AIR EMISSION PERMIT NO. 12300012- 001
IS ISSUED TO

NORTHERN STATES POWER COMPANY

NSP - HIGH BRIDGE GENE
501 Shepard Road
St. Paul, Minnesota 55102-3004

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
Total Facility Operating Permit	December 14, 1995

This permit authorizes the Permittee to operate 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 and with all general conditions listed in Minn. R. 7007.0800, subp. 16, and all standard permit requirements listed in 40 CFR § 70.6(a), which are incorporated by reference. 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 as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal ; Part 70

Issue Date: July 20, 1998

Expiration:
All Title I Conditions do not expire.

Michael J. Sandusky
Division Manager
Air Quality Division

for Peder A. Larson
Commissioner
Minnesota Pollution Control Agency

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NOTICE TO THE PERMITTEE:

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

Metro Area	(612)296-6300
Outside Metro Area	1-800-657-3864
TTY	(612)282-5332

The rule 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. Any requirements which have been determined not to apply are listed in Table A of this permit.

The permit shield, however does not apply to: Minn. R. ch. 7030 (Noise Pollution Control).

FACILITY DESCRIPTION:

The NSP High Bridge facility has a total plant electrical output rating of 325 MW. the plant also supplies steam to an off-site customer. All four boilers at the facility are wall fired dry bottom coal fired boilers and discharge emissions to the atmosphere through a common 570 foot stack. Boiler Nos. 3 and 4 each have a maximum rated heat input capacity of 587 MMBtu/hr while Boiler 5 is rated at 1050 MMBtu/hr and Boiler 6 is rated at 1591 MMBtu/hr. Steam for electric power generation is provided solely by Boiler Nos. 5 and 6 while Boiler Nos. 3 and 4 only supply steam for off-site sale. In addition to the four boilers, the plant also operates and maintains various coal and ash handling and storage facilities. Emissions of particulate matter from the main boilers are controlled by electrostatic precipitators which removes particulates from the stack gases by electrically charging the particles at the inlet and then collecting them on oppositely charge plates at the outlet. Gaseous emissions from the main boilers are not effectively controlled by any post combustion control device at this time.

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item: **Total Facility**

What to do	Why to do it
A. OPERATIONAL REQUIREMENTS	hdr
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Operating Practices: Clean up all coal spilled on roads or access areas as soon as practicable using methods that minimize the amount of dust suspended.	Minn. R. 7011.1105 (I)
Access areas, roads, parking facilities: (1) Install asphalt or concrete surfaces or chemical agents on all active truck haul roads of the coal handling facility when the coal throughput by truck is 200,000 tons or greater. All paved roads and areas shall be cleaned to minimize the discharge to the atmosphere of fugitive particulate emissions. Such cleaning shall be accomplished in a manner which minimizes resuspension of particulate matter. Access areas surrounding coal stockpiles and parking facilities which are located within a coal handling facility shall be treated with water, oils, or chemical agents.	Minn. R. 7011.1105 (A)
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not federally enforceable.	Minn. R. 7030.0010 - 7030.0080
Comply with Fugitive Emission Control Plan: The Permittee shall follow the actions and recordkeeping specified in the control plan. The plan may be amended by the Permittee with the Commissioner's approval. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the fugitive control plan, then the Permittee may be required to amend the control plan and/or to install and operate particulate matter ambient monitors as requested by the Commissioner.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location. The permittee may require MPCA staff to be accompanied by NSP staff during any inspection.	Minn. R. 7007.0800, subp. 9(A)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
B. POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
C. TESTING REQUIREMENTS	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017
Operating and/or production limits will be placed on emission units based on operating conditions during performance testing. Limits set as a result of a performance test (conducted before or after permit issuance) apply until new operating/production limits are set following formal review of a performance test as specified by Minn. R. 7017.2025. This requirement does not apply to EU 003, and EU 004. For operating limit requirements applicable to EU 003, and EU 004, see requirements pertaining to Short Term Emergency and Testing (STET) and Boiler Operating Conditions in EU 003, and EU 004.	Minn. R. 7017.2025
The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001 - 7017.2060.	Minn. R. 7017.2020, subp. 4
D. MONITORING REQUIREMENTS	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Monitoring Activities and Equipment: Where applicable, initialize monitoring activities and install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring activities are not performed or monitoring equipment is not installed and operational prior to permit issuance.	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
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)
E. RECORD KEEPING	hdr
Record keeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007. 1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007. 0800, subp. 5(B)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
F. REPORTING	hdr
Oral or Written (faxed) Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner of any deviation from the permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Discovery of Deviations Endangering Human Health or the Environment Report (written): due two working days after discovery of deviation, submit a written description of any deviation endangering human health or the environment to the Commissioner. Include the following information in this written description: cause of the deviation; exact dates of the period of the deviation (if the deviation has not been corrected); whether or not the deviation has been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
Breakdowns: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any process or control equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. Notification is not required for breakdown of electrostatic precipitator sections in CE 001, CE 002, CE 003, CE 004, CE 005, CE 006, CE 007, and CE 008, if the number of remaining operating sections for each electrostatic precipitator is equal to or greater than the number of operating sections during the most recent performance test during which limits for particulate matter and opacity were met, and, the opacity measured by the COM on SV 001 does not exceed the opacity limit in EU 001, EU 002, EU 003, and EU 004. At the time of notification or as soon as possible thereafter, the permittee shall inform the Commissioner of the cause of the breakdown and the estimated duration. Notify the Commissioner again when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Shutdowns: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any process or control equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. At the time of notification, inform the Commissioner of the cause of the shutdown and the estimated duration. 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. Notify the Commissioner again when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **GP 001 Emergency Generators**

Associated Items: EU 010 Emergency Diesel Generator

EU 011 Emergency Diesel Generator

What to do	Why to do it
Operating Hours: less than or equal to 816 hours/year using 12-month Rolling Sum calculated monthly.	Title I Condition: limit to avoid classification as a major modification under 40 CFR Section 52.21
Calculate and record the monthly and the 12-month rolling sum operating hours for GP 001. Complete the calculation and recording by the end of each month, for the previous month and the previous 12-month period.	Title I Condition: recordkeeping to avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **SV 001**

Associated Items: EU 001 Boiler 3

EU 002 Boiler 4

EU 003 Boiler 5

EU 004 Boiler 6

MR 001

MR 002

MR 003

MR 004

MR 005

MR 006

What to do	Why to do it
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 7439 lbs/hour using 1-Hour Average	Minn. R. 7009.0020
Particulate Matter < 10 micron: less than or equal to 1526 lbs/hour	Minn. R. 7009.0020
B. MONITORING REQUIREMENTS	hdr
Emissions Monitoring: The owner or operator shall use a CEMS to measure SO2, NOx, and CO2 emissions and flow rate for each affected unit in accordance with 40 CFR Section 75.10.	40 CFR pt. 75
Emissions Monitoring: The owner or operator shall use a COMS to measure opacity emissions from SV 001.	Minn. R. 7017.1000, subp. 1
Daily Calibration Error (CE) Test: conduct daily CE testing on all CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B.	40 CFR pt. 75, Appendix B, Section 2.1
Linearity and Leak Check Test (Acid Rain Program): due before end of each calendar quarter following Permit Issuance . Conduct a quarterly linearity test on CEMS required by the Acid Rain Program, in accordance with 40 CFR pt. 75, Appendix B.	40 CFR pt. 75, Appendix B, Section 2.2
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar half-year following Permit Issuance . Conduct a RATA 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 2.3
CEMS QA/QC: The owner or operator of an affected facility shall operate, calibrate, and maintain each CEM according to the QA/QC procedure in 40 CFR pt. 75, Appendix B as amended.	40 CFR Section 75.21
COMS Continuous Operation: Except for system breakdowns, repairs, calibration checks and zero and span adjustments, all COMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 2
COMS Daily Calibration Drift (CD) Check: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) opacity at least once daily. The COMS must be adjusted whenever the calibration drift (CD) exceeds twice the specifications of PS-1 of 40 CFR pt. 60, Appendix B. Daily CD Checks are required only during periods of operation.	Minn. R. 7017.1000, subp. 5
COMS Calibration Error Audit: due before end of each calendar half-year following Permit Issuance . Conduct audits at least 3 months apart but no greater than 8 months apart. Audits are required only during periods of operation.	Minn. R. 7007.0800, subp. 2
COMS Monitoring Data: Owners or operators of all COMS shall reduce all data to one (1) minute averages. Opacity averages shall be calculated from all equally spaced consecutive 10-second (or shorter) data points in the one (1) minute averaging period.	Minn. R. 7007.0800, subp. 2
C. RECORD KEEPING	hdr
Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support the information for a period of five (5) years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7007.0800, subp. 5
Recordkeeping: The owner or operator must retain records of all COMS monitoring data and support information for a period of five (5) years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7007.0800, subp. 5
D. REPORTING	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **SV 002**

Associated Items: EU 005 Railcar Unloading

What to do	Why to do it
Particulate Matter < 10 micron: less than or equal to 2.0 lbs/hour	Minn. R. 7009.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **SV 003**

Associated Items: EU 005 Railcar Unloading

What to do	Why to do it
Particulate Matter < 10 micron: less than or equal to 2.0 lbs/hour	Minn. R. 7009.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **EU 001 Boiler 3**

Associated Items: CE 001 Electrostatic Precipitator - High Efficiency

CE 002 Electrostatic Precipitator - High Efficiency

SV 001

What to do	Why to do it
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 1.95 lbs/million Btu heat input using 1-Hour Average	Minn. R. 7009.0020; 40 CFR Section 50.6; meets requirements of Minn. R. 7011.0510, subp. 1
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1; meets requirements of Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity except that a maximum of 60 percent opacity shall be allowable for four minutes in any 60-minute period and a maximum of 40 percent opacity shall be allowable for an additional four minutes in any 60-minute period.	Minn. R. 7011.0510, subp. 2
Comply with the applicable Acid Rain emissions limitation of sulfur dioxide.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
B. OPERATIONAL REQUIREMENTS	hdr
Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
Allowed fuel types: bituminous coal, subbituminous coal, distillate fuel oil, natural gas, used oil, non-hazardous spill clean-up materials, non-hazardous parts cleaning agents and non-hazardous boiler cleaning agents.	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for distillate fuel oil.	Minn. R. 7007.0800, subp 2; meets SO2 emission limit requirement in Minn. R. 7011.0510, subp. 1
Combust used oil in accordance with used oil regulations in Minn. R. ch. 7045. Limit used oil combustion to 5% of total fuel mass input on an hourly basis.	Minn. R. 7007.0800, subp. 2; Minn. R. ch. 7045
Boiler chemical cleaning waste limited to: 8.5 gpm per 100,000 lbs/hr steam flow, unless good combustion is demonstrated at a higher flow rate; cleaning waste shall be introduced into the boiler when the boiler is operating at a level of at least 75 percent of rated capacity; records of boiler cleaning agent incineration shall be kept on file, including dates, amounts, origin of material, cleaning agent boiler feed rate, and operating capacity of the boiler during incineration, including steam flow.	Minn. R. 7007.0800, subp. 2
C. TESTING REQUIREMENTS	hdr
Initial Performance Test: due 180 days after Permit Issuance to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4
D. RECORD KEEPING	hdr
Keep on site at the source each of the following documents for a period of five (5) years from the date the document was created: The certificate of representation, all emissions monitoring information, copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program, copies of all documents used to complete an acid rain permit application.	40 CFR Section 72.9(f)(l)
E. REPORTING	hdr
Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.	40 CFR Section 72.21
If the unit has excess emissions, the designated representative shall submit a proposed offset plan in accordance with 40 CFR ' 72.9(e).	40 CFR Section 72.9(e)

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **EU 002 Boiler 4**

Associated Items: CE 003 Electrostatic Precipitator - High Efficiency

CE 004 Electrostatic Precipitator - High Efficiency

SV 001

What to do	Why to do it
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 1.95 lbs/million Btu heat input using 1-Hour Average	Minn. R. 7009.0020; 40 CFR Section 50.6; meets requirements of Minn. R. 7011.0510, subp. 1
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1; meets requirements of Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity except that a maximum of 60 percent opacity shall be allowable for four minutes in any 60-minute period and a maximum of 40 percent opacity shall be allowable for an additional four minutes in any 60-minute period.	Minn. R. 7011.0510, subp. 2
Comply with the applicable Acid Rain emissions limitation of sulfur dioxide.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
B. OPERATIONAL REQUIREMENTS	hdr
Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
Allowed fuel types: bituminous coal, subbituminous coal, distillate fuel oil, natural gas, used oil, non-hazardous spill clean-up materials, non-hazardous parts cleaning agents and non-hazardous boiler cleaning agents.	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for distillate fuel oil.	Minn. R. 7007.0800, subp 2; meets SO2 emission limit requirement in Minn. R. 7011.0510, subp. 1
Combust used oil in accordance with used oil regulations in Minn. R. ch. 7045. Limit used oil combustion to 5% of total fuel mass input on an hourly basis.	Minn. R. 7007.0800, subp. 2; Minn. R. ch. 7045
Boiler chemical cleaning waste limited to: 8.5 gpm per 100,000 lbs/hr steam flow, unless good combustion is demonstrated at a higher flow rate; cleaning waste shall be introduced into the boiler when the boiler is operating at a level of at least 75 percent of rated capacity; records of boiler cleaning agent incineration shall be kept on file, including dates, amounts, origin of material, cleaning agent boiler feed rate, and operating capacity of the boiler during incineration, including steam flow.	Minn. R. 7007.0800, subp. 2
C. TESTING REQUIREMENTS	hdr
Initial Performance Test: due 180 days after Permit Issuance to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4
D. RECORD KEEPING	hdr
Keep on site at the source each of the following documents for a period of five (5) years from the date of permit issuance: The certificate of representation, all emissions monitoring information, copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program, copies of all documents used to complete an acid rain permit application.	40 CFR Section 72.9(f)(l)
E. REPORTING	hdr
Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.	40 CFR Section 72.21
If the unit has excess emissions, the designated representative shall submit a proposed offset plan in accordance with 40 CFR ' 72.9(e).	40 CFR Section 72.9(e)

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **EU 003 Boiler 5**

Associated Items: CE 005 Electrostatic Precipitator - High Efficiency

CE 006 Electrostatic Precipitator - High Efficiency

SV 001

What to do	Why to do it
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 1.95 lbs/million Btu heat input using 1-Hour Average	Minn. R. 7009.0020; 40 CFR Section 50.6; meets requirements of Minn. R. 7011.0510, subp. 1
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1; meets requirements of Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity except that a maximum of 60 percent opacity shall be allowable for four minutes in any 60-minute period and a maximum of 40 percent opacity shall be allowable for an additional four minutes in any 60-minute period.	Minn. R. 7011.0510, subp. 2
Comply with the applicable Acid Rain emissions limitation of sulfur dioxide.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
B. OPERATIONAL REQUIREMENTS	hdr
Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
Allowed fuel types: bituminous coal, subbituminous coal, distillate fuel oil, natural gas, used oil, non-hazardous spill clean-up materials, non-hazardous parts cleaning agents and non-hazardous boiler cleaning agents.	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for distillate fuel oil.	Minn. R. 7007.0800, subp 2; meets SO2 emission limit requirement in Minn. R. 7011.0510, subp. 1
Combust used oil in accordance with used oil regulations in Minn. R. ch. 7045. Limit used oil combustion to 5% of total fuel mass input on an hourly basis.	Minn. R. 7007.0800, subp. 2; Minn. R. ch. 7045
Boiler chemical cleaning waste limited to: 8.5 gpm per 100,000 lbs/hr steam flow, unless good combustion is demonstrated at a higher flow rate; cleaning waste shall be introduced into the boiler when the boiler is operating at a level of at least 75 percent of rated capacity; records of boiler cleaning agent incineration shall be kept on file, including dates, amounts, origin of material, cleaning agent boiler feed rate, and operating capacity of the boiler during incineration, including steam flow.	Minn. R. 7007.0800, subp. 2
C. TESTING REQUIREMENTS	hdr
Initial Performance Test: due before 12/31/99 or during the first planned shut down of the off-site steam lines (that serve EU 001 and EU 002), whichever comes first. Testing will be conducted to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4
Boiler Alternative Operating Conditions for Performance Testing: Alternative Operating Conditions during testing are defined as 90 percent to 100 percent of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following: (1) If the results of the performance test are greater than 90 percent of any applicable emission limit for which emissions are measured, then the boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 90 percent of all applicable emission limits for which emissions are measured, boiler operation will be limited to 110 percent of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
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 Conditions for Performance Testing: If performance test results measure emissions at 90 percent or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110 percent of the average operating rate achieved during that performance test. If performance test results measure emissions at greater than 90 percent of any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100 percent of the average operating rate achieved during that performance test. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001 - 7017.2060.	Minn. R. 7017.2020, subp. 4
D. RECORD KEEPING	hdr
Keep on site at the source each of the following documents for a period of five (5) years from the date the document was created: The certificate of representation, all emissions monitoring information, copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program, copies of all documents used to complete an acid rain permit application.	40 CFR Section 72.9(f)(l)
E. REPORTING	hdr
Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.	40 CFR Section 72.21
If the unit has excess emissions, the designated representative shall submit a proposed offset plan in accordance with 40 CFR ' 72.9(e).	40 CFR Section 72.9(e)

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **EU 004 Boiler 6**

Associated Items: CE 007 Electrostatic Precipitator - High Efficiency

CE 008 Electrostatic Precipitator - High Efficiency

SV 001

What to do	Why to do it
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 1.95 lbs/million Btu heat input using 1-Hour Average	Minn. R. 7011.0510, subp. 1; meets requirements of Minn. R. 7009.0020 and 40 CFR Section 50.6
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1; meets requirements of Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity except that a maximum of 60 percent opacity shall be allowable for four minutes in any 60-minute period and a maximum of 40 percent opacity shall be allowable for an additional four minutes in any 60-minute period.	Minn. R. 7011.0510, subp. 2
Comply with the applicable Acid Rain emissions limitation of sulfur dioxide.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
B. OPERATIONAL LIMITS	hdr
Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year.	40 CFR Section 72.9(c)(1)(i), 40 CFR Section 72.9(g)(4)
Allowed fuel types: bituminous coal, subbituminous coal, distillate fuel oil, natural gas, used oil, non-hazardous spill clean-up materials, non-hazardous parts cleaning agents and non-hazardous boiler cleaning agents.	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for distillate fuel oil.	Minn. R. 7007.0800, subp 2; meets SO2 emission limit requirement in Minn. R. 7011.0510, subp. 1
Combust used oil in accordance with used oil regulations in Minn. R. ch. 7045. Limit used oil combustion to 5% of total fuel mass input on an hourly basis.	Minn. R. 7007.0800, subp. 2; Minn. R. ch. 7045
Boiler chemical cleaning waste limited to: 8.5 gpm per 100,000 lbs/hr steam flow, unless good combustion is demonstrated at a higher flow rate; cleaning waste shall be introduced into the boiler when the boiler is operating at a level of at least 75 percent of rated capacity; records of boiler cleaning agent incineration shall be kept on file, including dates, amounts, origin of material, cleaning agent boiler feed rate, and operating capacity of the boiler during incineration, including steam flow.	Minn. R. 7007.0800, subp. 2
C. TESTING REQUIREMENTS	hdr
Initial Performance Test: due before 12/31/99 or during the first planned shut down of the off-site steam lines (that serve EU 001 and EU 002), whichever comes first. Testing will be conducted to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4
Boiler Alternative Operating Conditions for Performance Testing: Alternative Operating Conditions during testing are defined as 90 percent to 100 percent of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited on an 8-hour block average based on the following: (1) If the results of the performance test are greater than 90 percent of any applicable emission limit for which emissions are measured, then the boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 90 percent of all applicable emission limits for which emissions are measured, boiler operation will be limited to 110 percent of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
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 Conditions for Performance Testing: If performance test results measure emissions at 90 percent or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110 percent of the average operating rate achieved during that performance test. If performance test results measure emissions at greater than 90 percent of any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100 percent of the average operating rate achieved during that performance test. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001 - 7017.2060.	Minn. R. 7017.2020, subp. 4
D. RECORD KEEPING	hdr
Keep on site at the source each of the following documents for a period of five (5) years from the date the document was created: The certificate of representation, all emissions monitoring information, copies of all reports, compliance certifications, and other submissions or records made under the Acid Rain Program, copies of all documents used to complete an acid rain permit application.	40 CFR Section 72.9(f)(l)
E. REPORTING	hdr
Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative for all sources on behalf of which the submission is made in accordance with 40 CFR Section 72.21.	40 CFR Section 72.21
If the unit has excess emissions, the designated representative shall submit a proposed offset plan in accordance with 40 CFR ' 72.9(e).	40 CFR Section 72.9(e)

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **EU 005 Railcar Unloading**

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

SV 002

SV 003

What to do	Why to do it
Railcar Unloading: When the amount of coal unloaded by rail is 200,000 tons per year or greater, unload railcars only within a permanent building or structure. If exhaust gases from such building or structure exceed 20 percent opacity, then implement one of the following further controls: install an exhaust air system and control exhaust gases so that particulate matter emissions do not exceed 0.020 gr/dscf; or control exhaust gases using dust suppression methods so that particulate emissions do not exhibit Opacity: greater than or equal to 20 percent opacity	Minn. R. 7011.1105 (H)
Check for visible emissions (during daylight hours) from SV002 and SV003 (for CE009) once each calendar week during every week of operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs.	Minn. R. 7007.0800, subp. 2
Record keeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **EU 006 #5 Feeder Area (Weightometer)**

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

SV 004

What to do	Why to do it
If exhaust gases from any enclosed coal handling facility exceed 20 percent opacity, then the owner or operator of such facility shall select and implement one of the following further controls: (1) install exhaust air system and control exhaust gases so that particulate emissions in such gases do not exceed 0.020 gr/dscf; (2) control exhaust gases using dust suppression methods so that particulate emissions do not exhibit greater than 20 percent opacity. Also note additional PM limit based on Minn. R. 7009.0020.	Minn. R. 7011.1105 (G)
Particulate Matter < 10 micron: less than or equal to 1.8 lbs/hour	Minn. R. 7009.0020
Operating Hours: less than or equal to 12 hours/day between the hours of 6 a.m and 6 p.m.	Minn. R. 7009.0020
Check for visible emissions (during daylight hours) from the control equipment (CE010) once each calendar week during every week of operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the operating start and stop times during every day of coal throughput operation.	Minn. R. 7007.0800, subp. 5
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **EU 007 Bunker Room Conveying**

Associated Items: CE 011 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 005

What to do	Why to do it
If exhaust gases from any enclosed coal handling facility exceed 20 percent opacity, then the owner or operator of such facility shall select and implement one of the following further controls: (1) install exhaust air system and control exhaust gases so that particulate emissions in such gases do not exceed 0.020 gr/dscf; (2) control exhaust gases using dust suppression methods so that particulate emissions do not exhibit greater than 20 percent opacity. Also note additional PM limit based on Minn. R. 7009.0020.	Minn. R. 7011.1105 (G)
Particulate Matter < 10 micron: less than or equal to 2.7 lbs/hour	Minn. R. 7009.0020
Check for visible emissions (during daylight hours) from the control equipment (CE011) once each calendar week during every week of operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **EU 008 Fly Ash Transfer System**

Associated Items: CE 012 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 006

What to do	Why to do it
Particulate Matter < 10 micron: less than or equal to 0.02 grains/dry standard cubic foot and 0.4 lbs/hr.	Minn. R. 7009.0020 and meets requirement of Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Check for visible emissions (during daylight hours) from the control equipment (CE012) once each calendar week during every week of operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **EU 009 Fly Ash Silo**

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

SV 007

What to do	Why to do it
Particulate Matter < 10 micron: less than or equal to 0.02 grains/dry standard cubic foot and 0.2 lbs/hr.	Minn. R. 7009.0020 and meets requirement of Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Check for visible emissions (during daylight hours) from the control equipment (CE012) once each calendar week during every week of operation.	Minn. R. 7007.0800, subp. 4
Corrective Actions: If visible emissions (VEs) are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs.	Minn. R. 7007.0800, subp. 2
Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

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

Associated Items: GP 001 Emergency Generators

SV 008

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity for more than 10 consecutive seconds once operating temperatures have been obtained.	Minn. R. 7011.2300, subp. 1
Particulate Matter < 10 micron: less than or equal to 0.8 lbs/hour	Minn. R. 7009.0020
Sulfur Dioxide: less than or equal to 1.75 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
Fuel type is limited to distillate fuel oil with a maximum Sulfur Content of Fuel: less than or equal to 0.5 percent by weight	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **EU 011 Emergency Diesel Generator**

Associated Items: GP 001 Emergency Generators

SV 009

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity for more than 10 consecutive seconds once operating temperatures have been obtained.	Minn. R. 7011.2300, subp. 1
Particulate Matter < 10 micron: less than or equal to 0.8 lbs/hour	Minn. R. 7009.0020
Sulfur Dioxide: less than or equal to 1.75 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
Fuel type is limited to distillate fuel oil with a maximum Sulfur Content of Fuel: less than or equal to 0.5 percent by weight	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **EU 012 Temporary Emergency Engine**

Associated Items: SV 010

What to do	Why to do it
Operating Hours: less than or equal to 7575 hours/year using 12-month Rolling Sum calculated monthly. During the first 11 months of operation, the cumulative operating hours are limited as follows: Month 1: 730 hours; Month 2: 1460 hours; Month 3: 2190 hours; Month 4: 2920 hours; Month 5: 3650 hours; Month 6: 4380 hours; Month 7: 5110 hours; Month 8: 5840 hours; Month 9: 6570 hours; Month 10: 7300 hours; Month 11: 7475 hours.	Title I Condition: limit to avoid classification as a major modification under 40 CFR Section 52.21
Capacity: less than or equal to 300 horsepower	Minn. R. 7007.0800, subp. 2
Particulate Matter < 10 micron: less than or equal to 0.66 lbs/hour	Minn. R. 7009.0020
Opacity: less than or equal to 20 percent opacity for more than 10 consecutive seconds once operating temperatures have been obtained.	Minn. R. 7011.2300, subp. 1
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight	Minn. R. 7007.0800, subp. 2; meets requirements of Minn. R. 7011.2300, subp. 2
Calculate and record operating hours for each month and on a 12-month rolling sum basis. Complete the calculation and recording by the end of each month, for the previous month and for the previous 12-month period.	Title I Condition: recordkeeping to avoid classification as a major modification under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **CE 001 Electrostatic Precipitator - High Efficiency**

Associated Items: EU 001 Boiler 3

What to do	Why to do it
Operate control equipment when the associated boiler is operating except while burning only natural gas.	Minn. R. 7007.0800, subp. 2
The ESP must be operated with at least the minimum specific collection area (SCA) in service determined during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit. If the sections in the ESP are physically and electrically equivalent, the Permittee can meet this requirement by operating the ESP with no less than the number of sections that were operating during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit.	Minn. R. 7007.0800, subp. 14
Monitor and record the identity and minimum number of ESP sections (or SCA if sections are not equivalent) in service each day that the ESP is operating.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **CE 002 Electrostatic Precipitator - High Efficiency**

Associated Items: EU 001 Boiler 3

What to do	Why to do it
Operate control equipment when the associated boiler is operating except while burning only natural gas.	Minn. R. 7007.0800, subp. 2
The ESP must be operated with at least the minimum specific collection area (SCA) in service determined during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit. If the sections in the ESP are physically and electrically equivalent, the Permittee can meet this requirement by operating the ESP with no less than the number of sections that were operating during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit.	Minn. R. 7007.0800, subp. 14
Monitor and record the identity and minimum number of ESP sections (or SCA if sections are not equivalent) in service each day that the ESP is operating.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **CE 003 Electrostatic Precipitator - High Efficiency**

Associated Items: EU 002 Boiler 4

What to do	Why to do it
Operate control equipment when the associated boiler is operating except while burning only natural gas.	Minn. R. 7007.0800, subp. 2
The ESP must be operated with at least the minimum specific collection area (SCA) in service determined during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit. If the sections in the ESP are physically and electrically equivalent, the Permittee can meet this requirement by operating the ESP with no less than the number of sections that were operating during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit.	Minn. R. 7007.0800, subp. 14
Monitor and record the identity and minimum number of ESP sections (or SCA if sections are not equivalent) in service each day that the ESP is operating.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **CE 004 Electrostatic Precipitator - High Efficiency**

Associated Items: EU 002 Boiler 4

What to do	Why to do it
Operate control equipment when the associated boiler is operating except while burning only natural gas.	Minn. R. 7007.0800, subp. 2
The ESP must be operated with at least the minimum specific collection area (SCA) in service determined during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit. If the sections in the ESP are physically and electrically equivalent, the Permittee can meet this requirement by operating the ESP with no less than the number of sections that were operating during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit.	Minn. R. 7007.0800, subp. 14
Monitor and record the identity and minimum number of ESP sections (or SCA if sections are not equivalent) in service each day that the ESP is operating.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

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

Associated Items: EU 003 Boiler 5

What to do	Why to do it
Operate control equipment when the associated boiler is operating except while burning only natural gas.	Minn. R. 7007.0800, subp. 2
The ESP must be operated with at least the minimum specific collection area (SCA) in service determined during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit. If the sections in the ESP are physically and electrically equivalent, the Permittee can meet this requirement by operating the ESP with no less than the number of sections that were operating during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit.	Minn. R. 7007.0800, subp. 14
Monitor and record the identity and minimum number of ESP sections (or SCA if sections are not equivalent) in service each day that the ESP is operating.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **CE 006 Electrostatic Precipitator - High Efficiency**

Associated Items: EU 003 Boiler 5

What to do	Why to do it
Operate control equipment when the associated boiler is operating except while burning only natural gas.	Minn. R. 7007.0800, subp. 2
The ESP must be operated with at least the minimum specific collection area (SCA) in service determined during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit. If the sections in the ESP are physically and electrically equivalent, the Permittee can meet this requirement by operating the ESP with no less than the number of sections that were operating during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit.	Minn. R. 7007.0800, subp. 14
Monitor and record the identity and minimum number of ESP sections (or SCA if sections are not equivalent) in service each day that the ESP is operating.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **CE 007 Electrostatic Precipitator - High Efficiency**

Associated Items: EU 004 Boiler 6

What to do	Why to do it
Operate control equipment when the associated boiler is operating except while burning only natural gas.	Minn. R. 7007.0800, subp. 2
The ESP must be operated with at least the minimum specific collection area (SCA) in service determined during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit. If the sections in the ESP are physically and electrically equivalent, the Permittee can meet this requirement by operating the ESP with no less than the number of sections that were operating during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit.	Minn. R. 7007.0800, subp. 14
Monitor and record the identity and minimum number of ESP sections (or SCA if sections are not equivalent) in service each day that the ESP is operating.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **CE 008 Electrostatic Precipitator - High Efficiency**

Associated Items: EU 004 Boiler 6

What to do	Why to do it
Operate control equipment when the associated boiler is operating except while burning only natural gas.	Minn. R. 7007.0800, subp. 2
The ESP must be operated with at least the minimum specific collection area (SCA) in service determined during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit. If the sections in the ESP are physically and electrically equivalent, the Permittee can meet this requirement by operating the ESP with no less than the number of sections that were operating during the most-recent particulate matter emissions test with results equal to or less than the particulate matter emission limit.	Minn. R. 7007.0800, subp. 14
Monitor and record the identity and minimum number of ESP sections (or SCA if sections are not equivalent) in service each day that the ESP is operating.	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **FS 002 PM10 Coal Yard Traffic**

Associated Items: CE 014 Dust Suppression by Water Spray

What to do	Why to do it
Control dust by watering, achieving at least 40% control efficiency.	Minn. R. 7009.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **FS 003 PM10 Coal Storage Pile - Erosion**

Associated Items: CE 014 Dust Suppression by Water Spray

What to do	Why to do it
Control dust by watering, achieving at least 40% control efficiency. Stockpiles, Stockpile Construction, and Reclaiming: (1) Control fugitive particulate emissions by dust suppression methods on such operations so that fugitive particulate emissions are minimized. Total Particulate Matter: less than or equal to 0.02 grains/dry standard cubic foot	Minn. R. 7011.1105(F) and Minn. R. 7009.0020
Coal Pile Area: The total exposed surface area of all coal piles shall be less than or equal to 7.5 acres or 190,000 tons.	Minn. R. 7009.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: FS 004 PM10 Scraper Building Hopper

What to do	Why to do it
Control fugitive dust emissions by 50% through the use of a partial enclosure and an additional 40% through use of water sprays. Coal Loading Stations: Control fugitive particulate emissions from the loading of trucks or haulers by dust suppression methods so that emissions from such sources are minimized.	Minn R. 7009.0020 and meets the requirements of Minn. R. 7011.1105(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **FS 005 PM10 Coal Storage Pile - Placement**

Associated Items: CE 014 Dust Suppression by Water Spray

What to do	Why to do it
Control dust by watering, achieving at least 40% control efficiency. Stockpiles, Stockpile Construction, and Reclaiming: (1) Control fugitive particulate emissions by dust suppression methods on such operations so that fugitive particulate emissions are minimized. Total Particulate Matter: less than or equal to 0.02 grains/dry standard cubic foot	Minn. R. 7011.1105(F) and Minn. R. 7009.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **FS 006 PM10 Coal Storage Pile - Reclaim**

Associated Items: CE 014 Dust Suppression by Water Spray

What to do	Why to do it
Control dust by watering, achieving at least 40% control efficiency. Stockpiles, Stockpile Construction, and Reclaiming: (1) Control fugitive particulate emissions by dust suppression methods on such operations so that fugitive particulate emissions are minimized. Total Particulate Matter: less than or equal to 0.02 grains/dry standard cubic foot	Minn. R. 7011.1105(F) and Minn. R. 7009.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: FS 007 PM10 Coal Reclaim Hopper

What to do	Why to do it
Control fugitive dust emissions by 50% through the use of a partial enclosure. Coal Loading Stations: Control fugitive particulate emissions from the unloading of trucks or haulers by dust suppression methods so that emissions from such sources are minimized.	Minn. R. 7009.0020 and meets requirements of Minn. R. 7011.1105(F)

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **FS 008 PM10 Ash Hauling Traffic - Industrial Paved**

Associated Items: CE 014 Dust Suppression by Water Spray

What to do	Why to do it
Control dust by watering, achieving at least 40% control efficiency.	Minn. R. 7009.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: FS 010 PM10 Ash Hauling Traffic - Paved

What to do	Why to do it
Control dust by watering, achieving at least 40% control efficiency.	Minn. R. 7009.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: **FS 998 Barge Unloading**

Associated Items: CE 016 Dust Suppression by Water Spray

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

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

Subject Item: FS 999 Barge Euclid Loading

What to do	Why to do it
Solid fuel unloading by barge is allowed only if dispersion modeling for particulate Matter includes this fugitive source and the modeling demonstrates that emissions from the source would not cause or contribute to a violation of ambient air quality standards in 40 CFR Section 50.6 or Minn. R. 7009.0080.	Minn. R. 7007.0800, subp. 2
Coal Loading Stations: Control fugitive particulate emissions from the loading of trucks or haulers by dust suppression methods so that emissions from such sources are minimized.	Minn. R. 7011.1105(B)

TABLE B: SUBMITTALS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

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

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

Send any application for a permit or permit amendment to:

Permit Technical Advisor
Permit Section
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

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

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

Supervisor
Compliance Determination Unit
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

What to send	When to send	Portion of Facility Affected
Acid Rain Application for Permit Reissuance	due 180 days before expiration of Existing Permit	EU001, EU002, EU003, EU004
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Computer Dispersion Modeling Protocol	due 1,096 days after Permit Issuance for NOx. This protocol will describe the proposed modeling methodology and input data, in accordance with all requirements of 40 CFR pt. 51, Appendix W. The protocol shall be based on projected operating conditions under the next permit term.	Total Facility
Computer Dispersion Modeling Protocol	due 30 days after Permit Issuance for PM-10. This protocol will describe the proposed modeling methodology and input data, in accordance with all requirements of 40 CFR pt. 51, Appendix W. The protocol shall be based on operating conditions under the current permit term.	Total Facility
Computer Dispersion Modeling Results	due 1,462 days after Permit Issuance . The results shall be submitted after the MPCA has reviewed and approved the modeling protocol.	Total Facility
Computer Dispersion Modeling Results	due 90 days after Permit Issuance . The results shall be submitted after the MPCA has reviewed and approved the modeling protocol.	Total Facility
Fugitive Control Plan	due 60 days after Permit Issuance for review and approval by the Commissioner. The plan shall identify all fugitive emission sources, primary and contingent control measures, and recordkeeping. Daily recordkeeping must include, at a minimum, results of fugitive dust emissions observations, relevant meteorological data, control measures taken, and the date and time when the observations or control measure took place.	Total Facility
Performance Test Notification (written)	due 30 days before Initial Performance Test	EU001, EU002, EU003, EU004
Performance Test Plan	due 30 days before Initial Performance Test	EU001, EU002, EU003, EU004
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test	EU001, EU002, EU003, EU004
Performance Test Report	due 45 days after Initial Performance Test	EU001, EU002, EU003, EU004
Relative Accuracy Test Audit (RATA) Notification	due 30 days before CEMS Relative Accuracy Test Audit (RATA)	SV001
Testing Frequency Plan	due 60 days after Initial Performance Test for particulate matter emissions. The plan shall specify a testing frequency using the test data and MPCA guidance. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	EU001, EU002, EU003, EU004

TABLE B: RECURRENT SUBMITTALS

07/20/98

Facility Name: NSP - High Bridge Gene

Permit Number: 12300012 - 001

What to send	When to send	Portion of Facility Affected
Acid Rain Program Electronically Submitted Quarterly Report	due 30 days after end of each calendar quarter starting 01/01/96	SV001
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Permit Issuance (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of exceedances of the limit for Opacity and SO2 including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	SV001
Linearity Test Results Summary	due 30 days after end of each calendar quarter following Linearity and Leak Check Test (Acid Rain Program) if performed.	SV001
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar quarter following CEMS Relative Accuracy Test Audit (RATA) (in which the CEMS RATA was conducted).	SV001
COMS Calibration Error Audit Results Summary	due 30 days after end of each calendar half-year following COMS Calibration Error Audit	SV001
Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance (July 30th and January 30th). The first report covers January 1 - June 30. The second report covers July 1 - December 31.	Total Facility
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year following Permit Issuance . The designated representative shall submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Section 72.90(b) and (c).	EU001
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year following Permit Issuance . The designated representative shall submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Section 72.90(b) and (c).	EU002
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year following Permit Issuance . The designated representative shall submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Section 72.90(b) and (c).	EU003
Compliance Certification Report (Acid Rain Program)	due 60 days after end of each calendar year following Permit Issuance . The designated representative shall submit an annual compliance certification report for the unit in accordance with 40 CFR Section 72.90(a). The report shall include all information required by 40 CFR Section 72.90(b) and (c).	EU004
Compliance Certification	due 30 days after end of each calendar year following Permit Issuance (January 30th).	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance (April 1). To be submitted on a form approved by the Commissioner.	Total Facility

TECHNICAL SUPPORT DOCUMENT
For
DRAFT AIR EMISSION PERMIT NO. 12300012-01

This Technical Support Document (TSD) is for all the interested parties of the draft permit. The purpose of this document is to set forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory or regulatory provisions.

1. General Information

1.1. Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number (list both if different)	Facility Address (SIC Code: 4911 & 4961)
Northern States Power Company 414 Nicollet Mall Minneapolis, Minnesota 55401-1993 (612) 330-7682	High Bridge Generating Plant 501 Shepard Road St. Paul, Minnesota 55102-3004

1.2. Description of the facility

The NSP High Bridge facility has a total plant electrical output rating of 325 Megawatt (MW). The plant also supplies steam to an off-site customer. All four boilers at the facility are wall fired dry bottom boilers and discharge emissions to the atmosphere through a common 570 foot stack. Boilers No. 3 and 4 each have a maximum rated heat input capacity of 587 MMBtu/hr while Boiler 5 is rated at 1050 MMBtu/hr and Boiler 6 is rated at 1591 MMBtu/hr. Steam for electric power generation is provided solely by Boilers 5 and 6 while boilers 3 and 4 only supply steam for off-site sale. Generally only one of the Boilers No. 3 or 4 are operated at any one time due to the limiting capacity of the steam line running to the off-site customer.

Fuel for the facility can come in many forms. Subbituminous coal is the primary fuel for all boilers but all boilers can burn bituminous coal, fuel oil, natural gas, used oil, and boiler chemical cleaning waste.

Coal is brought to the facility via railcars and unloaded into a hopper. From there it is transferred to the breaker and either sent directly to the boiler coal bunkers or to the outstacking hopper which transfers the coal to scrapers which haul it the coal pile. The scrapers also reclaim coal from the pile. The facility has the capability to receive coal by barge, but at this time this facility is not permitted until the plant can demonstrate compliance with computer dispersion modeling of the ambient air quality standards (see below in 1.3).

Fly ash from the combustion of coal is pneumatically transported from the Electrostatic Precipitators (ESP) to a storage silo. Fly ash is them transferred by a loading boom into sealed trucks for transport to off-site sale. Occasionally the fly ash quality does not meet the criteria for off-site sale. This ash will now be loaded into the same tanker trunks and taken to the facilities at the Sherco plant which now are adequately able to accept the tankers.

Bottom ash is loaded into trucks under the boilers which take the ash to a newly constructed ash dewatering building on site. After a dewatering period the coarse bottom ash material is trucked off-site.

1.3 Description of any changes allowed with this permit issuance

This permit allows the addition of a temporary engine for use in possible future special projects. The permit does not specify a make and model but it does limit the engine to a diesel engine rated at 300 horsepower or less and an annual operation of 7575 hours. These limits assure that the source is not subject to major new source review for Nitrogen Oxides (NO_x) with a margin of safety of 5 Tons Per Year (TPY) to account for engine differences. The AP-42 NO_x factor for large diesel engines of 0.031 lbs/hp-hr, was used as a conservative estimate for any possible newer engine that the facility would lease or purchase in the future. A change in the emission rate for the railcar unloading will be made to make the limit more enforceable (see Technical Information EU005). In addition, control efficiencies for control of fugitive emissions are reduced to 40 percent and ash hauling limits have been dropped. The ash hauling limits were never explicitly stated in previous permits, but were implied to exist in order to show compliance with modeled emissions. The new ash hauling limit is representative of a worst case scenario at the plant. These changes in railcar unloading and fugitive emissions are possible due in part to the extra land acquired by NSP on the northern end of the coal yard and the change of location of the bottom ash dewatering pile from the north end of the coal yard to a partially enclosed building just west of the main plant. The extra land and other changes in operation allow for more plant flexibility while protecting the ambient air standards at and beyond the fence line. In addition to the above activities, the coal barge unloading operations have been modeled to show compliance with the National Ambient Air Quality Standard (NAAQS) when activities including unloading, conveying and scraper hauling and unloading are operated at full capacity. Therefore, this operation will be allowed in this permit.

1.4 Description of all amendments issued since the issuance of the last total facility permit and to be included in the Part 70 Permit.

AFTER 2-9-95

Permit Number and Issuance Date	**Action Authorized**
12300012-008 October 20, 1995	Increased the allowable amount of bottom ash transferred from 30 tons to 450 tons per day. Decrease the allowable amount of controlled coal storage capacity from 280,000 tons to 190,000 tons. Decrease the allowable amount of uncontrolled coal storage capacity from 140,000 tons to 95,000 tons. Lowers the Weightometer dust emission limit form 0.096 gr/dscf to 0.02 gr/dscf and corrects an incorrect citation of the opacity limit for the weightometer building.
12300012-009 February 26, 1996	Installation of two Diesel Emergency Engine/Generator sets. Sources are not strictly emergency generators and are thus limited to 816 total annual hours of operation.
June 12, 1996	Contravening Permit Term - increase bottom ash storage from 1000 tons to 1350 tons, with addition of a storage building.

1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

These are Application estimates. They are not all consistent with the permitted values.

Note: Quantification of emissions by emission unit is discretionary. The author may choose to include only total facility emissions, include breakdown of emissions for the larger emission units, or include emissions for all emission units. Quantification of total facility emissions is required.

EU #	SV#	Emission Unit Description	PM tpy	PM_{10} tpy	SO_2 tpy	NO_x tpy	CO tpy	VOC tpy	Pb tpy	Single HAP tpy	All HAPs tpy
001	001	587 MMBtu/hr boiler	1028	1028	5014	2756	103	7.8	0.33	178.9	180.9
002	001	587 MMBtu/hr boiler	1028	1028	5014	2892	103	8.2	0.36	188.8	190.9
003	001	1050 MMBtu/hr boiler	1840	1840	8968	4847	184	13.4	0.64	337.6	340.9
004	001	1591 MMBtu/hr boiler	2787	2787	13589	8364	279	23.1	1.1	513.1	517.9
005	002 003	1200 ton/hr Railcar unloader	17.5	17.5						HCL	
006	004	1200 tons/hr #5 feeder area	1.32	0.62							
007	005	800 ton/hr Bunker room conveying	11.8	8.8							
008	006	50 ton/hr fly ash transfer system	1.73	1.73							
009	007	50 ton/hr fly ash silo	0.01	0.01							
010	008	2598 HP Caterpillar diesel engine	0.33	0.33	3.48	35.3	4.6	0.57			0.01
011	009	2598 HP Caterpillar diesel engine	0.33	0.33	3.48	35.3	4.6	0.57			0.01
012	010	Max. 300 HP temporary engine	2.51	2.51	2.33	35.1	7.6	2.86			0.03
	FS02	Coal yard traffic	17.34	3.86							
	FS03	Coal storage pile	3.97	1.99							
	FS04	Scraper Building hopper	3.49	1.65							
	FS05	Coal storage pile - placement	9.21	4.36							
	FS06	Coal storage pile - reclaim	6.14	2.9							
	FS07	Coal reclaim hopper	2.32	1.1							
	FS08	Ash hauling traffic - industrial paved	19.15	3.74							
	FS09	Ash hauling traffic - unpaved	9.46	4.26							
	FS10	Ash hauling traffic - paved	11.95	2.33							

	PM tpy	PM_{10} tpy	SO_2 tpy	NO_x tpy	CO tpy	VOC tpy	Pb tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions*	6801	6744	32,594	18,965	686	56.5	2.43	1218	1231
Total Facility Actual Emissions	19.3	5.55	3168	4194	238	27.6	0.44	23.7	24.1

*These are the limited potential emissions from column 3 in GI-07 from Delta. They differ from those in the permit application sent by the company in that they have been verified and corrected as need be by the Minnesota Pollution Control Agency (MPCA) staff. These are the potential emissions that would appear in a public notice. See Table 2 for allowable emissions rates.

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Table 2. Emission Limits, Modeled Limits* and Factors Used

PM_{10} emissions

Source	Emission factor used and source of values	emission limit lb/hr(TPY)	modeled limit lb/hr(TPY)
EU001	0.4 lbs/MMBtu @ 587 MMBtu/hr design and 587 MMBtu/hr max. 0.4 lbs/MMBtu from Minn. R. 7011.0545 and heat input from NSP	234.8(1028.4) 234.8(1028.4)	234.8(1028.4) 234.8(1028.4)
EU002	0.4 lbs/MMBtu @ 587 MMBtu/hr design and 587 MMBtu/hr max. 0.4 lbs/MMBtu from Minn. R. 7011.0545 and heat input from NSP	234.8(1028.4) 234.8(1028.4)	234.8(1028.4) 234.8(1028.4)
EU003	0.4 lbs/MMBtu @ 1050 MMBtu/hr design and 1118 MMBtu/hr max. 0.4 lbs/MMBtu from Minn. R. 7011.0545 and heat input from NSP	420.0(1839.6)	420.0(1839.6) 447.2
EU004	0.4 lbs/MMBtu @ 1591 MMBtu/hr design and 1898 MMBtu/hr max. 0.4 lbs/MMBtu from Minn. R. 7011.0545 and heat input from NSP	636.4(2787.4)	636.4(2787.4) 759.2
EU005 SV002 and SV003	4.0 lbs/hr compromise emission rate based on batch nature of source. Baghouses guaranteed at 0.02 gr/dscf (meeting Minn. R. 7011.1105) and total combined flow rate of 132,000 cfm; air flowrate from NSP	4.0(17.5)	4.0(17.5)
EU006	0.02 grains/dscf @10,500 cfm, 12 hours/day, Baghouse guarantee and used to meet Minn. R. 7011.1105; air flowrate from NSP	1.8(3.9)	0.9(3.9)
EU007	0.02 grains/dscf @15,700 cfm Baghouse guarantee and used to meet Minn. R. 7011.1105; air flowrate from NSP	2.7(11.8)	2.7(11.8)

EU008	0.02 grains/dscf @2565 cfm Baghouse guarantee and used to meet Minn. R. 7011.1105; air flowrate from NSP	0.44(1.9)	0.44(1.9)
EU009	0.02 grains/dscf @1150 cfm Baghouse guarantee and used to meet Minn. R. 7011.1105; air flowrate from NSP	0.2(0.9)	0.2(0.9)
EU010	0.8 lbs/hr @408 hrs/yr of operation manufacturers data for distillate fuel oil; limit on hours was taken in previous permit to avoid Prevention of Significant Deterioration (PSD).	0.8(0.16)	0.8(0.16)
EU011	0.8 lbs/hr @408 hrs/yr of operation manufacturers data for distillate fuel oil; limit on hours was taken in previous permit to avoid PSD.	0.8(0.16)	0.8(0.16)
EU012	0.0022 lbs/HP hr @300 HP and 7575hrs/yr	0.66(2.5)	0.66(2.5)
FS001	0.00036 lbs/ton of coal @1200 tons/hr 11 hrs/day and assuming 1% as fugitive and 40% control by watering; AP-42 dump eq. $EF=k(0.0032)(U/5)^{1.3}(M/2)^{-1.4}$ k=.35, U=5 mph, M=4.5	insignificant activity	0.003(0.011) not modeled
FS002	0.263 lbs/VMT @ 331 trips/day, .25 mi/trip, 83 total miles and 40% control by watering Annual limited to 18,750 VMT/yr ($3x10^6$ TPY) AP-42 vehicle traffic eq. $EF=.6x6.2x10^{-6}(s)^{1.4}(W)^{2.5}$ s=2.2, W=56 tons, EF=0.263 lbs/VMT	0.546(1.479)	0.546(1.479)
FS002 cont.	Traffic from barge unloading 0.235 lbs/VMT @ 112 trips/day, .25 mi/trip, 28 total mi/day and 40% control by watering AP-42 vehicle traffic eq. $EF=.6x6.2x10^{-6}(s)^{1.4}(W)^{2.5}$ s=2.2, W=53.5 tons	0.165(0.723)	0.165(0.723)
FS003	2.561 lb/acre-day @ 7.5 acres (190,000) tons and 40% control by watering AP-42 wind erosion eq. EF=1.7(s/1.5)(f/15)(365-P/235)x0.5 s=2.2, P=110 days, f=28.4	0.48(2.102)	0.48(2.102)
FS004	0.00031 lbs/ton of coal @1200 tons/hr 11 hrs/day and assuming 40% control by watering; AP-42 dump eq. $EF=k(0.0032)(U/5)^{1.3}(M/2)^{-1.4}$ k=.35, U=4.5 mph (partial enclosure), M=4.5	0.104(0.282)	0.104(0.282)

FS005	0.00083 lbs/ton of coal @1200 tons/hr 11 hrs/day and assuming 40% control by watering; AP-42 dump eq. $EF=k(0.0032)(U/5)^{1.3}(M/2)^{-1.4}$ k=.35, U=9.5 mph, M=4.5 scraper unloading of barge coal 0.000829 lbs/ton of coal @3900 tons/day (3 barges) AP-42 dump eq. $EF=k(0.0032)(U/5)^{1.3}(M/2)^{-1.4}$ k=.35, U=9.5 mph, M=4.5	0.274(0.746) 0.135(0.590)	0.274(0.746) 0.135(0.590)
FS006	0.00083 lbs/ton of coal @800 tons/hr 5 hrs/day and assuming 40% control by watering; AP-42 dump eq. $EF=k(0.0032)(U/5)^{1.3}(M/2)^{-1.4}$ k=.35, U=9.5 mph, M=4.5	0.083(0.363)	not modeled in conjuction with FS004 & FS005
FS007	0.00031 lbs/ton of coal @800 tons/hr 5 hrs/day AP-42 dump eq. $EF=k(0.0032)(U/5)^{1.3}(M/2)^{-1.4}$ k=.35, U=4.5 mph (partial enclosure), M=4.5	0.052(0.229)	not modeled in conjuction with FS004 & FS005
FS008	0.656 lbs/VMT @ 5 trips/day, .3 mi/trip, 1.704 lbs/VMT @ 54 trips/day (storage limit), .3 mi/trip, 1.010 lbs/VMT @ 30 trips/day (storage limit), .3 mi/trip, and 40% control by watering. Annual limited to 23,725 TPY bottom ash transfer and 54,750 TPY fly ash transfer (boiler limited) AP-42 vehicle traffic eq. $EF=0.016(sL/2)^{.65}(W/3)^{1.5}$ $sL=9.7 g/m^2$, W=20 tons (bottom ash to dewatering), W= 37.5 tons (bottom ash off-site), W= 26 tons (fly ash)	0.942(1.249)	0.942(1.249)
FS009	no off road ash hauling	0.0	0.0
FS010	0.706 lbs/VMT @ 54 trips/day (storage limit), .5 mi/trip, 0.419 lbs/VMT @ 30 trips/day (storage limit), .5 mi/trip, and 40% control by watering. Annual limited to 23,725 TPY bottom ash transfer and 54,750 fly ash transfer (boiler limited) AP-42 vehicle traffic eq. $EF=0.016(sL/2)^{.65}(W/3)^{1.5}$ $sL=2.5 g/m^2$, W= 37.5 tons (bottom ash off-site), W= 26 tons (fly ash)	0.634(0.789)	0.634(0.789)
FS011	moved to insignificant activity list - bottom ash storage moved to enclosure	insignificant activity	0.0

FS012	0.000194 lbs/ton of ash @ 1350 tons/day and 23,725 TPY (boiler limited) AP-42 dump eq. $EF=k(0.0032)(U/5)^{1.3}(M/2)^{-1.4}$ k=.35, U=9.5 mph, M=12.7	insignificant activity	0.011(0.002)
FS998	0.000829 lbs/ton of coal @3900 tons/day (3 barges) and 40% control by watering AP-42 dump eq. $EF=k(0.0032)(U/5)^{1.3}(M/2)^{-1.4}$ k=.35, U=9.5 mph, M=4.5	0.081(0.354)	0.081(0.354)
FS999	0.000829 lbs/ton of coal @3900 tons/day (3 barges) AP-42 dump eq. $EF=k(0.0032)(U/5)^{1.3}(M/2)^{-1.4}$ k=.35, U=9.5 mph, M=4.5	0.135(0.590)	0.135(0.590)
Fly Ash loading	insignificant activity due to all fly ash is loaded into tanker trucks. However, since NSP can not assure tankers 100% of the time it was modeled as in compliance with Minn. R. 7011.0700-0735	insignificant activity	0.034(0.149)

* lb/hr limit was used to show compliance with the 24-hour NAAQS and the TPY limit was used to show compliance with the annual NAAQS. Many of these emission rates are greater than the AP-42 calculated potential to emit. These rates are based on control equipment guarantees and stack test data from other facilities.

Sulfur Dioxide (SO_2) emissions

Source	Emission factor used and source of values	emission limit lb/hr(TPY)	modeled limit lb/hr(TPY)
EU001	1.95 lbs/MMBtu @ 587 MMBtu/hr design and 587 MMBtu/hr max. 1.95 lbs/MMBtu from latest SO_2 modeling and heat input from NSP	1145(5014)	1145(5014)
EU002	1.95 lbs/MMBtu @ 587 MMBtu/hr design and 587 MMBtu/hr max. 1.95 lbs/MMBtu from latest SO_2 modeling and heat input from NSP	1145(5014)	1145(5014)
EU003	1.95 lbs/MMBtu @ 1050 MMBtu/hr design and 1118 MMBtu/hr max. 1.95 lbs/MMBtu from latest SO_2 modeling and heat input from NSP	2048(8968)	2048(8968)
EU004	1.95 lbs/MMBtu @ 1591 MMBtu/hr design and 1898 MMBtu/hr max. 1.95 lbs/MMBtu from latest SO_2 modeling and heat input from NSP	3102(13,589)	3102(13,589)

Table 3. Facility(TF) and Permit Classification

Classification (put x in appropriate box)	Major/Affected Source	*Synthetic Minor	*Minor
PSD (list pollutant)			
NAAR (list pollutant)			
Part 70 Permit Program (list pollutant)	NO_x, CO, SO_2, PM_{10}, HAPs		

* Refers to potential emissions that are less than those specified as major by 40 CFR § 52.21, 40 CFR pt. 51 Appendix S, and 40 CFR pt. 70.

2. Regulatory and/or Statutory Basis

Summary Regulatory and/or Statutory Basis of the Emission or operational Limit

Regulatory Overview of Facility

The purpose of this table is to give a summary overview of the significant sources of emissions and the applicable regulations and standards(e.g., NESHAPs, NSPS. Title I conditions, special operating parameters) It is not designed for the discussion of specific limits or requirements, unless they are unusual and need some explanation, nor is it for the discussion of compliance demonstration requirements. This information is obtainable from the permit itself, this section is intended to provide users in the future with a quick picture of how the facility is being regulated and permitted..

*EU, GRP, or SV #	Applicable Regulations	**Comments:
Facility	Minn. R. 7011.1105	Standards of Performance for Certain Coal Handling Facilities
Facility	Minn. R. 7007.0150	Preventing Particulate Matter from Becoming Airborne
EU001 EU002 EU003 EU004	Minn. R. 7007.0510 Minn. R. 7009.0020	Standards of Performance for Existing Indirect Heating Equipment (PM) and Ambient Air Quality Standards (PM and SO_2)
EU001 EU002 EU003 EU004	40 CFR § 72.9	Acid Rain allowance limitations for SO_2
EU001 EU002 EU003 EU004	Minn. R. 7045	Allowed to burn up to 5% on and off-spec used oil as defined in 7045

SV001	Minn. R. 7009.0020	Ambient Air Quality Standards. Limit for SO_2 and PM set at the stack vent level. Limit was derived from computer dispersion modeling.
EU005 EU006 EU007 FS003 FS004 FS005 FS006 FS007	Minn. R. 7011.1105	Emission Standard for Certain Coal handling equipment located in the Minneapolis/St. Paul metro area.
GP001	40 CFR 52.21	Operating hours limit to avoid major modification for NO_x under Prevention of Significant Deterioration
EU008 EU009 FS002 FS003 FS008 FS009 FS010	Minn. R. 7009.0020	Ambient Air Quality Standards. Limit for PM. Limit was derived from computer dispersion modeling. Emissions from all sources have been verified by modeling, however these particular sources have emission or operational limits based on modeling requirements.
EU008 EU009	Minn. R. 7011.0700	Industrial process rule for Post 1969 equipment. The 0.1 gr/dscf applicable limit for the source is being lowered to the manufacturers guaranteed emission limit of 0.02 gr/dscf to allow for more flexibility in meeting modeled limit without monitoring hours of operation. The 0.02 gr/dscf is a never to exceed limit.

* Insert the number that identifies the level the limit was set on.

** Comments column is for name of the regulation, citations that need further explanation, and to include essential data used to determine the applicability of that particular regulations, standard or permit condition.. Most rows should not have any further explanation needed and will contain only the name of the regulation.

3. Technical Information

- Total Facility:

  Fugitive Emission Control Plan - This plan is required for all NSP coal facilities as a method for assuring compliance with fugitive dust control measures.

  Operation and Maintenance Plan - This plan is required for all NSP facilities as a method for assuring compliance with the upkeep and operation of pollution control equipment.

  Computer Dispersion Modeling - Modeling is required for NO_x since it has not been modeled.

Breakdown - Language has been added to clarify that notification for stack vent 001 is only necessary if a minimum number (least number during stack test) of ESP sections are not operating or if the monitored opacity exceeds the emission unit limit. If ESP section monitoring is dropped in the Control Equipment requirements, then the breakdown requirement to report when operating with fewer than the minimum sections is no longer applicable. However, if the opacity exceeds the emission unit limit this shall be reported as a breakdown even though it may not always be due to a breakdown.

Emission Unit 001, 002, 003, 004:

Units are listed Acid Rain Phase II sources.

Allowed Fuel Types - The 0.5 percent sulfur limit for fuel oil was agreed on by NSP as an alternative way of meeting the 2.0 lb/MMBtu emission limit when burning liquid fuel. This also eliminates the need to monitor the ratio of solid to liquid fuel since the ratioed limit, which would fall between 2 and 4 lbs/MMBtu, will always be met when burning the low sulfur fuel oil and as long as the coal by itself can meet the 4 lb/MMBtu emission limit when burned alone. The stack vent No. 001 emission limit of 1.95 lbs/MMBtu will assure compliance with both limits for coal and oil. This limit is needed to assure compliance the 1-hour NAAQS for SO_2.

Used Oil and Boiler Chemical cleaning wastes - The limits for these off-spec type fuels were chosen as a reasonable value that would allow for their destruction without causing significant harm to the environment or the public.

Performance Test- Each boiler shall be tested individually to prevent any possible masking of emissions and to observe the individual opacity at time of testing to prove or disprove that opacity monitoring is adequate for gap filling.. The two small boilers EU 001 and 002 will be testing early in 1998 and EU 003 and 004 will be tested during a planned shutdown of the steamline and related equipment (EU 001 and 002) sometime in 1999.

Performance Test Frequency- Least stringent, due to current compliance status. This will be re-evaluated after performance tests are completed.

Alternative Operating Conditions - Short Term Emergency and Testing (STET) language allows higher than normal maximum operation for a limited time period every year so that the facility can yearly test its maximum generation. The pound per hour emission limit for SO_2 and PM on Stack Vent No. 1 is the total emission rate of all boilers running at 100 percent heat input. These limits will assure compliance with the NAAQS and Minnesota Ambient Air Quality Standards (MAAQS) for this facility at heat input values of 100 percent or higher. Therefore, these limits will assure compliance with the standards at loads above 100 percent such as during STET.

Monitoring - Continuous Emissions Monitoring System (CEMS) required for all Acid rain sources and Continuous Opacity Monitor System (COMS) required by 7017.1000. The removal of monitoring requirements for the control equipment on the boilers was suggested by the MPCA Utilities Permit Team. The team found monitoring of control equipment parameters such as pressure drop across a baghouse or voltage and amperage of an electrostatic precipitator was environmentally insignificant when past emissions testing clearly shows that opacity and not mass emissions is the limiting parameter for PM_{10} and the emission unit is continuously monitored for opacity with it's own dedicated opacity monitor.

However at High Bridge the opacity is monitored only at the combined stack for all four boilers. Therefore, individual testing of each boiler is required initially to correlate opacity and particulate emissions on an individual basis before the combined opacity can be used for gap filling.

Hazardous Air Pollutants (HAP) - Hydrochloric Acid (HCL) emissions were recently submitted and although the emission rates are significant, there will be no conditions placed on these emissions at this time due to a lack of regulatory authority to limit HAPs at electric generating facilities.

Emission Unit 005 (Railcar Unloading)

Emission limit is being raised from 0.0275 lbs/hr on a 24-hour average to 4.0 lbs/hr (2 lbs/hr per each stack) with the averaging period to be determined by the appropriate test method. The original emission rate was unenforceable due to the higher than 0.0275 lbs/hr actual operating emission rate and a lack of any limits on the hours of operation. The new emission rate and the resulting ambient concentration will be verified through computer dispersion modeling prior to permit issuance. I do not feel that this increase in emissions is in anyway subject to PSD even though the change is more than 15 tons/year of PM_{10}. There has been no modification to the facility and this does not change the potential or the past actuals. It is merely changing an emission factor to represent a more accurate or at least more conservative picture. The original emission rate was not used to in anyway to circumvent PSD in the past.

The removal of monitoring requirements for the control equipment on the Material handling equipment was suggested by the MPCA Utilities Permit Team. The team found monitoring of control equipment parameters such as pressure drop across a baghouse was environmentally insignificant when actual emissions are less than 5 tons/year. Since the actual emissions from these sources are generally quite low the permit team agreed that a reactive visible emissions monitoring and repair option was adequate to assure compliance with the permit conditions.

Fugitive Emission Units

Fugitive source emission limits were also imposed to reflect the most current modeling. Since fugitive emissions from coal piles are related to the exposed surface area, the size limit for the coal pile is an area limit instead of the usual tonnage limit. The barge unloading facility is being held as a place holder in the permit, allowed zero hours of operation unless the facility is modeled and shows no exceedances. Currently, NSP has no immediate plans to use this facility again.

4. Conclusion

Based on the information provided by the NSP High Bridge Generating facility, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 12300012-010, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

The above statement is under the assumption that no Modeled Violations of the NAAQS or MNAAQS will be found when the modeling is performed at the end of this permit term. If a modeling violation is found, this would be a violation of an applicable requirement as defined in Minn. R. 7007.0100, subp. 7.L or M.

Staff Members on Permit Team: Daren Zigich, Marshall Cole, Yolanda Hernandez, Tom Kosevich

Attachment: CD-01 Forms