

AIR EMISSION PERMIT NO. 03100001-007

IS ISSUED TO

Minnesota Power Division of ALLETE Inc
Cliffs Erie LLC
MINNESOTA POWER - TAC HARBOR ENERGY CTR
8124 West Highway 61
Schroeder, Cook County, MN 55613

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

Permit Type	Application Date	Issue Date	Action
Total Facility Operating Permit	June 14, 1995	May 19, 1997	001
Major Amendment	November 30, 1998	April 7, 1999	002
Major Amendment	March 23, 2006	January 8, 2007	006
Major Amendment	January 18, 2008	See Below	007

This permit supersedes Permit No. 03100001-006, and authorizes the Permittee to operate and construct the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal; Pt 70/Limits to Avoid NSR

Authorization to Construct and Operate Issuance Date: May 6, 2008

Final Major Amendment Issuance Date: May 20, 2008

Expiration: April 07, 2004*
Title I Conditions do not expire.

* The Permittee can continue to operate this facility after the expiration date of this permit per the provision under Minn. R. 7007.0450, subp. 3 (Title V Re-issuance application received on October 10, 2003).

Jeff J. Smith, Manager
Air Quality Permits Section
Industrial Division

for Brad Moore
Commissioner

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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:

Minnesota Power's Taconite Harbor Energy Center consists of three 75 megawatt (net) coal-fired units located in Schroeder, Minnesota. The units have tangentially fired boilers that are permitted to burn both bituminous and sub-bituminous coals. Coal for the boilers is stored in an outdoor storage pile. Prior to the coal being conveyed to the boilers it is crushed. The crusher is located in a building that currently is not vented to the atmosphere. This permit action is to allow the crusher building to be vented to the atmosphere through a fabric filter for dust collection. Since the crusher had previously not been vented to the atmosphere, it was not listed as an emission unit in the existing operating permit. This permit action will add the coal crusher and conveyor transfer points to the operating permit as an emission unit. The fabric filter serving the ventilation will be added as control equipment to the permit with requirements to limit opacity.

This permit action is a major permit amendment because it increases the emissions of particulate from coal preparation and triggers a Standard of Performance for Coal Preparation Plants (40 CFR Part 60 Subpart Y). The modification allowed by this permit action is the addition of existing coal crusher and coal conveyor transfer points as an emission unit controlled by a fabric filter dust collection system.

TABLE A: LIMITS AND OTHER REQUIREMENTS

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05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

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
<p>These requirements apply where there is a reasonable possibility that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test and found to not be part of a major modification, may result in a significant emissions increase. If the ATPA test is not used for a particular project, or if there is not a reasonable possibility that the proposed project could result in a significant emissions increase, then these requirements do not apply to that project.</p> <p>Even though a particular modification is not subject to New Source Review, a permit amendment, recordkeeping, or notification may still be required under Minn. R. 7007.1150 - 7007.1500.</p>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000
<p>Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following information:</p> <ol style="list-style-type: none"> 1. A description of the project 2. Identification of the emission unit(s) whose emissions of an NSR pollutant could be affected 3. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the potential emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the unit(s) could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination. <p>The Permittee shall maintain records of this documentation.</p>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5
<p>The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.</p>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5
<p>Before beginning actual construction of any project which includes any electric utility steam generating unit (EUSGU), the Permittee shall submit a copy of the preconstruction documentation (items 1-3 under Preconstruction Documentation, above) to the Agency.</p>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5
<p>For any project which includes any EUSGU, the Permittee must submit an annual report to the Agency, within 60 days after the end of the calendar year. The report shall contain:</p> <ol style="list-style-type: none"> 1. The name and ID number of the facility, and the name and telephone number of the facility contact person 2. The quantified annual emissions analyzed using the ATPA test, plus the potential emissions associated with the same project and analyzed using potential emissions 3. 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, subps. 4 & 5

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

For any project which does not include any EUSGU, the Permittee must submit a report to the Agency if the annual summed (actual plus potential, if applicable) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain:	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5
1. The name and ID number of the facility, and the name and telephone number of the facility contact person 2. The annual emissions (actual plus potential, if any part of the project was analyzed using potential emissions) for each pollutant for which the preconstruction projection and significant emissions rate is exceeded. 3. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.	
OPERATING 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. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010 - 7009.0080
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Comply with Fugitive Emissions Control Plan: Follow the actions and recordkeeping specified in the 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. The Commissioner may also require re-installation and operation of particulate matter ambient air monitors.	Minn. R. 7007.0800, subp. 2
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, subps. 2 & 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. The Plan shall be revised within 180 days after initial startup following completion of EU 002 modifications. The revisions the additional EU 002 control equipment (CE 010 selective noncatalytic reduction with urea injection, CE 011 SO2 reagent injection, and CE 012 mercury reagent injection).	Minn. R. 7007.0800, subps. 14 & 16(J)
Noise: The Permittee shall comply with noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during operation of any emission units. This is a state requirement only and is not federally enforceable.	Minn. R. 7030.0010 - 7030.0080
Operation of Monitoring Equipment: Unless otherwise noted in Tables A and/or B, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, such as for system breakdowns, repairs, calibration checks, and zero and span adjustments (as applicable). Monitoring records should reflect any such periods of process shutdown.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
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
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
PERFORMANCE TESTING	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A and/or B.	Minn. R. ch. 7017

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

<p>Performance Test Notifications and Submittals:</p> <p>Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements.</p> <p>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 - CD Copy: due 105 days after each Performance Test</p> <p>The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.</p>	<p>Minn. R. 7017.2018; Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2035, subps. 1-2</p>
<p>Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of a permit amendment incorporating the change.</p>	<p>Minn. R. 7017.2025, subp. 3</p>
<p>RECORDKEEPING</p>	<p>hdr</p>
<p>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).</p>	<p>Minn. R. 7007.0800, subp. 5(C)</p>
<p>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.</p>	<p>Minn. R. 7007.0800, subp. 5(B)</p>
<p>If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. These records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the office of the stationary source for all other years. The records may be maintained in either electronic or paper format.</p>	<p>Minn. R. 7007.1200, subp. 4</p>
<p>NOTIFICATIONS AND SUBMITTALS</p>	<p>hdr</p>
<p>Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.</p>	<p>Minn. R. 7019.1000, subp. 1</p>
<p>Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description:</p> <ol style="list-style-type: none"> 1. The cause of the deviation; 2. The exact dates of the period of the deviation, if the deviation has been corrected; 3. Whether or not the deviation has been corrected; 4. The anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation. 	<p>Minn. R. 7019.1000, subp. 1</p>
<p>Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B, and C of Minn. R. 7019.1000, subp. 3.</p> <p>At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.</p>	<p>Minn. R. 7019.1000, subp. 3</p>

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

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
Application for Permit Amendment: If you need a permit amendment, submit application in accordance with the requirements of Minn. R. 7007.1150-7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 - 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Emission Fees: due 60 days after receipt of an MPCA bill	Minn. R. 7002.0005 - 7002.0095
Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. To be submitted this on a form approved by the Commissioner.	Minn. R. 7019.3000 - 7019.3010

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Subject Item: GP 001 Three 745 MMBtu/hr coal-fired boilers**Associated Items:** EU 001 Boiler No. 1

EU 002 Boiler No. 2

EU 003 Boiler No. 3

What to do	Why to do it
Total GP 001 Sulfur Dioxide: less than or equal to 1743 lbs/hour using 3-hour Average	Minn. R. 7009.0020 to avoid causing or contributing to a violation of the SO2 ambient air quality standards in Minn. R. 7009.0080
Mercury content of coal: Less than or equal to 0.20 parts per million on an annual average basis. The agency will refrain from enforcement action for exceedance of this mercury limit if the Permittee is able to demonstrate, to the satisfaction of the agency, that the Permittee has used best efforts to comply with the mercury limit.	Minn. R. 7007.0800, subp. 2
Coal sampling for mercury content: Collect a daily coal sample, and analyze a composite sample of the coal at least once a week according to the most current ASTM method (currently ASTM Method D-6722). The Permittee shall maintain a record of all analyses for at least 5 years from the date of analysis. Results of the analyses shall be reported semiannually with the Semiannual Deviations Report.	Minn. R. 7007.0800, subp. 2
Boiler Cleaning Agents: The Permittee is authorized to incinerate boiler cleaning agents in any of the three boilers. Boiler cleaning agents are limited to EDTA type and Ammonium bromate, must be generated on-site, can not exceed 5% of total fuel mass input, and oxygen must be 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

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Subject Item: GP 002 Reagent Handling and Storage**Associated Items:** CE 013 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 014 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

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

EU 008 Alkaline Reagent Silo (SV 008/CE 013)

EU 009 Mercury Reagent Silo (SV 009/CE 014)

EU 010 Trona Silo (SV 010/CE 015)

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.01 grains/dry standard cubic foot for each GP 002 emission unit.	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; meets requirements of Minn. R. 7011.0735
Particulate Matter < 10 micron: less than or equal to 0.01 grains/dry standard cubic foot for each GP 002 emission unit.	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000
Opacity: less than or equal to 20 percent opacity for each GP 002 emission unit.	Minn. R. 7011.0715, subp. 1.B
The Permittee shall operate and maintain each fabric filter so that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent control efficiency	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 & 14
The Permittee shall operate and maintain each fabric filter so that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 & 14
The Permittee shall operate and maintain each fabric filter at all times that any emission unit controlled by the fabric filter is in operation.	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 & 14
Visible Emissions: The Permittee shall check the CE 013, CE 014, and CE 015 stack/vent for any visible emissions during each delivery to the emission unit storage silo controlled by the fabric filter, but not more frequently than once each calendar week for a specific storage silo. A calendar week starts each Sunday. All observations shall be made during daylight hours.	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 & 14
Recordkeeping of Visible Emissions: The Permittee shall record the time and date of each visible emission inspection and whether or not any visible emissions were observed.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5
Periodic Inspections: The Permittee shall inspect the fabric filter components once per calendar quarter or as required by the manufacturer. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subps. 4, 5, & 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: 1. Visible emissions are observed; 2. During an inspection, the fabric filter or any of its components are found 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, subps. 4, 5, & 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Power - Tac Harbor Energy Ctr
Permit Number: 03100001 - 007

Subject Item: GP 003 Hauling on Paved Roads

- Associated Items:
- CE 016 Paved Road Sweeping
 - FS 009 Mercury Reagent Truck Hauling - Paved Road
 - FS 010 Alkaline (or Trona) Reagent Truck Hauling - Paved Road
 - FS 011 Molten Sulfur Truck Hauling - Paved Road
 - FS 012 Ammonia Truck Hauling - Paved Road
 - FS 013 Urea Truck Hauling - Paved Road

What to do	Why to do it
Paved Haul Road Fugitive Emissions Control: The Permittee shall follow the practices described in the revised fugitive emissions control plan, for control of fugitive emissions from GP 003 fugitive emission sources. The practices at a minimum shall include sweeping of paved road surfaces at the frequency specified in the revised plan.	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Minnesota Power - Tac Harbor Energy Ctr
Permit Number: 03100001 - 007

Subject Item: GP 004 Pellet and Material Handling
Associated Items: FS 001 Pellet Drop From Railcars into Dock Storage Bins
FS 005 Ship Loading of Taconite Pellets
FS 006 Railcar Material Loading

What to do	Why to do it
The Permittee shall follow the practices described in the revised fugitive emissions control plan for control of fugitive emissions from GP 004 fugitive emission sources, if these sources become active.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-9**

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Subject Item: SV 001 Boiler 1 stack**Associated Items:** EU 001 Boiler No. 1

MR 004 COMS

MR 016 Primary SO2 Monitor

MR 017 Primary NOx Monitor

MR 018 O2 Monitor

MR 019 Flow Monitor

What to do	Why to do it
COMS REQUIREMENTS	hdr
Emissions Monitoring: The owner or operator shall measure the opacity of the emission unit using a COMS.	40 CFR Section 75.10; Minn. R. 7017.1006
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, subps. 1, 2 & 3
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.	Minn. R. 7017.1090, subp. 1
Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2.	
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 span value shall be between 60% and 80%. The optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.	Minn. R. 7017.1210, subp. 2
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).	
COMS Calibration Error Audit: due before end of each calendar half-year following Permit Issuance. Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart. Conduct audits in accordance with Minn. R. 7017.1210, subp. 3.	Minn. R. 7017.1210, subp. 3
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 40 CFR 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 available on-site for inspection.	Minn. R. 7017.1210, subp. 4
COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar quarter in which the COMS calibration error audit was completed.	Minn. R. 7017.1220
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
PART 75 CEMS REQUIREMENTS	hdr
Emissions Monitoring: The owner or operator shall measure opacity, SO2, NOx, and CO2 emissions and flow rate for each affected unit in accordance with 40 CFR Section 75.10.	40 CFR Section 75.10
Daily Calibration Error (CE) Test: Conduct daily CE testing on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B.	40 CFR pt. 75, Appendix B, section 2.1
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (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, sections 2.2.1 & 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 if performed.	Minn. R. 7017.1180, subp. 4

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

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) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA)).	Minn. R. 7017.1180, subp. 2
Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which the CEMS RATA was conducted.	Minn. R. 7017.1180, subp. 3
CEMS QA/QC: The owner or operator of an affected facility shall operate, calibrate, and maintain each CEMS according to the QA/QC procedure in 40 CFR pt. 75, Appendix B as amended.	40 CFR Section 75.21
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.	40 CFR Section 75.50; Minn. R 7017.1130

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-11

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Subject Item: SV 002 Boiler 2 stack**Associated Items:** EU 002 Boiler No. 2

MR 006 Backup SO2 Monitor

MR 007 Backup NOx Monitor

MR 009 COMS

MR 020 Primary SO2 Monitor

MR 021 Primary NOx Monitor

MR 022 O2 Monitor

MR 023 Flow Monitor

What to do	Why to do it
COMS REQUIREMENTS	hdr
Emissions Monitoring: The owner or operator shall measure the opacity of the emission unit using a COMS.	40 CFR Section 75.10; Minn. R. 7017.1006
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, subps. 1, 2 & 3
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
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 span value shall be between 60% and 80%. The optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments. 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
COMS Calibration Error Audit: due before end of each calendar half-year following Permit Issuance. Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart. Conduct audits in accordance with Minn. R. 7017.1210, subp. 3.	Minn. R. 7017.1210, subp. 3
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 40 CFR 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 available on-site for inspection.	Minn. R. 7017.1210, subp. 4
COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar quarter in which the COMS calibration error audit was completed.	Minn. R. 7017.1220
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
PART 75 CEMS REQUIREMENTS	hdr
Emissions Monitoring: The owner or operator shall measure opacity, SO2, NOx, and CO2 emissions and flow rate for each affected unit in accordance with 40 CFR Section 75.10.	40 CFR Section 75.10
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

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

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, sections 2.2.1 & 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 if performed.	Minn. R. 7017.1180, subp. 4
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following CEM Certification Test, i.e., once every two successive QA operating quarters (calendar quarter in which there are at least 168 unit operating hours). Conduct a RATA on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B. Relative accuracy test audits may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters) if any of the conditions listed in 40 CFR pt. 75, Appendix B, Section 2.3.1.2(a) through Section 2.3.1.2(i) are met.	40 CFR pt. 75, Appendix B, section 2.3.1; Minn. R. 7017.1020
Relative Accuracy Test Audit (RATA) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA)).	Minn. R. 7017.1180, subp. 2
Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which the CEMS RATA was conducted.	Minn. R. 7017.1180, subp. 3
CEMS QA/QC: The owner or operator of an affected facility shall operate, calibrate, and maintain each CEMS according to the QA/QC procedure in 40 CFR pt. 75, Appendix B as amended.	40 CFR Section 75.21
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.	40 CFR Section 75.50; Minn. R 7017.1130

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Subject Item: SV 003 Boiler 3 stack**Associated Items:** EU 003 Boiler No. 3

MR 014 COMS

MR 024 Primary SO2 Monitor

MR 025 Primary NOx Monitor

MR 026 O2 Monitor

MR 027 Flow Monitor

What to do	Why to do it
COMS REQUIREMENTS	hdr
Emissions Monitoring: The owner or operator shall measure the opacity of the emission unit using a COMS.	40 CFR Section 75.10; Minn. R. 7017.1006
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, subps. 1, 2 & 3
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.	Minn. R. 7017.1090, subp. 1
Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2.	
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 span value shall be between 60% and 80%. The optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.	Minn. R. 7017.1210, subp. 2
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).	
COMS Calibration Error Audit: due before end of each calendar half-year following Permit Issuance. Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart. Conduct audits in accordance with Minn. R. 7017.1210, subp. 3.	Minn. R. 7017.1210, subp. 3
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 40 CFR 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 available on-site for inspection.	Minn. R. 7017.1210, subp. 4
COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar quarter in which the COMS calibration error audit was completed.	Minn. R. 7017.1220
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
PART 75 CEMS REQUIREMENTS	hdr
Emissions Monitoring: The owner or operator shall measure opacity, SO2, NOx, and CO2 emissions and flow rate for each affected unit in accordance with 40 CFR Section 75.10.	40 CFR Section 75.10
Daily Calibration Error (CE) Test: Conduct daily CE testing on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B.	40 CFR pt. 75, Appendix B, section 2.1
Linearity and Leak Check Test (Acid Rain Program): due before end of each QA operating quarter (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, sections 2.2.1 & 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 if performed.	Minn. R. 7017.1180, subp. 4

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

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) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA)).	Minn. R. 7017.1180, subp. 2
Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which the CEMS RATA was conducted.	Minn. R. 7017.1180, subp. 3
CEMS QA/QC: The owner or operator of an affected facility shall operate, calibrate, and maintain each CEMS according to the QA/QC procedure in 40 CFR pt. 75, Appendix B as amended.	40 CFR Section 75.21
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.	40 CFR Section 75.50; Minn. R 7017.1130

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Subject Item: EU 001 Boiler No. 1**Associated Items:** CE 001 Electrostatic Precipitator - High Efficiency

GP 001 Three 745 MMBtu/hr coal-fired boilers

SV 001 Boiler 1 stack

What to do	Why to do it
Refer To Subject Item SV 001 for NOx and SO2 CEMS Requirements and COMS Requirements.	hdr
Total Particulate Matter: less than or equal to 0.3 lbs/million Btu heat input (excluding condensible particulate matter).	Minn. R. 7007.0800, subp. 2; meets requirements of Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
Sulfur Dioxide: less than or equal to 0.78 lbs/million Btu heat input using 3-hour Average	Minn. R. 7009.0020 to not cause or contribute to a violation of the SO2 ambient air standard in Minn. R. 7009.0080; meets the requirements of Minn. R. 7011.0510, subp. 1
Fuels allowed: bituminous coal, sub-bituminous coal, No. 2 fuel oil, used oil, used oil sorbents, and boiler cleaning agents.	Minn. R. 7007.0800, subp. 2
Performance Test: due before end of each 60 months starting 05/25/2005 to measure particulate matter emissions. The tests shall be conducted at an interval not to exceed 60 months between test dates.	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, subps. 2(A) & 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 emissions are measured, 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 emissions are measured, 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. Documentation of all STET operation shall be maintained. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, subp. 2
STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing: If performance test results measure emissions at 80% or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110% of the average operating rate achieved during that performance test. If performance test results measure emissions at greater than 80% any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100% of the average operating rate achieved during that performance test. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

ACID RAIN PROGRAM REQUIREMENTS	hdr
Comply with the applicable Acid Rain emissions limitation for sulfur dioxide.	40 CFR Sections 72.9(c)(1)(ii) & 72.9(g)(4)
<p>NOx Averaging Plan:</p> <p>Beginning January 1, 2002, either:</p> <p>Maintain an annual average NOx emission rate of 0.40 lbs/mmBtu and limit the annual heat input to less than or equal to 5,600,000 mmBtu per year.</p> <p>OR</p> <p>Maintain a Btu-weighted annual average emission rate in lbs/mmBtu, averaged over the units specified in the 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:</p> <p>Plant Boiler ID#</p> <p>Clay Boswell 1, 2, 3, 4 Syl Laskin 1, 2 Taconite Harbor 1, 2, 3</p>	40 CFR Section 76.11
<p>Recordkeeping: Keep on site at the source each of the following documents for a period of 5 years from the date the document is created:</p> <ol style="list-style-type: none"> 1. The certificate of representation; 2. All emissions monitoring information; 3. Copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program; 4. Copies of all documents used to complete an acid rain permit application. 	40 CFR Section 72.9(f)(l)
<p>Apply for Acid Rain Program Permit reissuance: The designated representative shall submit a complete Acid Rain permit application for each source with an affected unit at least 6 months prior to the expiration of an existing Acid Rain Permit in accordance with 40 CFR Section 72.30(c).</p>	40 CFR Section 72.30(c)
<p>Certify Acid Rain Program Submittals.</p> <p>Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative or the alternate designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.</p>	40 CFR Section 72.21
<p>Hold allowances as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year. Takes effect for years beginning January 1, 2002. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.</p>	40 CFR Sections 72.9(c)(1)(i) & 72.9(g)(4)
<p>The owner or operator shall measure opacity, and all SO₂, NO_x, and CO₂ emissions for each affected unit in accordance with 40 CFR Section 75.10.</p>	40 CFR Section 75.10

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Subject Item: EU 002 Boiler No. 2

Associated Items: CE 002 Electrostatic Precipitator - High Efficiency

CE 010 Selective Noncatalytic Reduction for NOX

CE 011 Dry Sorbent Injection

CE 012 Dry Sorbent Injection

CE 017 Ammonia Injection

CE 018 SO3 Injection

GP 001 Three 745 MMBtu/hr coal-fired boilers

SV 002 Boiler 2 stack

What to do	Why to do it
<p>Refer To Subject Item SV 002 for NOx and SO2 CEMS Requirements and COMS Requirements.</p> <p>EU 002 control equipment:</p> <p>CE 010 is EU 002 furnace overfire air and SNCR with ammonia/urea/other reagent injection</p> <p>CE 011 is EU 002 furnace alkaline/sodic/other reagent injection for SO2 control</p> <p>CE 012 is EU 002 furnace sorbent/reagent injection for mercury control</p> <p>CE 017 is ammonia injection upstream of CE 002 for particulate agglomeration</p> <p>CE 018 is SO3 injection upstream of CE 002 to reduce particulate resistivity</p>	hdr
LIMITS AND OPERATING REQUIREMENTS	hdr
<p>Nitrogen Oxides: less than or equal to 0.14 lbs/million Btu heat input using 365-day Rolling Average commencing 270 days after EU 002 initial startup. For the purposes of subject item EU 002, 'Initial Startup' is the initial firing of fuel following completion of modifications (installation of CE 010, CE 011, CE 012, CE 017, and CE 018, and modification of CE 002).</p> <p>Each daily value used in calculating the 365-day rolling average is determined by averaging all lb/mmBtu measurements made by the SV 002 NOx CEMS during the calendar day. This is a state-only requirement and is not enforceable under the Clean Air Act by citizens or the EPA administrator.</p>	Minn. R. 7007.0800, subp. 2
<p>Sulfur Dioxide: less than or equal to 0.24 lbs/million Btu heat input using 365-day Rolling Average commencing 270 days after EU 002 initial startup.</p> <p>Each daily value used in calculating the 365-day rolling average is determined by averaging all lb/mmBtu measurements made by the SV 002 SO2 CEMS during the calendar day. This is a state-only requirement and is not enforceable under the Clean Air Act by citizens or the EPA administrator.</p>	Minn. R. 7007.0800, subp. 2
Sulfur Dioxide: less than or equal to 0.78 lbs/million Btu heat input using 3-hour Average	Minn. R. 7009.0020 to not cause or contribute to a violation of the SO2 ambient air standard in Minn. R. 7009.0080; meets requirements of Minn. R. 7011.0510, subp. 1
<p>Post-Modification Particulate Matter < 10 micron (PM10) and Front-half Particulate Matter (PM) Emission Limits and Compliance Options:</p> <p>The Permittee shall follow option 1 or option 2 described below for each pollutant after completion of modifications. If only one pollutant qualifies for option 1, the Permittee may implement option 1 for the qualifying pollutant while following option 2 for the other pollutant.</p>	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; 40 CFR Section 52.21(r)(6)

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

<p>Post-Modification Particulate Matter < 10 micron Compliance Options: After completion of modifications and initial startup, the Permittee shall meet either option 1 or option 2:</p> <p>Option 1</p> <p>1.a. Stack test to validate EU 002 PM10 emissions are less than or equal to the EU 002 0.120 lb/mmBtu PM10 emission factor, and</p> <p>1.b. Monitor, record, and report EU 002 PM10 emissions as required by 40 CFR Section 52.21(r)(6); or</p> <p>Option 2</p> <p>2. Meet the EU 002 327 ton per year (12-month rolling sum basis) PM10 limit and all associated monitoring, recordkeeping, and reporting requirements in table A of this permit.</p> <p>If EU 002 PM10 emission factor testing results in a factor greater than 0.120 lb/mmBtu, the Permittee shall follow option 2 for PM10.</p>	<p>Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; 40 CFR Section 52.21(r)(6)</p>
<p>Particulate Matter < 10 micron: less than or equal to 0.120 lbs/million Btu heat input (this is an emission factor and not a limit). The Permittee shall validate this factor through required performance testing after initial startup. If performance testing shows a factor greater than 0.120 lb/mmBtu, the Permittee shall meet the 327 tpy limit and related requirements for option 2.</p>	<p>Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; 40 CFR Section 52.21(r)(6)</p>
<p>Particulate Matter < 10 micron: less than or equal to 327 tons/year starting at the end of the 12th month following initial startup if the Permittee is subject to option 2.</p>	<p>Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000;</p>
<p>PM10: If the Permittee elects to or is required to meet the option 2 PM10 limit, the following cumulative limit as of month 'n' where n = 1, 2, 3, etc. applies upon initial startup of EU 002:</p> <p>Month 1: 70 tons Month 2: 140 tons Month 3: 190 tons Month 4: 225 tons Month 5: 245 tons Month 6: 265 tons Month 7: 280 tons Month 8: 295 tons Month 9: 305 tons Month 10: 315 tons Month 11: 325 tons</p> <p>Month 1 includes the month of initial startup of EU 002. This requirement terminates at the end of the twelfth month following initial startup of EU 002.</p>	<p>Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000;</p>
<p>Post-Modification Front-half Particulate Matter Compliance Options: After completion of modifications and initial startup, the Permittee shall meet either option 1 or option 2:</p> <p>Option 1</p> <p>1.a. Stack test to validate EU 002 PM emissions are less than or equal to the EU 002 0.039 lb/mmBtu PM emission factor, and</p> <p>1.b. Monitor, record, and report EU 002 PM emissions as required by 40 CFR Section 52.21(r)(6); or</p> <p>Option 2</p> <p>2. Meet the EU 002 106 ton per year (12-month rolling sum basis) PM limit and all associated monitoring, recordkeeping, and reporting requirements in table A of this permit.</p> <p>If EU 002 PM emission factor testing results in a factor greater than 0.039 lb/mmBtu, the Permittee shall follow option 2 for PM.</p>	<p>Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; 40 CFR Section 52.21(r)(6)</p>
<p>Front-half Particulate Matter: less than or equal to 0.039 lbs/million Btu heat input (this is an emission factor and not a limit). The Permittee shall validate this factor through required performance testing after initial startup. If performance testing shows a factor greater than 0.039 lb/mmBtu, the Permittee shall meet the 106 tpy limit and related requirements for option 2.</p>	<p>Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; 40 CFR Section 52.21(r)(6)</p>
<p>Front-half Particulate Matter: less than or equal to 106 tons/year using 12-month Rolling Sum starting at the end of the 12th month following completion of modifications.</p>	<p>Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000;</p>

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

<p>Front-half Particulate Matter: If the Permittee elects to or is required to meet the option 2 PM limit, the following cumulative limit as of month 'n' where n = 1, 2, 3, etc. applies upon initial startup of EU 002 after completion of modifications:</p> <p>Month 1: 25 tons Month 2: 50 tons Month 3: 60 tons Month 4: 70 tons Month 5: 75 tons Month 6: 80 tons Month 7: 85 tons Month 8: 90 tons Month 9: 95 tons Month 10: 100 tons Month 11: 103 tons</p> <p>Month 1 includes the month of initial startup of EU 002. This requirement terminates at the end of the twelfth month following initial startup of EU 002 after modification.</p>	<p>Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000;</p>
<p>Total Particulate Matter: less than or equal to 0.3 lbs/million Btu heat input (excluding condensable particulate matter).</p>	<p>Minn. R. 7007.0800, subp. 2; meets requirements of Minn. R. 7011.0510, subp. 1</p>
<p>Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.</p>	<p>Minn. R. 7011.0510, subp. 2</p>
<p>Fuels allowed: bituminous coal, sub-bituminous coal, No. 2 fuel oil, used oil, used oil sorbents, and boiler cleaning agents.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Control Equipment Operation During Startup and Shutdown: The Permittee is not required to operate CE 010, CE 011, CE 012, CE 017, and CE 018 during startup and shutdown as follows:</p> <ol style="list-style-type: none"> 1. CE 010, CE 011, and CE 012 operation is not required if flue gas temperature in the injection zone is less than approximately 2000 degrees F; 2. CE 017 and CE 018 operation is not required during startup or shutdown when fuel oil is combusted. 	<p>Minn. R. 7007.0800, subp. 2</p>
<p>MONITORING AND RECORDKEEPING</p>	<p>hdr</p>
<p>EU 002 Monthly Fuel Usage Monitoring and Recordkeeping: If the Permittee elects or is required to meet option 2 PM and/or PM10 limits, by the last day of each month commencing with the month of initial startup after completion of modifications, the Permittee shall calculate and record EU 002 monthly fuel usage of sub-bituminous coal and bituminous coal.</p>	<p>Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5</p>
<p>EU 002 PM Emissions Monitoring and Recordkeeping: If the Permittee elects or is required to meet the option 2 PM limit, no later than 45 days after then end of each month commencing with the month of initial startup after completion of modifications, the Permittee shall:</p> <ol style="list-style-type: none"> 1. Calculate and record EU 002 monthly PM emissions as follows: $\text{EU 002 PM} = (\text{FC} * \text{HC} * \text{EF}) / 2000$ <p>where: EU 002 PM = monthly EU 002 PM emissions for each coal type (tons) FC = EU 002 monthly fuel consumption for each coal type (tons) HC = fuel heat content for each coal type (mmBtu/ton) determined by ASTM D1989 EF = current EU 002 PM emission factor for each coal type (lb/mmBtu)</p> <ol style="list-style-type: none"> 2. Calculate and record the total EU 002 12-month rolling sum PM emissions for all coal combusted by summing the 12 most-recent monthly PM emissions calculations for each coal type. <p>Prior to initial performance testing the PM emission factor shall be 0.039 lb/mmBtu.</p>	<p>Minn. R. 7007.0800, subps. 4 & 5</p>

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

<p>EU 002 PM10 Emissions Monitoring and Recordkeeping: If the Permittee elects or is required to meet the option 2 PM10 limit, no later than 45 days after the end of each month commencing with the month of initial startup after completion of modifications, the Permittee shall:</p> <p>1. Calculate and record EU 002 monthly PM10 emissions as follows:</p> $\text{EU 002 PM10} = (\text{FC} * \text{HC} * \text{EF}) / 2000$ <p>where:</p> <p>EU 002 PM10 = monthly EU 002 PM10 emissions for each coal type (tons) FC = EU 002 monthly fuel consumption for each coal type (tons) HC = fuel heat content for each coal type (mmBtu/ton) determined by ASTM D1989 EF = current EU 002 PM10 emission factor for each coal type (lb/mmBtu)</p> <p>2. Calculate and record the total EU 002 12-month rolling sum PM10 emissions for all coal combusted by summing the 12 most-recent monthly PM10 emissions calculations for each coal type.</p> <p>Prior to initial performance testing the PM10 emission factor shall be 0.120 lb/mmBtu.</p>	Minn. R. 7007.0800, subps. 4 & 5
<p>PM10 Periodic Monitoring: The PM CAM plan requirements shall fulfill periodic monitoring for PM10 emissions, unless PM and PM10 performance testing demonstrates no consistent relationship between PM and PM10 emission rates (for example, on a lb/mmBtu basis and the same coal type, PM test results from an agency-approved test are less than those for PM10, but in another agency-approved performance test PM results exceed those for PM10).</p>	Minn. R. 7007.0800, subps. 4(B) & 5(A)
COMPLIANCE ASSURANCE MONITORING	hdr
<p>Compliance Assurance Monitoring: Continuously monitor and record ESP total secondary power, molten sulfur feed rate (surrogate for SO3 injection rate), and ammonia flow rate (surrogate for ammonia injection rate) whenever EU 002 is operating.</p>	40 CFR Sections 64.6(c), 64.7(c), & 64.9(b)
<p>ESP Total Power: Maintain at a minimum the ESP total secondary power determined during the initial PM performance test, determined on a 3-hour rolling average basis.</p> <p>ESP total power is the sum of the input power measured for each ESP electrical field. Field input power is measured in kilowatts and is the product of the secondary voltage and secondary current for each field. Secondary voltage and secondary current are measured using digital metering onboard the power supplies for each electrical field.</p>	40 CFR Section 64.6(c)
<p>Molten Sulfur Pump Feed Rate: Maintain molten sulfur feed rate (measured as an electrical output signal in milliamps from the pump variable frequency drive (VFD)) at or above the value measured during the initial PM performance test, determined on a 3-hour rolling average basis.</p>	40 CFR Section 64.6(c)
<p>Ammonia Flow Rate: Maintain ammonia flow rate (measured as an electrical output signal in milliamps from the ammonia flowmeter) at or above the value measured during the initial PM performance test, determined on a 3-hour rolling average basis.</p>	40 CFR Section 64.6(c)
<p>Excursions: An excursion is defined as any of the following:</p> <ol style="list-style-type: none"> 1. ESP total power (3-hour rolling average) less than the kilowatts value determined during initial PM performance testing; 2. Molten sulfur feed rate (3-hour rolling average) measured as pump signal milliamps less than the pump milliamps signal value determined during initial PM performance testing; 3. Ammonia flow rate (3-hour rolling average) less than the flow meter milliamps signal value determined during initial PM performance testing. <p>Respond to excursions as required by section 64.7(d) including inspection, evaluation, and corrective action.</p>	40 CFR Sections 64.6(c) & 64.7(d)

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-21

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

<p>ESP Total Power CAM Performance Criteria:</p> <ol style="list-style-type: none"> 1. ESP secondary voltage and current are measured using the instrumentation provided by the ESP power supply manufacturer. 2. Integrate voltage and current signals will be integrated into the plant digital control system. 3. Confirm meter zero readings when the ESP power supplies are not operating. 4. Voltage and current are measured continuously and used to calculate the power output every 15 minutes. 5. Hourly average power input is calculated and recorded based on the four 15-minute readings. 6. Hourly averages are used to determine the 3-hour rolling average total power input. 	40 CFR Section 64.6(c)
<p>Molten Sulfur Feed Rate CAM Performance Criteria:</p> <ol style="list-style-type: none"> 1. The molten sulfur pump analog signal will be measured using the instrumentation and control system provided by the flue gas conditioning system supplier. 2. In the event that the molten sulfur pump motor fails, the SO₃ production controls will alarm based on loss of ignition. 3. Confirm the analog feedback from the VFD reads 4 mA during standby mode for the flue gas conditioning system, or when EU 002 is not operating. 4. The pump speed feedback is measured continuously. 5. The analog pump speed signal is recorded in a data logger. 6. The averaging period is a 3-hour rolling average. 	40 CFR Section 64.6(c)
<p>Ammonia Flow Rate CAM Performance Criteria:</p> <ol style="list-style-type: none"> 1. Measure the analog signal using the instrumentation and control system provided by the flue gas conditioning system supplier. 2. If ammonia flow is interrupted, the SO₃ production controls will alarm based on NH₃ flow failure. 3. Confirm ammonia flowmeter feedback reads 4 mA during standby mode for the flue gas conditioning system, or when EU 002 is not operating. 4. The ammonia flowmeter feedback is measured continuously. 5. The analog ammonia flowmeter signal is recorded in a data logger. 6. The averaging period is a 3-hour rolling average. 	40 CFR Section 64.6(c)
CAM Excursions Reporting: The Permittee shall report all ESP total power, molten sulfur feed rate, and ammonia flow rate excursions in the semiannual deviations report required by this permit.	40 CFR Section 64.9(a)
Documentation For Need of Improved Monitoring: As required by Section 64.8(e), promptly notify the agency and submit a permit application to address necessary monitoring changes if the Permittee identifies noncompliance with the total particulate matter limit (the 0.3 lb/mmBtu limit that meets Minn. R. 7011.0510, subp. 1) .	40 CFR Section 64.7(e)
PARTICULATE MATTER CONTROL EQUIPMENT REQUIREMENTS (CE 002, CE 017, AND CE 018)	hdr
The permittee is authorized to modify the existing CE 002 electrostatic precipitator (ESP) from a hot-side ESP to a cold-side ESP. The Permittee is also authorized to install ammonia and sulfur trioxide injection systems (CE 017 and CE 018, respectively) upstream of the ESP to agglomerate fine particulate matter and increase ESP collection efficiency.	Minn. R. 7007.0800, subp. 2
CE 017 Ammonia Injection: The Permittee may test PM and PM ₁₀ stack emissions to determine if the ammonia injection is necessary for PM and PM ₁₀ control (the required initial PM and PM ₁₀ performance tests may be used in this determination). If the Permittee determines by testing that ammonia injection is not necessary to meet applicable EU 002 Option 1 or Option 2 PM and PM ₁₀ requirements, the Permittee may discontinue operation of the ammonia injection system. If the Permittee suspends ammonia injection, all compliance assurance monitoring (CAM) requirements pertaining to the ammonia injection system no longer apply.	Minn. R. 7007.0800, subp. 2
Notification Of Discontinuation of Use of Ammonia Injection: If the Permittee discontinues use of the ammonia injection system, the Permittee shall submit written notification of such to the agency, no later than 15 days after discontinuation.	Minn. R. 7007.0800, subp. 2
MERCURY CONTROL EQUIPMENT (CE 012) REQUIREMENTS	hdr

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Mercury Reagent: This permit authorizes the installation of a furnace mercury sorbent injection system for the injection of MinPlus (a propriety sorbent developed by Mobotec). The Permittee may use a furnace mercury sorbent other than MinPlus providing a mercury emissions performance test is conducted no later than 60 days after a change of sorbent, and the measured mercury emissions rate is less than or equal to that measured by the most recent MPCA-approved performance test when MinPlus sorbent was used.	Minn. R. 7007.0800, subp. 2
If the Permittee changes the mercury sorbent, the Permittee shall submit written notification of such to the agency no later than 15 days after making the change.	
Mercury Reagent Feed Rate: Maintain mercury reagent feed rate at or above the value measured during the most-recent mercury emissions performance test.	Minn. R. 7007.0800, subp. 2
Mercury Reagent Injection: Immediately upon discovery of a drop of mercury reagent injection rate below the value measured during the most recent mercury performance test, initiate corrective actions to restore the mercury reagent injection rate as soon as possible.	Minn. R. 7007.0800, subp. 2
Mercury Reagent Injection Monitoring: The Permittee shall install, maintain, and operate at all times that EU 002 is operating, a system for monitoring and recording the mercury reagent feed rate. Record the time periods, reasons, and corrective actions taken for all EU 002 operating periods when mercury reagent flow rate is below the required minimum.	Minn. R. 7007.0800, subp. 2
Mercury Control Efficiency: The Permittee shall determine the mercury control efficiency percentage based on uncontrolled emissions calculated from coal mercury content sampling results, and controlled emissions determined by mercury performance testing, no later than 45 days after completion of initial mercury performance testing. The control efficiency calculation shall be included in the mercury performance test report.	Minn. R. 7007.0800, subp. 2
PERFORMANCE TESTING	hdr
Initial Performance Test: due 390 days after 06/24/2007 of EU 002 after completion of modifications, to determine the (front-half) PM and PM10 emission factors on a lb/mmBtu basis. Separate tests shall be conducted for sub-bituminous coal and bituminous coal. The Permittee may avoid EU 002 bituminous coal testing if the Permittee does not burn any bituminous coal in EU 002 after completion of modifications. ESP total secondary power, molten sulfur feed rate, and ammonia flow rate shall be measured during PM testing and subsequently incorporated in the PM CAM plan requirements.	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; Minn. R. 7017.2020, subp. 1; meets requirements of 40 CFR Section 64.4(d)(1) for PM CAM plan
The Permittee may also conduct additional PM and PM10 testing without operating CE 017 to determine if CE 017 is necessary to meet option 1 or option 2 for PM and PM10 emissions.	
Initial Performance Test: due 390 days after 06/24/2007 of EU 002 after completion of modifications, to measure mercury emissions. Separate tests shall be conducted for sub-bituminous coal and bituminous coal. The Permittee may avoid EU 002 bituminous coal testing if the Permittee does not burn any bituminous coal in EU 002 after completion of modifications. Testing shall be conducted according to 40 CFR Section 75.81(c) and results submitted no later than 45 days after testing.	Minn. R. 7017.2020, subp. 1
The Permittee shall calculate mercury control efficiency based on initial performance test results and uncontrolled mercury emissions determined by concurrent fuel sampling, and submit the calculation in the mercury initial performance test report.	
Initial Performance Test: due 390 days after 06/24/2007 of EU 002 after completion of modifications, to measure ammonia slip.	Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each year following Initial Performance Test to measure mercury emissions if results of the initial performance test demonstrate EU 002 emits no more than 9.0 lbs of mercury per year. A year is 4 QA operating quarters (a QA operating quarter is a calendar quarter in which there are at least 168 unit operating hours; a unit operating hour is a clock hour during which a unit combusts any fuel, either for part of the hour or for the entire hour).	Minn. R. 7017.2020, subp. 1
If results of the initial performance test demonstrate EU 002 emissions exceed 9.0 but are no more than 29.0 lbs of mercury per year, testing shall be conducted by the end of the second QA operating quarter.	
Thereafter, testing shall be every 2 or 4 QA operating quarters depending on the results of the previous test.	
The Permittee shall calculate mercury control efficiency based on results of each performance test and uncontrolled mercury emissions determined by concurrent fuel sampling, and submit the calculation in the report for each performance test.	

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

<p>Performance Test: due before end of each 60 months starting 05/25/2005 to measure particulate matter emissions. The tests shall be conducted at an interval not to exceed 60 months between test dates.</p> <p>This requirement is no longer effective upon completion of initial performance testing of EU 002 following completion of modifications.</p>	Minn. R. 7017.2020, subp. 1
<p>Boiler Alternative Operating Conditions for Performance Testing:</p> <p>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.</p> <p>In no case will the new operating rate limit be higher than allowed by an existing permit condition.</p>	Minn. R. 7017.2025, subps. 2(A) & 3(B)
<p>Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing:</p> <p>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:</p> <ol style="list-style-type: none"> 1. If the results of the performance test are greater than 80% of any applicable emission limit for which emissions are measured, then boiler operation will be limited to the tested operating rate. 2. If results are less than or equal to 80% of all applicable emission limits for which emissions are measured, boiler operation will be limited to 110% of the tested operating rate. <p>In no case will the new operating rate limit be higher than allowed by an existing permit condition.</p>	Minn. R. 7017.2025, subp. 3(B)
<p>STET (Short Term Emergency and Testing) Operating hours limit:</p> <p>The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Documentation of all STET operation shall be maintained. The boiler must meet emission limits during STET operation.</p>	Minn. R. 7007.0800, subp. 2
<p>STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing:</p> <p>If performance test results measure emissions at 80% or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110% of the average operating rate achieved during that performance test.</p> <p>If performance test results measure emissions at greater than 80% any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100% of the average operating rate achieved during that performance test.</p> <p>In no case will STET operation be higher than allowed by an existing permit condition.</p>	Minn. R. 7007.0800, subp. 2
ACID RAIN PROGRAM REQUIREMENTS	hdr
Comply with the applicable Acid Rain emissions limitation for sulfur dioxide.	40 CFR Sections 72.9(c)(1)(ii) & 72.9(g)(4)

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

<p>NOx Averaging Plan:</p> <p>Beginning January 1, 2002, either:</p> <p>Maintain an annual average NOx emission rate of 0.40 lbs/mmBtu and limit the annual heat input to less than or equal to 5,600,000 mmBtu per year.</p> <p>OR</p> <p>Maintain a Btu-weighted annual average emission rate in lbs/mmBtu, averaged over the units specified in the 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:</p> <p>Plant Boiler ID#</p> <p>Clay Boswell 1, 2, 3, 4 Syl Laskin 1, 2 Taconite Harbor 1, 2, 3</p>	40 CFR Section 76.11
<p>Recordkeeping: Keep on site at the source each of the following documents for a period of 5 years from the date the document is created:</p> <ol style="list-style-type: none"> 1. The certificate of representation; 2. All emissions monitoring information; 3. Copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program; 4. Copies of all documents used to complete an acid rain permit application. 	40 CFR Section 72.9(f)(l)
<p>Apply for Acid Rain Program Permit reissuance: The designated representative shall submit a complete Acid Rain permit application for each source with an affected unit at least 6 months prior to the expiration of an existing Acid Rain Permit in accordance with 40 CFR Section 72.30(c).</p>	40 CFR Section 72.30(c)
<p>Certify Acid Rain Program Submittals.</p> <p>Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative or the alternate designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.</p>	40 CFR Section 72.21
<p>Hold allowances as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year. Takes effect for years beginning January 1, 2002. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.</p>	40 CFR Sections 72.9(c)(1)(i) & 72.9(g)(4)
<p>The owner or operator shall measure opacity, and all SO₂, NO_x, and CO₂ emissions for each affected unit in accordance with 40 CFR Section 75.10.</p>	40 CFR Section 75.10

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Subject Item: EU 003 Boiler No. 3**Associated Items:** CE 003 Electrostatic Precipitator - High Efficiency

GP 001 Three 745 MMBtu/hr coal-fired boilers

SV 003 Boiler 3 stack

What to do	Why to do it
Refer To Subject Item SV 003 for NOx and SO2 CEMS Requirements and COMS Requirements.	hdr
Total Particulate Matter: less than or equal to 0.3 lbs/million Btu heat input (excluding condensible particulate matter).	Minn. R. 7007.0800, subp. 2; meets requirements of Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2;
Sulfur Dioxide: less than or equal to 0.78 lbs/million Btu heat input using 3-hour Average	Minn. R. 7009.0020 to not cause or contribute to a violation of the ambient SO2 standards in Minn. R. 7009.0080; meets the requirements of Minn. R. 7011.0510, subp. 1
Fuels allowed: bituminous coal, sub-bituminous coal, No. 2 fuel oil, used oil, used oil sorbents, and boiler cleaning agents.	Minn. R. 7007.0800, subp. 2
Performance Test: due before end of each 60 months starting 05/25/2005 to measure particulate matter emissions. The tests shall be conducted at an interval not to exceed 60 months between test dates.	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, subps. 2(A) & 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 emissions are measured, 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 emissions are measured, 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. Documentation of all STET operation shall be maintained. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, subp. 2
STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing: If performance test results measure emissions at 80% or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110% of the average operating rate achieved during that performance test. If performance test results measure emissions at greater than 80% any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100% of the average operating rate achieved during that performance test. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-26

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

ACID RAIN PROGRAM REQUIREMENTS	hdr
Comply with the applicable Acid Rain emissions limitation for sulfur dioxide.	40 CFR Sections 72.9(c)(1)(ii) & 72.9(g)(4)
<p>NOx Averaging Plan:</p> <p>Beginning January 1, 2002, either:</p> <p>Maintain an annual average NOx emission rate of 0.40 lbs/mmBtu and limit the annual heat input to less than or equal to 5,600,000 mmBtu per year.</p> <p>OR</p> <p>Maintain a Btu-weighted annual average emission rate in lbs/mmBtu, averaged over the units specified in the 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:</p> <p>Plant Boiler ID#</p> <p>Clay Boswell 1, 2, 3, 4 Syl Laskin 1, 2 Taconite Harbor 1, 2, 3</p>	40 CFR Section 76.11
<p>Recordkeeping: Keep on site at the source each of the following documents for a period of 5 years from the date the document is created:</p> <ol style="list-style-type: none"> 1. The certificate of representation; 2. All emissions monitoring information; 3. Copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program; 4. Copies of all documents used to complete an acid rain permit application. 	40 CFR Section 72.9(f)(l)
<p>Apply for Acid Rain Program Permit reissuance: The designated representative shall submit a complete Acid Rain permit application for each source with an affected unit at least 6 months prior to the expiration of an existing Acid Rain Permit in accordance with 40 CFR Section 72.30(c).</p>	40 CFR Section 72.30(c)
<p>Certify Acid Rain Program Submittals.</p> <p>Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative or the alternate designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.</p>	40 CFR Section 72.21
<p>Hold allowances as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year. Takes effect for years beginning January 1, 2002. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.</p>	40 CFR Sections 72.9(c)(1)(i) & 72.9(g)(4)
<p>The owner or operator shall measure opacity, and all SO₂, NO_x, and CO₂ emissions for each affected unit in accordance with 40 CFR Section 75.10.</p>	40 CFR Section 75.10

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Subject Item: EU 004 Heating Boiler - 34 mmBtu/hr**Associated Items:** SV 004 Heating Boiler stack

What to do	Why to do it
Heat Input: less than or equal to 29,784 million Btu/year using 12-month Rolling Sum	Title I Condition: Limit to restrict annual capacity factor to qualify as a limited use boiler under 40 CFR Section 63.7575
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60-minute period and that a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60-minutes period.	Minn. R. 7011.0510, subp. 2
Fuel type limited to distillate fuel oil.	Minn. R. 7007.0800, subp. 2
Heat Input Monitoring and Recordkeeping: By the last day of each month calculate and record: 1. EU 004 monthly fuel usage and (convert to) monthly heat input for the previous calendar month; 2. EU 004 heat input for the previous 12-month period by summing the monthly heat inputs for the previous 12 months.	Title I Condition: Recordkeeping for annual capacity factor to qualify as a limited use boiler under 40 CFR Section 63.7575; Minn. R. 7007.0800, subps. 4 & 5

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Subject Item: EU 005 Cold Start Generator**Associated Items:** SV 005 Cold Start Generator stack

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 limited to distillate fuel oil.	Minn. R. 7007.0800, subp. 2

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Subject Item: EU 006 Ash Collection Baghouse**Associated Items:** CE 004 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 006 Ash Collection Baghouse stack

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.30 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. 7011.0710, subp. 1(A)
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0710, subp. 1(B)
The Permittee shall operate and maintain CE 004 so that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent control efficiency	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 & 14
The Permittee shall operate and maintain CE 004 so that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 & 14
The Permittee shall operate and maintain CE 004 at all times that any emission unit controlled by the fabric filter is in operation.	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 2 & 14
Visible Emissions: The Permittee shall check the stack/vent for CE 004 for any visible emissions once each week of operation. All observations shall be made during daylight hours.	Title I Condition: To avoid major modification under 40 CFR Section 52.21(b) and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5
Recordkeeping of Visible Emissions: The Permittee shall record the time and date of each visible emission inspection and whether or not any visible emissions were observed.	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5
Periodic Inspections: The Permittee shall inspect the fabric filter components once per calendar quarter or as required by the manufacturer. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subps. 4, 5, & 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: 1. Visible emissions are observed; 2. During an inspection, the fabric filter or any of its components are found 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, subps. 4, 5, & 14

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

05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

Subject Item: EU 011 Crusher and Related Transfer Points**Associated Items:** CE 019 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 011 Crusher Baghouse

What to do	Why to do it
LIMITS	hdr
Opacity: less than or equal to 20 percent opacity	40 CFR Section 60.252(c); Minn. R. 7011.1105(G)
The Permittee shall operate and maintain CE 019 so that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency	Minn. R. 7007.0800, subps. 2, 4, & 5
The Permittee shall operate and maintain CE 019 so that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent control efficiency	Minn. R. 7007.0800, subps. 2, 4, & 5
MONITORING AND RECORDKEEPING	hdr
The Permittee shall check the fabric filter stack for any visible emissions once each day of operation during daylight hours.	Minn. R. 7007.0800, subps. 4 & 5
Recordkeeping of Visible Emissions: The Permittee shall record the time and date of each visible emission inspection and whether or not any visible emissions were observed.	Minn. R. 7007.0800, subps. 4 & 5
CE 019 shall operate all listed control equipment located at the stationary source whenever operating the coal crusher and/or associated conveyers.	Minn. R. 7007.0800, subps. 4 & 5
Periodic Inspections: The Permittee shall inspect the fabric filter components once per calendar quarter or as required by the manufacturer. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subps. 4, 5, & 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: 1. Visible emissions are observed; 2. During an inspection, the fabric filter or any of its components are found 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, subps. 4, 5, & 14
Notification of any physical or operational change which increases emission rate: due 60 days (or as soon as practical) before the change is commenced.	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1
PERFORMANCE TESTING	hdr
Initial Performance Test: due 180 days after Initial Startup, but not later than 60 days after achieving maximum production rate, to measure opacity from SV 011.	40 CFR Section 60.8(a); 40 CFR Section 60.254(b)(2); Minn. R. 7017.2020, subp. 1

TABLE B: SUBMITTALS

B-1 05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr
Permit Number: 03100001 - 007

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.

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

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

Send 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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS**B-2** 05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Fugitive Control Plan	due 60 days after 01/08/2007 . The plan shall be a revised plan that includes new fugitive emission sources authorized by permit No. 03100001-006. New fugitive emission sources are FS 009 (Mercury Reagent Truck Hauling), FS 010 (Alkaline/Trona Reagent Truck Hauling), FS 011 (Molten Sulfur Truck Hauling), FS 012 (Ammonia Truck Hauling), and FS 013 (Urea Truck Hauling).	Total Facility
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU 002 after completion of modifications (installation of CE 010, CE 011, CE 012, CE 017, and CE 018, and modification of CE 002). Initial startup is the initial firing of fuel in EU 002 after completion of modifications.	EU002
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU 011 and CE 019.	EU011
Report	due 60 days after Initial Performance Test to measure EU 002 mercury emissions. The report shall be comprised of data and calculations for mercury control efficiency percentage based on uncontrolled emissions calculated from coal mercury content sampling results and controlled emissions determined by mercury performance testing.	EU002
Submittal of Permit Application	due 90 days after Initial Performance Test for EU 002 mercury emissions. The application shall contain the appropriate forms for a major amendment to this permit to add an EU 002 mercury emission limit and/or control efficiency, mercury control equipment monitoring parameter ranges, and minimum parameter values for the parameters identified in the EU 002 PM CAM plan.	Total Facility
Testing Frequency Plan	due 60 days after Initial Performance Test for opacity emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	EU011
Testing Frequency Plan	due 60 days after Initial Performance Test for PM and PM10 emission factor determination. The plan shall specify a testing frequency based on the test results and MPCA guidance. Future performance tests based on 12-month, 36-month, 60-month intervals, or as applicable, shall be required upon written approval of the plan by the MPCA.	EU002

TABLE B: RECURRENT SUBMITTALS**B-3** 05/20/08

Facility Name: Minnesota Power - Tac Harbor Energy Ctr

Permit Number: 03100001 - 007

What to send	When to send	Portion of Facility Affected
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 05/19/1997 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	SV001
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 05/19/1997 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	SV002
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 05/19/1997 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	SV003
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 05/19/1997. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year starting 01/01/2002. Submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Sections 72.90(b) & (c).	EU001
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year starting 01/01/2002. Submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Sections 72.90(b) & (c).	EU002
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year starting 01/01/2002. Submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Sections 72.90(b) & (c).	EU003
Compliance Certification	due 30 days after end of each calendar year starting 05/19/1997 (for the previous calendar year). Submit the certification on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This certification covers all deviations experienced during the calendar year.	Total Facility

APPENDIX MATERIAL

Facility Name: Minnesota Power - Taconite Harbor Energy
Permit Number: 03100001-006

Phase II NOx Compliance Plan

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

This submission is:

☐

New

☒

Revised

Step 1

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

Taconite Harbor Energy Center	MN	10075
Plant Name	State	ORIS Code

Step 2

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

ID# 1	ID# 2	ID# 3	ID#	ID#	ID#
Type T	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 bottom wall-fired boilers)						
(e) Standard annual average emission limitation of 0.40 lb/mmBtu (for <u>Phase II</u> tangentially fired boilers)						
(f) Standard annual average emission limitation of 0.68 lb/mmBtu (for cell burner boilers)						

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

Standard Requirements

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

Special Provisions for Early Election Units

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

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

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

Phase II NOx Averaging Plan

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

This submission is: New ☐ ☒ Revised

Step 1	Plant Name	State	ID#	(a)	(b)	(c)
				Emission Limitation	Alt. Contemp. Emission Limitation	Annual Heat Input Limit
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.	Boswell	MN	1	0.46	0.45	3,500,000
	Boswell	MN	2	0.46	0.45	3,500,000
	Boswell	MN	3	0.40	0.39	19,000,000
	Boswell	MN	4	0.40	0.35	33,000,000
	Laskin	MN	1	0.40	0.50	4,600,000
	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 average emission rate for the same units if they are operated in compliance with 40 CFR 76.5, 76.6, or 76.7. The former must be less than or equal to the latter.

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

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

0.40

0.40

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

Where,

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

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

n = Number of units in the averaging plan

☒ This plan is effective for calendar year 2004 through calendar year 2007 unless notification to terminate the plan is given.

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

Special Provisions

Emission Limitations

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

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

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

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

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

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

Liability

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

Termination

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

Acid Rain Permit Application

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

This submission is

□

New

X

Revised

Taconite Harbor Energy Center	MN	10075
Plant Name	State	ORIS Code

[illegible]

Permit Requirements.

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

Monitoring Requirements.

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

Sulfur Dioxide Requirements.

- (1) The owners and operators of each source and each affected unit at the source shall:
 - (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)), or in the compliance subaccount of another affected unit at the same source to the extent provided in 40 CFR 73.35(b)(3), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
 - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
 - (i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
 - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1)(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, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply;
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
 - (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
- (2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability.

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or 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. 03100001-007

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 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 30 West Superior St. Duluth, MN 55802	8124 W Highway 61 Schroeder Cook County
Contact: Dennis Niemi, Environmental Director	Phone: 218-723-5642 (3945)

1.2 Description of the Facility

Minnesota Power's Taconite Harbor Energy Center consists of three 75 MW (net) coal-fired units located in Schroeder, MN. The units have tangentially fired boilers that are permitted to burn both bituminous and sub-bituminous coals. Coal for the boilers is stored in an outdoor storage pile. Prior to the coal being conveyed to the boilers it is crushed. The crusher is located in a building that currently is not vented to the atmosphere. This permit action is to allow the crusher building to be vented to the atmosphere through a fabric filter for dust collection. Since the crusher had previously not been vented to the atmosphere, it was not listed as an emission unit in the existing operating permit. This permit action will add the coal crusher and conveyor transfer points to the operating permit as an emission unit. The fabric filter serving the ventilation will be added as control equipment to the permit with requirements to limit opacity.

The plant currently uses Montana Powder River Basin (PRB) sub-bituminous coal. This coal has lower a volatiles content and has not presented problems in terms of creating potentially explosive dust in the crusher house. As Minnesota Power looks to potentially burn other coals from the southern portion of the PRB, there is concern that these coals can have a higher volatiles content.

The coal dust collected by the new crusher house dust collector will be pneumatically routed to an existing cyclone separator/baghouse dust collector in the boiler house coal tripper conveyor area. The tripper conveyor moves across the three boilers filling the coal bunkers as it "trips" from one end to the other. The heavier dust particles are separated by the cyclone and fall to the existing boiler coal bunkers. The lighter particles exiting the cyclone will be routed to the tripper conveyor baghouse. That baghouse is used to collect dust from the coal bunkers as they are being loaded by the coal tripper conveyor. The tripper conveyor baghouse drops collected particles back into the coal bunkers and the cleaned air is vented to the atmosphere. That dust collector, when originally installed in 2003, was designed to accept additional dust from other sources and does not need to be modified.

1.3 Description of the Activities Allowed by this Permit Action

This permit action is a major permit amendment because it increases the emissions of particulate from coal preparation and triggers a Standard of Performance for Coal Preparation Plants (40 CFR Part 60 Subpart Y). The modification allowed by this permit action is the addition of existing coal crusher and coal conveyor transfer points as an emission unit controlled by a fabric filter dust collection system.

This permit action also incorporates an administrative amendment to extend the initial performance test deadline for Boiler #2 (EU 002) an additional 120 days.

1.4 Facility Emissions:

Table 1 presents the emissions from exhausting the proposed fabric filter for the coal crusher and conveyance system to the atmosphere. The table presents the emissions from the crusher and conveyance sources as operating at maximum capacity. The table also presents the emissions from the crusher and conveyance system applying the coal use limitation of the boilers. Last, the table presents emissions applying the coal combustion bottleneck and emission reduction from the fabric filter. Based on the bottleneck of the boilers, the emission increase prior to control by the fabric filter does not trigger New Source Review Prevention of Significant Deterioration permitting.

Table 1. Title I Emissions Increase Summary (tpy)

Pollutant	Maximum Potential Emissions Increase from the Modification	Limited/Controlled Emissions Increase from the Modification	PSD/112(g) Significant Thresholds for major sources	NSR/112(g) Review Required? (Yes or No)
PM	95.27	0.95	25	No
PM ₁₀	30.55	0.31	15	No

Table 2. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD	PM, PM ₁₀ , SO _x , NO _x , CO		VOC
Part 70 Permit Program	PM ₁₀ , SO _x , NO _x , CO		VOC
Part 63 NESHAP	Single & Cumulative HAPs		

2. Regulatory and/or Statutory Basis

New Source Review

The facility is an existing major source under New Source Review regulations. No changes are authorized by this permit.

Part 70 Permit Program

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

New Source Performance Standards (NSPS)

This permit action increases particulate emissions from coal crushing and conveying and as a result these emissions are subject to 40 CFR Part 60 Subpart Y Standard of Performance for Coal Preparation Plants.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility is an existing major source of HAPs but this permit action does not change HAP emissions nor does it trigger a NESHAP standard.

Minnesota State Rules

The coal crusher and conveying system are subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.1105 Standards of Performance for Certain Coal Handling Facilities
- Minn. R. 7011.1110 Standards of Performance for Existing Outstate Coal Handling Facilities

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

EU/GP/SV	Applicable Regulations	Comments
EU 011	Minn. R. 7007.0800 subps. 2, 4, & 5 40 CFR pt. 60, subp. Y, Minn. R. 7011.1130	Operational limits to vent exhaust from the crusher building through fabric filter. Limits opacity to less than 20 percent Method 9 shall be used to visually determine opacity
CE 019	Minn. R 7007.0800 subps. 2, 4, & 5	Operate and maintain to achieve overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent control efficiency and 99 percent for Particulate Matter less than 10 microns.

3. Technical Information

The following additional information is attached to support the TSD.

- Emission calculations are attached. The emissions from coal crushing are calculated four ways:
 1. Maximum capacity of coal crusher (750 ton/hr or 6,570,000 tons/yr) multiplied by an emission factor from EPA's FIRE Database (6.25) FIRE SCC 30501010.
 2. Maximum capacity of the coal crusher multiplied by emission factor and applying a control factor for the fabric filter (99% PM and 99% PM₁₀).
 3. Maximum capacity limited by the amount of coal the boilers can combust on an annual basis (3,375,000 tons/yr) multiplied by the emission factor.
 4. Maximum capacity limited by the amount of coal the boilers can combust multiplied by the emission factor and applying a control factor for the fabric filter of (99% PM and 99%PM₁₀)

Emission factors for the conveyor transfer points associated with the coal crusher were calculated in a similar manner except the emission factors used for PM and PM₁₀ were from USAP-42 Table 11.19-2-2 conveyor transfer.

3.1 Calculations of Potential to Emit

Attachment 2 to this TSD contains Form GI-07, which summarizes the PTE of the Facility. The GI-07 on file at the MPCA has been updated to include the emission activities associated with emission unit EU 011.

3.2 Periodic Monitoring

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

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

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

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

Table 4. Periodic Monitoring

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
Fabric Filter (CE 019) serving Coal Crusher and Conveyance System (EU 011)	Less than 20% opacity 40 CFR Section 60.252(c) and Minn. R. 7011.1105(g)	Visible Emissions	The Permittee shall check the fabric filter stack for any visible emissions once each day of operation during daylight hours.

3.3 Comments Received

Public Notice Period: April 5, 2008 – May 5, 2008

EPA 45-day Review Period: April 5, 2008 – May 19, 2008

No Comments were received.

4. Conclusion

Based on the information provided by Minnesota Power, the MPCA has reasonable assurance that the operation of the emission facility, as described in the Air Emission Permit No. 03100001-007 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

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Marshall Cole (peer reviewer)

AQ File No. 48A; DQ 1852, 1924

Attachments: 1. Emission Calculations (in Delta)
2. Facility Description, and CD-01 Forms (in Delta)