EXIT VEL. DIAMETER  EXISTS SOURCE HOR   SCALAR
     ID       CATS.              (METERS) (METERS) (METERS) (METERS) (DEG.K)  (M/SEC)  (METERS)                        VARY BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
  BEC_SV03      0   0.18352E+04  450543.2 5234354.5   392.6   192.44   355.37     9.48     8.84    YES     NO    NO
  BEC_SV04      0   0.57935E+03  450653.8 5234624.5   394.6   170.31   338.71    26.89     6.10    YES     NO    NO

                                         *** THE SUMMARY OF HIGHEST  1-HR RESULTS ***
                                 ** CONC OF SO2      IN MICROGRAMS/M**3                          **
                                                   DATE                                                            NETWORK
GROUP ID                         AVERAGE CONC      (YYMMDDHH)             RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)     OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
ALL      HIGH  1ST HIGH VALUE IS     725.31946  ON 89032314: AT (  449346.16,  5237643.50,    392.58,    392.58,      0.00)  DC
         HIGH  2ND HIGH VALUE IS     468.49081  ON 89032713: AT (  450022.28,  5237309.00,    392.28,    392.28,      0.00)  DC

                                         *** THE SUMMARY OF HIGHEST  3-HR RESULTS ***
                                 ** CONC OF SO2      IN MICROGRAMS/M**3                          **
```

APPENDIX B
Dispersion Modeling Parameters
Minnesota Power - Boswell Energy Center
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GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	420.11865	ON 89072012:	AT (450751.59, 5233172.50, 388.01, 388.01, 0.00)	DC	
	HIGH 2ND HIGH VALUE IS	387.68100	ON 89071412:	AT (450334.84, 5233172.50, 390.14, 390.14, 0.00)	DC	

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF SO2 IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	163.01523c	ON 87070724:	AT (450543.22, 5232954.50, 389.84, 389.84, 0.00)	DC	
	HIGH 2ND HIGH VALUE IS	139.78828c	ON 87082724:	AT (450334.84, 5233172.50, 390.14, 390.14, 0.00)	DC	

CONC DFAULT ELEV

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	EMIS RATE SCALAR VARY BY
BEC_SV03	0	0.38045E+02	450543.2	5234354.5	392.6	192.44	329.26	8.50	8.84	YES	NO	NO	
BEC_SV04	0	0.21243E+03	450653.8	5234624.5	394.6	170.31	343.15	35.85	6.10	YES	NO	NO	
BEC_SV09	0	0.70000E-02	450631.3	5234411.0	396.2	13.72	699.82	20.21	0.24	YES	NO	NO	
BEC_SV10	0	0.94500E+00	450683.1	5234583.0	395.4	8.23	699.82	8.80	0.64	YES	NO	NO	
BEC_SV22	0	0.20000E-02	450555.3	5234413.5	394.3	9.14	847.04	10.49	0.20	YES	NO	NO	

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF SO2 IN MICROGRAMS/M**3 **

APPENDIX B
Dispersion Modeling Parameters
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GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	9.22035 AT (450572.66, 5234629.00, 392.04, 392.04, 0.00)	DC	

CONC DFAULT ELEV

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	EMIS RATE SCALAR VARY BY
BEC_SV03	0	0.12555E+04	450543.2	5234354.5	392.6	192.44	329.26	8.50	8.84	YES	NO	NO	
BEC_SV04	0	0.77246E+03	450653.8	5234624.5	394.6	170.31	343.15	35.85	6.10	YES	NO	NO	
BEC_SV09	0	0.12600E+00	450631.3	5234411.0	396.2	13.72	699.82	20.21	0.24	YES	NO	NO	
BEC_SV10	0	0.94500E+00	450683.1	5234583.0	395.4	8.23	699.82	8.80	0.64	YES	NO	NO	
BEC_SV22	0	0.35000E-01	450555.3	5234413.5	394.3	9.14	847.04	10.49	0.20	YES	NO	NO	

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF SO2 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID
ALL HIGH	1ST HIGH VALUE IS 688.04608	ON 87112214:	AT (450543.22, 5237354.50, 392.88, 392.88, 0.00)	DC	
HIGH	2ND HIGH VALUE IS 427.86185	ON 87072815:	AT (449943.22, 5233315.50, 388.01, 388.01, 0.00)	DC	

*** THE SUMMARY OF HIGHEST 3-HR RESULTS ***

** CONC OF SO2 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK OF TYPE	GRID-ID

APPENDIX B
Dispersion Modeling Parameters
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```
 ALL      HIGH  1ST HIGH VALUE IS     398.49915  ON 89072012: AT (  450716.88,  5233369.50,    388.01,    388.01,      0.00)  DC
          HIGH  2ND HIGH VALUE IS     363.01028  ON 89071412: AT (  450369.56,  5233369.50,    388.01,    388.01,      0.00)  DC

                                                *** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

                                              ** CONC OF SO2      IN MICROGRAMS/M**3                          **

                                                          DATE                                                                NETWORK
 GROUP ID                          AVERAGE CONC      (YYMMDDHH)             RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)     OF TYPE  GRID-ID
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 ALL      HIGH  1ST HIGH VALUE IS     155.74730c ON 87070724: AT (  450543.22,  5232954.50,    389.84,    389.84,      0.00)  DC
          HIGH  2ND HIGH VALUE IS     132.83893c ON 87082724: AT (  450334.84,  5233172.50,    390.14,    390.14,      0.00)  DC


*** AERMOD - VERSION 07026 ***    ***  0959-20 MN Power - Boswell Energy Center                          ***        08/14/08
                                  ***  CO AERMOD Modeling; INL-INL, MN Metdata 1986                       ***        16:34:23
**MODELOPTs:                                                                                                        PAGE   2
CONC                        DFAULT ELEV
                                                    *** POINT SOURCE DATA ***
             NUMBER EMISSION RATE                      BASE     STACK   STACK    STACK     STACK    BLDG   URBAN  CAP/  EMIS RATE
   SOURCE     PART.  (GRAMS/SEC)     X         Y      ELEV.    HEIGHT  TEMP.    EXIT VEL. DIAMETER  EXISTS SOURCE HOR   SCALAR
     ID       CATS.                (METERS) (METERS) (METERS) (METERS) (DEG.K)  (M/SEC)   (METERS)                       VARY BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  BEC_SV03      0   0.63408E+03  450543.2 5234354.5   392.6   192.44   329.26     8.50     8.84    YES     NO    NO
  BEC_SV22      0   0.25000E+00  450519.0 5234415.0   394.3     9.14   772.59    22.92     0.25    YES     NO    NO
```

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NOx Compliance Plan
Minnesota Power - Boswell Energy Center
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Phase II NOx Compliance Plan

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

This submission is: [X] **New (*Renewal*)** [ ] **Revised**

Step 1 **Indicate plant name, State, and ORIS code from NADB, if applicable**	Clay Boswell Plant Name	MN State	1893 ORIS Code

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

	ID# 1	ID# 2	ID# 3	ID# 4	ID#	ID#
	DBW Type	DBW Type	T Type	T Type	 Type	 Type
(a) Standard annual average emission limitation of 0.50 lb/mmBtu (for <u>Phase I</u> dry bottom wall-fired boilers)						
(b) Standard annual average emission limitation of 0.45 lb/mmBtu (for <u>Phase I</u> tangentially fired boilers)						
(c) EPA-approved early election plan under 40 CFR 76.8 through 12/31/07 (also indicate above emission limit specified in plan)						
(d) Standard annual average emission limitation of 0.46 lb/mmBtu (for <u>Phase II</u> dry						

APPENDIX C
NOx Compliance Plan
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bottom wall-fired boilers)						
(e) Standard annual average emission limitation of 0.40 lb/mmBtu (for Phase II tangentially fired boilers)						
(f) Standard annual average emission limitation of 0.68 lb/mmBtu (for cell burner boilers)						
(g) Standard annual average emission limitation of 0.86 lb/mmBtu (for cyclone boilers)						
(h) Standard annual average emission limitation of 0.80 lb/mmBtu (for vertically fired boilers)						
(i) Standard annual average emission limitation of 0.84 lb/mmBtu (for wet bottom boilers)						
(j) NOx Averaging Plan (include NOx Averaging form)	X	X	X	X		
(k) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(A) (check the standard emission limitation box above for most stringent limitation applicable to any unit utilizing stack						
(l) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(B) with NOx Averaging (check the NOx Averaging Plan box and include NOx Averaging form)	X	X				
(m) EPA-approved common stack apportionment method pursuant to 40 CFR 75.17 (a)(2)(i)(C), (a)(2)(iii)(B), or						

APPENDIX C
NOx Compliance Plan
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(b)(2)						
(n) AEL (include Phase II AEL Demonstration Period, Final AEL Petition, or AEL Renewal form as appropriate)						
(o) Petition for AEL demonstration period or final AEL under review by U.S. EPA or demonstration period ongoing						
(p) Repowering extension plan approved or under review						

Standard Requirements

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

Special Provisions for Early Election Units

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

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

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

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Phase II NOx Averaging Plan

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

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

Step 1

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

Plant Name	State	ID#	(a) Emission Limitation	(b) Alt. Contemp. Emission Limitation	(c) Annual Heat Input Limit
Clay Boswell	MN	1	0.46	0.45	3,500,000
Clay Boswell	MN	2	0.46	0.45	3,500,000
Clay Boswell	MN	3	0.40	0.39	19,000,000
Clay Boswell	MN	4	0.40	0.35	33,000,000
Syl Laskin	MN	1	0.40	0.50	4,600,000
Syl Laskin	MN	2	0.40	0.50	4,600,000
Taconite Harbor	MN	1	0.40	0.45	5,600,000
Taconite Harbor	MN	2	0.40	0.45	5,600,000
Taconite Harbor	MN	3	0.40	0.45	5,600,000

Step 2

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

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

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0.40	0.40

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

Where,

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

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

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

n = Number of units in the averaging plan

[X] This plan is effective for calendar year _2008_ through calendar year _2011_ 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.

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Emission Limitations

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

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

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

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

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

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

Liability

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

Termination

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

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NOx Compliance Plan
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Phase II Permit Application

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

This submission is [X] New [ ] Revised

Clay Boswell Plant Name	MN State	1893 ORIS Code

Compliance Plan

a Boiler ID#	b Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)	c Repowering Plan	d New Units Commence Operation Date	e New Units Monitor Certification Deadline
1	Yes	no		
2	Yes	no		
3	Yes	no		
4	Yes	no		
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			
	Yes			

Standard Requirements

Permit Requirements.

APPENDIX C
NOx Compliance Plan
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(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 parts 74, 75, and 76.
(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 parts 74 and 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements.

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

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

Excess Emissions Requirements.

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

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
(i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period

until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
(ii) All emissions monitoring information, in accordance with 40 CFR part 75;
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
(iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

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

Liability.

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO_x averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
(2) Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 06100004-004

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

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: **4911**)
Minnesota Power Division of Allete, Inc. 30 West Superior Street Duluth MN, 55802	Boswell Energy Center 1210 3rd St NW Cohasset Itasca County
Contact: Misty Hanson Phone: 218-328-5036	

1.2. Description of the Facility

The Boswell Energy Center (facility) is a coal-fired electric utility steam generating plant. Emission units at the facility include four power boilers, emergency engine generators, and fuel, additive and ash handling equipment. The main fuel for all boilers is sub bituminous coal. They may also burn distillate oil, limited amounts of boiler cleaning agents, used oil, oily coal, oily paper-based floor dry, wastewater treatment plant sludge, and oily materials (earth substrate with petroleum product). Emissions are controlled by baghouses, over fire air, selective Non-Catalytic Reduction on Boilers 1 and 2. Low Nitrogen Oxide (NO_x) burners, over fire air, selective catalytic reduction, baghouse filter a wet scrubber on Boiler 3, and a wet venturi scrubber / electrostatic precipitator, and sulfur dioxide spray towers on Boiler 4.

1.3 Description of the Activities Allowed by this Permit Action

There are three separate major amendments rolled into this permit action.

An application for a major amendment was submitted September 5, 2008. This application was submitted to revise the size of an emergency generator (EU 023) from 100 kW to 300 kW. This is known as the Generator Project within this TSD. This emergency generator unit (EGU) is part of the retrofitting project for EU003, permit No. 06100004-003 issued March 28, 2007. The EGU is to provide power for safe shutdown of pollution control equipment during power

outages. The original generator has not yet been installed. The original project was subject to Prevention of Significant Deterioration (PSD) for Carbon Monoxide (CO). Because of the increase in CO emission due to the larger EGU the facility has submitted a revised PSD analysis for CO. This includes updated Best Available Control Technology (BACT) and CO air dispersion modeling. (DQ 2218)

An application for a major amendment was submitted September 15, 2008. This application is for installation of natural gas fired igniters/heat guns on all boilers; EU001, EU002, EU003, and EU004. All boilers currently have a set of oil-fired igniter/heat guns. The existing oil and new gas fired igniters/guns will not be fired simultaneously. Either oil or gas will be used at any given time on a per igniter or gun basis. The installation will include electrical switches and signals to ensure that it is not possible to fire both the oil fired and gas fired igniter/guns. A PSD analysis was conducted for CO and Volatile Organic Compounds (VOC). A facility wide natural gas usage limit will be used to avoid a significant increase in CO. (DQ 2232)

An application for a major amendment was submitted December 3, 2008. This application is for the installation of new Continuous Emissions Monitors Systems (CEMS). This would allow the facility to separately monitor the NOx, SOx, CO2, Opacity, and Air Flow for EU001, EU002, and EU003. This change does not involve any emissions increases or change to emission permit limits. (DQ 2342)

An application for an administrative amendment was received by the MPCA. This amendment was submitted to correct allowable fuel for emergency generator 1 (EU007). This amendment does not authorize any changes to the facility. (Administrative amendment, DQ 1601)

This permit amends the maximum achievable operating rates for boilers 3 and 4 (EU003, EU004). These updates stem from recent stack tests.

This permit action also incorporates multiply Reopenings initiated by the MPCA. These are the incorporated Reopenings; Certified MR 040 to replace MR 005 for monitoring opacity for EU004, Certified MR 041 to replace MR 023 for monitoring air flow for EU004, March 21, 2008 letter from Jeff Smith to Minnesota Power.

This permit also incorporates the requirements that stem from Title V modeling that was done by the permittee.

This permit also incorporates a propane fired slag shock system. This system qualifies as an insignificant modification due to emissions. The system will be installed to target tougher-to-remove slag deposits by using the percussion of a small controlled explosion to shock the deposits off of the boiler. Since the system will operate within the boiler propane has to be added to the allowable fuels list for all boilers at the facility.

1.4. Facility Emissions:

Table 1.1 Title I Emissions Increase Summary: NOx Reduction Project, Future-Projected Actual vs. Past Actual

Pollutant	Future-Projected Actual Emissions		Past Actual Emissions		Baseline Years		Excludable Emissions (tons/yr)	Projected Emissions Increase	PSD Threshold
	Units 1 & 2	Paved Road Fugitives (Units 1 & 2)	Units 1 & 2	Paved Road Fugitives (Units 1 & 2)		Increase prior to excludable			
	(tpy)	(tpy)	(tpy)	(tpy)		(tpy)	(tpy)	(tpy)	(tpy)
PM	66.0	2.9E-01	52.6	NA	2005-2006	13.7	13.1	0.6	25
PM_{10}	60.7	5.7E-02	48.4	NA	2005-2006	12.4	12.0	0.4	15
$PM_{2.5}$	35.1	8.6E-03	27.9	NA	2005-2006	7.2	6.9	0.3	15
SO_2	7,372.7	---	5,126.8	---	2005-2006	2,245.9	2,245.9	0.0	40
NO_x	1,116.9	---	2,383.9	---	2005-2006	-1,267.0	1,393.6	-2,660.6	40
CO	182.5	---	144.3	---	2005-2006	38.2	38.2	0.0	100
VOC	21.9	---	17.3	---	2005-2006	4.6	4.6	0.0	40
Lead	0.153	---	0.12	---	2005-2006	3.2E-02	0.0	0.00	0.6
H_2SO_4	169.3	---	117.8	---	2005-2006	51.6	51.6	0.0	7.0
Fluorides	54.8	---	43.2	---	2005-2006	11.5	11.5	0.0	3.0

Table 1.2 Title I Emissions Increase Summary: Igniter/warm-up Guns Project, Future-Projected Actual vs. Past Actual

Pollutant	Future-Projected Actual Emissions				Past Actual Emissions					Excludable Emissions (tons/yr)	Projected Emissions Increase	PSD Threshold
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 1	Unit 2	Unit 3	Unit 4	Baseline Years			
	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)		(tpy)	(tpy)	(tpy)
PM	2.0E-03	2.0E-03	1.9E-02	2.7E-03	**7.0E-04**	**7.2E-04**	**3.2E-02**	**2.7E-03**	**2006-2007**	0.0E+00	**-0.01**	25
PM_{10}	1.4E-03	1.4E-03	1.9E-02	2.7E-03	**4.9E-04**	**5.0E-04**	**2.2E-02**	**1.9E-03**	**2006-2007**	0.0E+00	**0.00**	15
PM_{25}	9.4E-04	9.4E-04	1.9E-02	2.7E-03	**3.3E-04**	**3.4E-04**	**1.5E-02**	**1.3E-03**	**2006-2007**	0.0E+00	**0.01**	10
NO_x	**1.2**	**1.2**	**2.5**	**3.5**	**1.5**	**1.6**	**5.1**	**7.0**	**2006-2007**	**0.0**	**-6.69**	**40**
SO_2	1.7	1.7	1.5E-02	4.5E-03	3.1	3.2	13.9	4.0	2006-2007	0.0	-20.60	40
CO	**0.7**	**0.7**	**2.1**	**3.0**	**0.5**	**0.1**	**0.5**	**1.0**	**2006-2007**	**0.0**	**4.38**	**100**
VOC	**4.6E-02**	**4.6E-02**	**0.1**	**0.2**	**1.7E-02**	**0.0E+00**	**2.0E-02**	**4.1E-02**	**2006-2007**	**0.0**	**0.35**	**40**
Lead	1.6E-05	1.6E-05	3.5E-06	1.0E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2006-2007	0.0	<0.001	0.6
Fluorides	2.3E-03	2.3E-03	0.0E+00	0.0E+00	1.3E-02				2006-2007	0.0	-<0.011	---
H_2SO_4	4.0E-02	4.0E-02	3.5E-04	4.9E-04	5.5E-01				2006-2007	0.0	-<0.471	---

Table 1.3 Non-Title I Emissions Increase Summary: Igniter/warm-up Guns Project, Future Potential vs. Past Potential

Pollutant	Future Potential	Past Potential	Projected Emissions Increase	EAW Threshold	AERA
	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
PM	5.12	5.12	0	250	100
PM10	3.56	3.56	0	250	100
PM2.5	2.39	2.39	0	250	100
NOX	982.5	982.5	0	250	100
So2	703.9	703.9	0	250	100
CO	319.5	224.29	95.21	250	100
VOC	20.9	8.98	11.92	250	100
Lead	0.0088	0.0088	0	250	100

Table 1.4 Total Facility Potential to Emit Summary

	PM tpy	PM_{10} tpy	SO_2 tpy	NO_x tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions pre modification	3831	2545	61501	24090	3431	180	3582	4066

Total Facility Limited Potential Emissions post modification	3831	2545	61501	24090	3432	180	3582	4066
Total Facility Actual Emissions (2007)	2,869	3,354	21,580	14,430	3,075	95.3	HAPs not reported in emission inventory	

Table 1.5 Facility Classifications

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

2. Regulatory and/or Statutory Basis

New Source Review

The facility is an existing major source under New Source Review (NSR) regulations.

The igniter/gun project does not result in a significant increase in PSD regulated pollutants. An Actual to Projected Actual PSD analysis was conducted for all pollutants. Due to type of fuels involved there is an increase in emissions rate for only CO and Volatile Organic Compounds (VOC). Refer to Technical Information section for more details.

The Emergency Generator does not result in a significant increase in PSD regulated pollutants. The original project was subject to Prevention of Significant Deterioration (PSD) for Carbon Monoxide (CO). Because of the increase in CO emission due to the larger EGU the facility has submitted a revised PSD analysis for CO. This includes updated Best Available Control Technology (BACT) and CO air dispersion modeling. Modeling was renewed by MPCA modeling staff. There were no problems with the modeling. Refer to Technical Information section for more details.

The NOx reduction project does not result in a significant increase in PSD regulated pollutants. An Actual to Projected Actual PSD analysis was conducted for all pollutants. The project added an Over-Fire-Air system and a Selective Non-Catalytic Reduction system to reduce NOx emissions. The only criteria pollutants that have a potential to increase are PM, PM_{10}, and $PM_{2.5}$. This permit includes stack tests for PM and PM10 to confirm that there was not a significant increase in these pollutants. A PM2.5 stack test was not included because there is no prior stack test to compare the results to. Refer to Technical Information section for more details.

Part 70 Permit Program

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

New Source Performance Standards (NSPS)

Boiler 4 is subject to 40 CFR pt. 60, Subpart D. The proposed new emergency engine generator is subject to 40 CFR pt. 60, Subp. IIII.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

There is a NESHAP that applies to reciprocating internal combustion engines. The new emergency engine generator is exempted from the requirements of the standard, other than initial notification requirements in 40 CFR § 63.6600. Section 63.6600 exempts emergency/limited use engines, and engines that are smaller than 500 horsepower. The new proposed engine meets these two criteria. The other existing engines on site are exempt from the standard under the same criteria. There are no other NESHAPS that apply to the facility. 40 CFR Part 63 Subpart DDDDD for a major source of HAP has been vacated. When DDDDD is promulgated it will apply to the facility.

Clean Air Mercury Rule CAMR

Removed mercury monitor installation requirement from EU001 and EU002. The Clean Air Mercury (CAMR) has been vacated and these monitors are required by rule. Even if the rule was still in effect the facility would not be required to install the monitors because stack tests showed that the rule would not apply to EU001 and EU002. MPCA staff recommended the removal.

Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment
- Minn. R. 7011.0515 Standards of Performance for New Indirect Heating Equipment
- Minn. R. 7011.0710 Standards of Performance for Pre-1969 Industrial Process Equipment
- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment
- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines

Mercury Reduction Act

In May of 2006, the State of Minnesota enacted the Mercury Emissions Reduction Act of 2006 (Minn. Stat. 216B.68 to 216B.687). The Act addresses several methods of reducing mercury emissions within the state, including reducing emissions from large electric power generating plants. Power plants that have a total net capacity in excess of 500 MW from all units at the site must develop plans and implement them at the units that are greater than 100 MW. A schedule is established in the Act that differs for dry and wet methods of controlling SO2. This legislation affects the two larger units at the Boswell, Units 3 and 4. The Act will eventually require the reduction of mercury at targeted units.

There is a requirement for wet and dry scrubbed units to prepare plans for achieving 90 percent reduction of mercury from the unit by 2014. Minn. Stat. 216B.6851, subd. 5 encourage early action for wet scrubbed units, and sets December 31, 2010 as the early action target date to achieve the 90 percent reduction for power boiler No. 3.

Clean Air Interstate Rule

On July 11, 2008, the DC Circuit Court of Appeals issued an opinion pointing out several "fatal flaws" with the Clean Air Interstate Rule. In the opinion, the Court vacated the existing rule. However, the Court never issued the mandate – the vehicle that would have explicitly prevented CAIR from taking effect. EPA petitioned for rehearing, asking the Court to make substantive changes to the July opinion, and to change the remedy from vacatur to simple remand.

On December 23, 2008, the Court issued a panel opinion that changed the remedy. CAIR was remanded to EPA to be rewritten, addressing the flaws identified in the July ruling. However, the Court made no substantive changes to its opinion; EPA must therefore address all the flaws identified in July. With the remedy changing to a simple remand, the entirety of CAIR goes into effect as previously planned (including all parts that the Court identified as flawed.)

One main issue that EPA needs to address on remand is whether Minnesota should continue to be included in CAIR. The Court ruled in July that EPA did not adequately respond to claims made by Minnesota Power that data on Minnesota emissions were inaccurate, and that using better data would result in Minnesota falling below the threshold impact on a non-attainment area that was used to determine inclusion.

In a letter dated October 31, 2008, from Robert Meyers (Principal Deputy Assistant Administrator, Office of Air and Radiation) and Granta Nakayama (Assistant Administrator, Office of Enforcement and Compliance Assurance) to Minnesota Power's counsel, EPA stated:

> *[I]t is the U.S. Environmental Protection Agency's (EPA) intention to publish in the Federal Register a rule amending the Clean Air Interstate Rule (CAIR) to stay the effectiveness of the rule with respect to sources located in the State of Minnesota. That administrative stay will remain in effect until such time as EPA determines through a rulemaking under the Clean Air Act whether Minnesota should be included in the CAIR region for fine particulate matter. EPA believes that in light of the Court's decision, sources in Minnesota should not be required to make any additional expenditures to comply with CAIR prior to the expiration of the administrative stay of the rule.*

The Court was aware of this letter when it made its December 23, 2008 decision.

EPA's John Mooney from the Region V Office notified the MPCA that on January 15, 2009, the USEPA Administrator signed the notice for the proposed rule to stay CAIR requirements in Minnesota until the Agency determines whether Minnesota should be in the CAIR region. On January 20, 2009, Mr. Rahm Emanuel, Assistant to the President and Chief of Staff, signed a

"Memorandum for the Heads of Executive Departments and Agencies" on the subject of "Regulatory Review". In this memorandum, Mr. Emanuel directs his staff to stop sending proposed and final regulations to the Office of the Federal Register (OFR) and to withdraw proposed and final regulations from the OFR that have not been published in the Federal Register. The proposed rule to stay CAIR requirements in Minnesota has not been published in the Federal Register. Copies of the signed proposed rule to stay CAIR requirements in Minnesota and its fact sheet can be found at
http://epa.gov/cair/pdfs/20090114proposal.pdf

http://epa.gov/cair/pdfs/20090114fs.pdf

Please also note that under the proposed rule to stay CAIR in Minnesota, EPA requires that as of June 30, 2009, each Minnesota source with recorded allowance allocations under the annual NOX trading program must hold an amount of allowances issued for the same year as the recorded allowances (e.g., 2009) equal to the amount of the recorded allocations. EPA also proposes that the Administrator deduct, and retire, these required allowance holdings and that no additional allowance allocations from the state annual NOx trading budget for Minnesota be recorded. Although these provisions could be amended after review by staff in President Obama's administration, this should be an important consideration for management of recorded allowances by CAIR sources in Minnesota.

The date for submitting allowances for the 2009 annual NO_X program is not until early 2010; EPA should be able to promulgate a stay of the rule by that time. However, it is likely to be in covered sources best interests to continue to report emissions data quarterly as required by the CAIR rule. In addition, Minnesota may be included in the re-promulgated CAIR rule.

It must be noted that after publication, this remains a proposed rule; a stay of the rule is not official until it has gone through the notice and comment rulemaking proceedings in the Federal Register. Such public participation and rule promulgation process could take several months. Until that time, CAIR is officially in effect in Minnesota.

Therefore, for the time being, the permits for CAIR affected facilities have a condition at the total facility level requesting compliance with CAIR with a sunset provision linked to EPA's future regulatory actions. The MPCA will not go as far as to issue a CAIR permit given the current prospects of the CAIR program in Minnesota.

3. Technical Information

3.1 Clean Air Mercury Rule

Removed mercury monitor installation requirement from EU001 and EU002. The Clean Air Mercury (CAMR) has been vacated and these monitors are required by rule. Even if the rule was still in effect the facility would not be required to install the monitors because stack tests showed that the rule would not apply to EU001 and EU002. Anne Jackson recommended the removal.

3.2 Vendor Certification of Sulfur Content

Removed requirement to calculate SO_2 emissions based on vendor certification from EU001 and EU002 when on bypass to SV001. The new CEMS for SO_2 will be placed after the bag houses rather then in SV003, which is the main stack shared by EU001, EU002, and EU003. The location of the new CEMS systems allows for continuous tracking whether being vented through the main stack SV003 or in the bypass stack SV001.

3.3 Igniter/Heat Gun Project – Actual To Projected Actual – PSD Analysis

There was sufficient data to determine the baseline actual emissions as defined at §52.21(b)(48)(i). Baseline actual emissions are based on fuel usage records and AP-42 emission factors. The igniter/heat guns are only used during the startup period of the boilers; they are not used during normal operation of the boilers. As a result actual use is less than 1% yearly capacity of the guns/igniters. This is why the capacity of the igniter/heat guns is not included on the MMBtu/hr design capacity of the boilers. This project does not remove the fuel oil fired igniter/guns from the boilers. This project adds a parallel natural gas fired igniter/gun to each of the existing fuel oil fired igniter/gun. There will be a physical and electric lockout that allows for the use of only one of each pair at any given time. This gives the facility the flexibility to use fuel oil or natural gas based on cost. Calculation spreadsheets are found in the attachments to this TSD.

Future projected actual fuel usage rate for the igniters/guns used for this analysis is twice the past maximum rate. There are no excludable emissions included in the analysis because the natural gas capacity that has been added could not have been "accommodated" prior to the installation of the NG igniters. There is not a reasonable possibility that the increase in emissions will be significant under §52.21(r)(6)(vi). No documentation or on-going monitoring is required.

A natural gas usage limit across all boilers is used to avoid a significant increase in CO Potential to emit; this can be found under GP 004. The fuel usage limit restricts the increase of CO to 95 tpy to keep the emissions from the modification under the threshold for a mandatory Air Emissions Risk Assessment (AERA).

3.4 NOx Reduction Project Actual To Projected Actual – PSD Analysis

The Minnesota Pollution Control Agency (MPCA) has received and reviewed the Minnesota Power March 21, 2008 letter regarding planned changes at the Minnesota Power (Company) Boswell Energy Center for the reduction of nitrogen oxides (NO_X) emissions from Units 1, 2, and 4. To achieve NO_X emissions reductions, the Company intends to install ROFA/Rota Mix over-fire air and urea injection in units 1 and 2 in late 2008 and early 2009.

There was sufficient data to determine the baseline actual emissions as defined at §52.21(b)(48)(i). Boilers 1 & 2 have been, and will have a high rate of utilization at the facility. There is a possibility that the increase in emissions will be significant under §52.21(r)(6)(vi). To verify the PM_{10} emissions assumptions made in the analysis and the calculation of PM_{10} future actual emissions, the MPCA will add requirements for units 1 and 2 PM_{10} performance testing and re-verification of PM_{10} emissions changes resulting from the addition of the NO_X controls. The March 21, 2008 letter from Jeff Smith to Minnesota Power which outlined that the MPCA had determined that the facility could install the control equipment

Table 1.1 is a summary of the changes of emissions due to the NOx reduction project. Paved road Fugitives are due to the increased truck traffic from hauling in the NOx reducing reagents. The pollutants of concern in this analysis are all sizes of particulate emissions. . The baseline years used in this analysis are appropriate, the years 05-06 are within the look back period of five years. The calculation and use of excludable emissions is correct. The units were permitted and capable of running at a higher rate during the baseline period. The theoretical increases of PM, PM10 and PM2.5 are well below their significance thresholds of 40, 25 and 15 respectively. The emissions factors of particulates are based on best engineering estimates. To ensure that this project has not crossed a PSD significance thresholds

3.5 Maximum achievable operating rate

This permit amends the maximum achievable operating rates for boilers 3 and 4 (EU003, EU004). These updates stem from recent stack tests. Further discussions with the facility revealed that these boilers are consistently run at these updated rates. The previous rates used for PTE calculations and modeling were based on the boiler manufacturer guaranteed rate. The updated MMBtu/hr values come from coal Btu tests and throughput during a stack test. The change in rated capacity does not change what regulations and limits that the facility and boilers are subject to.

3.6 Title V Modeling: Results and discussion

Modeling results showed that the facility is well under the NAAQ and MAAQ standards. The parameters used in modeling have been reviewed and deemed expectable by the permitting and modeling staff. Results are summarized in the tables below.

Minnesota Ambient Air Quality Standards (µg/m3):

Criteria Pollutants	1-Hour	3-Hour	8-Hour	24-Hour	Annual	Other
CO	35,000	-	10,000	-	-	-
NOX	-	-	-	-	100	-
PM2.5	-	-	-	35	15	-
PM10	-	-	-	150	50	-
SO2	1,300	1,300	-	365	60	-
SO2 (Northern MN)	-	915	-	-	-	-

Predicted Impacts including Monitored Background Concentrations (µg/m3):

Criteria Pollutants	1-Hour	3-Hour	8-Hour	24-Hour	Annual	Other
CO	NA	-	NA	-	-	-
NOX	-	-	-	-	72.7	-
PM2.5	-	-	-	NA	NA	-
PM10	-	-	-	60.8	25.9	-
SO2	692.9	NA	-	205.9	13.2	-
SO2 (Northern MN)	-	526.9	-	-	-	-

The pollutant that is closest to the standard is NOx. The permit deviates from guidance by putting NOx under Tier 2 modeling rather than Tier 1. The cutoff value is normally 75% of standard and the modeling rate in under that at 72.7%. This permit amends the maximum operating rate for boiler 3 & 4. Using these amended values would most likely push the NOx impact above 75% of the standard. There is little to no chance that remodeling using the amended MMBtu/hr would result in NAAQS violations. Moving to Tier 2 is more stringent and will require remodeling if the facility submits a major amendment that increases NOx emissions.

3.7 Revised PSD Modeling For the Larger EGU (EU 023): Results and discussion

Modeling results showed that the facility is well under the NAAQ and MAAQ standards. The parameters used in modeling have been reviewed and deemed expectable by the permitting and modeling staff. Results are summarized in the tables below.

SIL Values (µg/m3):

Criteria Pollutants	1-Hour	3-Hour	8-Hour	24-Hour	Annual	Other
CO	2,000	-	500	-	-	-
NOX	-	-	-	-	1.0	-
PM2.5 (option 3)	-	-	-	1.2	0.3	-
PM10	-	-	-	5.0	1.0	-
SO2	25.0	25.0	-	5.0	1.0	-
SO2 (Northern MN)	-	25.0	-	-	-	-
Other						

Predicted Impacts (µg/m3):

Criteria Pollutants	1-Hour	3-Hour	8-Hour	24-Hour	Annual	Other
CO	241.3	-	118.4	-	-	-
NOX	-	-	-	-	NA	-
PM2.5	-	-	-	NA	NA	-
PM10	-	-	-	NA	NA	-
SO2	NA	NA	-	NA	NA	-
SO2 (Northern MN)	-	NA	-	-	-	-
Other						

PSD modeling for CO was revised because of the resizing of an emergency generator that was involved in the original analysis. The contribution of CO from the emergency generator is relatively small. EU003 was the primary contributor to the CO increase was due to pollution

control added to reduce NOx and SO2 emissions. The resized emergency generator does not change the result of the PSD analysis and modeling conducted for PER 003.

3.8 Calculations of Potential to Emit and Emissions Increase Analysis

Attachment 1 contains detailed spreadsheets of the facility's potential to emit and emissions summary prepared by the MPCA and the Permittee.

Attachment 2 to this TSD contains the emissions calculations related to the NOx reduction project, which installed OFA and NSCR on boilers 1 and 2 including Title I net emissions increase calculations for this modification. This demonstrates that this modification is not a major modification for PSD. The attachment also contains the non-Title I calculations for this modification which demonstrate that the modification trigger an AERA or EAW.

Attachment 3 contains the emissions calculations related to the Igniter/heat gun project on all four boilers at the facility. Title I net emissions increase calculations for this modification. This demonstrates that this modification is not a major modification for PSD. The attachment also contains the non-Title I calculations for this modification which demonstrate that the modification is not submit to an AERA or EAW.

Attachment 4 contains the emissions calculations related to the revised CO PSD analysis due to the increased size of the emergency generator EU 023 for boiler 3.

3.9 slag shock system

This permit also incorporates a propane fired slag shock system. This system qualifies as an insignificant modification due to emissions. The system will be installed to target tougher-to-remove slag deposits by using the percussion of a small controlled explosion to shock the deposits off of the boiler. Since the system will operate within the boiler propane has to be added to the allowable fuels list for all boilers at the facility. Calculations for this system can be found in attachment 7 to this TSD.

4 Periodic Monitoring

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

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

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;

- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

Table 4.1 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 4.1 Periodic Monitoring

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
GP004	SO2 limits for SV001, 002, 003, and 004	CEM	Continuous CEMs data ensures compliance with SO_2 Limits.
SV004	SV004 gas exit temperature This minimum temperature requirement is necessary to ensure adequate emissions dispersion.	Measured and recorded hourly	Hourly gas temperature readings ensure that the facility is operating with dispersion characteristics used for modeling analysis
EU001	PM $\leq$ 0.1 lb/MMBtu based on PSD modeling 40 CFR Section 52.21(k)	Monitoring, I and M, stack emission testing, and recordkeeping for fabric filter plus CAM requirements	Initial performance testing has been completed. Based on the results, a test frequency of every 60 months has been established. CAM requirements ensure that the control equipment is operated and maintained properly.
	Opacity $\leq$ 20 % with exception Minn. R. 7011.0510, subp. 2	COM	The use of a Continuous Opacity Monitor ensures that opacity limit will be followed.
	SO2 $\leq$ 4 lb/MMBtu for solid fuel, 2 lb/MMBtu for liquid Minn. R. 7011.0510, subp. 1	CEM	Continuous CEMs data ensures compliance with SO_2 Limits. Federal acid rain monitoring applies. Violation of this limit is unlikely.
	SO2 $\leq$ 1.18 lb/mmBtu when emissions are vented through SV001	CEM	Continuous CEMs data ensures compliance with SO_2 Limits.
	NOx limits and averaging plan	CEM	Continuous CEMs data ensures compliance with NOx Limits. Federal acid

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
			rain monitoring applies
EU002	PM $\leq$ 0.1 lb/MMBtu based on PSD modeling 40 CFR Section 52.21(k)	Monitoring, I and M, stack emission testing, and recordkeeping for fabric filter plus CAM requirements	Initial performance testing has been completed. Based on the results, a test frequency of every 60 months has been established. CAM requirements ensure that the control equipment is operated and maintained properly.
	Opacity $\leq$ 20 % with exception Minn. R. 7011.0510, subp. 2	COM	The use of a Continuous Opacity Monitor ensures that opacity limit will be followed.
	SO2 $\leq$ 4 lb/MMBtu for solid fuel, 2 lb/MMBtu for liquid Minn. R. 7011.0510, subp. 1	CEM	Continuous CEMs data ensures compliance with SO_2 Limits. Federal acid rain monitoring applies. Violation of this limit is unlikely.
	SO2 $\leq$ 1.18 lb/mmBtu when emissions are vented through SV001	CEM	Continuous CEMs data ensures compliance with SO_2 Limits.
	NOx limits and averaging plan	CEM	Continuous CEMs data ensures compliance with NOx Limits. Federal acid rain monitoring applies
EU003 Boiler 3 prior to modifications	PM $\leq$ 0.6 lb/MMBtu Minn. R. 7011.0510, subp. 1	Monitoring, I and M, and recordkeeping for wet scrubber plus CAM requirements	Stack test due 180 after modification is complete will set a test frequency plan that will confirm continuous compliance with this limit. CAM requirements ensure that the control equipment is operated and maintained properly.
	Opacity $\leq$ 20% with exceptions	COM	The use of a Continuous Opacity Monitor ensures that opacity limit will be followed.

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
	SO2 ≤ 4 lb/MMBtu for solid fuel, 2 lb/MMBtu for liquid Minn. R. 7011.0510, subp. 1	CEM	Continuous CEMs data ensures compliance with SO_2 Limits. Federal acid rain monitoring applies. Violation of this limit is unlikely.
	SO2 ≤ 2.97 lb/MMBtu as 1-hr avg. when EU001 and EU002 are also operating and vented through SV001 Minn. R. 7009.0020	CEM	Continuous CEMs data ensures compliance with SO_2 Limits.
	NOx ≤ 0.45 lb/MMBtu annual avg.	CEM	Continuous CEMs data ensures compliance with NOx Limits.
EU003 After modifications	PM ≤ 0.014 lb/MMBtu BART	Monitoring, I and M, stack performance testing, and recordkeeping for fabric filer plus CAM requirements	Stack test due 180 after modification is complete will set a test frequency plan that will confirm continuous compliance with this limit. CAM requirements ensure that the control equipment is operated and maintained properly.
	PM10 ≤ 0.035 lb/mmBtu BART	Monitoring, I and M, stack performance testing and recordkeeping for fabric filer plus CAM requirements	Stack test due 180 after modification is complete will set a test frequency plan that will confirm continuous compliance with this limit. CAM requirements ensure that the control equipment is operated and maintained properly.
	SO2 ≤ 0.09 lb/MMBtu BART	CEM	Continuous CEMs data ensures compliance with SO_2 Limits.

	NOx ≤ 0.07 lb/MMBtu 30 day rolling BART	CEM	Continuous CEMs data ensures compliance with NOx Limits.
	Hydrogen fluoride ≤ 0.0018 lb/mmBtu Title I Condition	Periodic stack emission testing	Initial stack test after modification will set a test frequency that will confirm compliance with this limit.
	CO ≤ 0.15 lb/mmBtu BACT	CEM	Continuous CEMs data ensures compliance with CO Limits.
	Lead ≤ 0.00004 lb/mmBtu	Period stack emission testing, operation and monitoring of control equipment	Initial stack test after modification will set a test frequency that will confirm compliance with this limit. Operation and maintenance of control equipment will ensure that this limit is met.
EU004	PM ≤ 0.1 lb/MMBtu 40 CFR § 52.21 BACT limit	Period stack emission testing, Monitoring, I and M, and recordkeeping for ESP plus CAM requirements	Initial performance testing has been completed. Based on the results, a test frequency of every 60 months has been established. CAM requirements ensure that the control equipment is operated and maintained properly.
	Opacity ≤ 20 % with exception 40 CFR Section 60.42(a)(2)	COM	The use of a Continuous Opacity Monitor ensures that opacity limit will be followed.
	SO2 ≤ 1.2 lb/MMBtu for solid fuel SO2 ≤ 0.8 lb/MMBtu for liquid fuel 40 CFR § 52.21 BACT limit and 40 CFR § 60.43	CEM	Continuous CEMs data ensures compliance with SO_2 Limits.
	NOx ≤ 0.7 lb/MMBtu for solid fuel NOx ≤ 0.3 lb/MMBtu for solid fuel	CEM	Continuous CEMs data ensures compliance with NOx Limits.

	40 CFR § 52.21 BACT limit		
EU005	None	None	Particulate emissions due to drift loss are limited by proper operating practices to limit total dissolved solids in cooling water
EU006	None	None	Particulate emissions due to drift loss are limited by proper operating practices to limit total dissolved solids in cooling water
EU007 EU009 EU010	Opacity $\leq$ 20 % Minn. R. 7011.2300	None	Internal combustion engines for backup electrical generators. Opacity unlikely to be exceeded with fuel specifications and engines are limited use.
	SO2 $\leq$ 0.5 lb/MMBtu	None	Use of diesel fuel oil guarantees compliance with the limit
EU011	PM $\leq$ IPER Minn. R. 7011.0710	Monitoring, I and M, and recordkeeping for fabric filter	Due to the nature of the material that is being handled and the control equipment that is being used it is unlikely that the limit will be violated.
EU012	PM $\leq$ IPER Minn. R. 7011.0710	Monitoring, I and M, and recordkeeping for fabric filter	Due to the nature of the material that is being handled and the control equipment that is being used it is unlikely that the limit will be violated.
EU013	PM $\leq$ IPER Minn. R. 7011.0710	Monitoring, I and M, and recordkeeping for fabric filter	Due to the nature of the material that is being handled and the control equipment that is being used it is unlikely that the limit will be violated.
EU014	PM $\leq$ IPER Minn. R. 7011.0710	Monitoring, I and M, and recordkeeping for fabric filter	Due to the nature of the material that is being handled and the control equipment that is being used it is unlikely that the limit

			will be violated.
EU015	PM ≤ 0.01 gr/dscf Title I Condition	Monitoring, I and M, and recordkeeping for fabric filter	Due to the nature of the material that is being handled and the control equipment that is being used it is unlikely that the limit will be violated.
EU016	PM ≤ 0.01 gr/dscf Minn. R. 7009 and Minn. R. 7011.0715	Monitoring, I and M, and recordkeeping for fabric filter	Due to the nature of the material that is being handled and the control equipment that is being used it is unlikely that the limit will be violated.
EU017	PM ≤ 0.005 gr/dscf Minn. R. 7009 and Minn. R. 7011.0715	Monitoring, I and M, and recordkeeping for fabric filter	Due to the nature of the material that is being handled and the control equipment that is being used it is unlikely that the limit will be violated.
EU018	PM ≤ IPER Minn. R. 7009 and Minn. R. 7011.0715	Monitoring, I and M, and recordkeeping for fabric filter	Due to the nature of the material that is being handled and the control equipment that is being used it is unlikely that the limit will be violated.
EU019	PM ≤ 0.005 gr/dscf Title I Condition	Monitoring, I and M, and recordkeeping for fabric filter	Due to the nature of the material that is being handled and the control equipment that is being used it is unlikely that the limit will be violated.
EU020	PM ≤ 0.005 gr/dscf Minn. R. 7009 and Minn. R. 7011.0715	Monitoring, I and M, and recordkeeping for fabric filter	Due to the nature of the material that is being handled and the control equipment that is being used it is unlikely that the limit will be violated.
EU021	PM ≤ 0.005 gr/dscf Minn. R. 7009 and Minn. R. 7011.0715	Monitoring, I and M, and recordkeeping for fabric filter	Due to the nature of the material that is being handled and the control equipment that is being used it is unlikely that the limit will be violated.
EU023	Limits set by Subp. IIII	Operation and	

		monitoring set by regulation	
	SO2 ≤ 0.5 lb/MMBtu	Sulfur content of fuel	Use of diesel fuel oil guarantees compliance with the limit
	Carbon Monoxide ≤ 3.0 grams per kilowatt-hour. BACT limit	Stack test, engine design.	Stack test will confirm compliance with this limit.

4.2 Insignificant Activities

Minnesota Power Boswell has several operations which are classified as insignificant activities. These are listed in the Appendix to the permit.

Activity	Applicable Regulations	Discussion
Grinders Minn. R. 7007.1300, subp. 3.D.(2)	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 typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Gasoline Tanks Minn. R. 7007.1300, subp. 3.E(1)	Minn. R. 7007.1300, subp. 3.E(1)	It is highly unlikely that they could violate the applicable requirement.
Welding Equipment Minn. R. 7007.1300, subp. 3.H(4)	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 typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Sandblasting Minn. R. 7007.1300, subp. 4.B(2)	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 typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Coal Stockpile loading Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0150	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Coal Stockpile, equipment traffic Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0150	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Conveyor drop onto stockpile, reclaimer Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0150	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Conveyor Drop onto Stockpile –Side Chute Minn.	Minn. R. 7011.0150	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the

R. 7007.1300, subp. 4.B(2)		applicable requirement.
Rail Car Unloading Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0150	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Rail Car Load Out Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0150	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Lab Hoods (4) Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0715	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Coal Transfer Tower A Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0150	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Coal Transfer Tower B Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0150	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Coal Conveyer Belt C3 Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0150	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Coal Rotary Car Dumper Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0150	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Coal Rotary Car TP	Minn. R. 7011.0150	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Coal Transfer and Sampling House Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0150	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Coal Storage Silo Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0715	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
Coal Tripper Transfer Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0715	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.
#4 Coal Bunker Minn. R. 7007.1300, subp. 4.B(2)	Minn. R. 7011.0715	This activity qualifies as conditional insignificant. It is highly unlikely that they could violate the applicable requirement.

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.

Deviation from normal format: Alternate Operating Scenarios for SO2 and NOx monitors.

6. Comments Received

Public Notice Period: May 21, 2009 - June 22, 2009
EPA 45-day Review Period: May 21, 2009 - July 7, 2009

Comments were not received from the public during the public notice period.

Comments were not received from EPA during their review period.

7. Conclusion

Based on the information provided by <>, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 06100004-004 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Benjamin klismith (permit writer/engineer)
Steve Palzkill (enforcement)
Andrew Place (stack testing)
Marshall Cole (peer reviewer)

AQ File No. 73B; DQ 2218, 2232, 2342, 1601, 2007, 2085, 2261

Attachments:
1. PTE calculation and emissions summary
2. NOx reduction project calculation spreadsheets
3. Igniter/Heat gun project calculation spreadsheets
4. Generator project calculation spreadsheets
5. Facility description and CD-01 Forms
6. NOx reduction project letter from MPCA to facility
7. Slag shock system calculations