

**AIR EMISSION PERMIT NO. 04900030- 001
IS ISSUED TO**

Northern States Power Company

NSP - Prairie Island Nuclear Plant
1717 Wakonade Drive East
Welch, Goodhue County, Minnesota 55089

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	September 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. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal; Part 70 major, PSD synthetic minor

Issue Date:

Expiration:

All Title I Conditions do not expire.

Rodney E. Massey, P.E.
Director
South District

For Karen A. Studders
Commissioner
Minnesota Pollution Control Agency

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NOTICE TO THE PERMITTEE:

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

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

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

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

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provisions of the applicable requirements identified in the permit as the basis of each condition.

FACILITY DESCRIPTION:

Northern States Power Prairie Island Nuclear Generating Plant is located northeast of Welch, Minnesota. The emission sources are one distillate oil-fired heating boiler, and twelve diesel engines. The majority of the engines are used to provide emergency electric power to the plant, although two engines are used for emergency pumping of cooling water, and a third is used to pump water for fire-fighting. The generators and water pumps are required by the U.S. Nuclear Regulatory Commission.

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/22/00

Facility Name: NSP - Prairie Island Nuclear Plant

Permit Number: 04900030 - 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
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A and/or B.	Minn. R. ch. 7017
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.	Minn. R. 7017.2025
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	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)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A and/or B, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, 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)
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
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/22/00

Facility Name: NSP - Prairie Island Nuclear Plant

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Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
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
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)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports and certifications 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)
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 enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/22/00

Facility Name: NSP - Prairie Island Nuclear Plant

Permit Number: 04900030 - 001

Subject Item: GP 001 Internal Combustion Engines

Associated Items:

- EU 002 Diesel Engine D1
- EU 003 Diesel Engine D2
- EU 004 Diesel Cooling Water Pump 12
- EU 005 Diesel Cooling Water Pump 22
- EU 006 Diesel Fire Pump 122
- EU 007 Diesel Engine D3
- EU 008 Diesel Engine D4
- EU 009 Diesel Security Engine
- EU 010 Diesel Engine D5-1
- EU 011 Diesel Engine D5-2
- EU 012 Diesel Engine D6-1
- EU 013 Diesel Engine D6-2
- EU 014 Temporary Diesel Engine(s) >600 Hp
- EU 015 Temporary Diesel Engine(s) <600 Hp

What to do	Why to do it
A. LIMITS AND OPERATING RESTRICTIONS	3hdr
Fuel Usage: less than or equal to 83955 gallons/month using 12-month Rolling Average for GP 001.	Title I Condition: fuel usage limit to restrict facility NOx emissions to less than the major source level as defined under 40 CFR Section 52.21(b)
Nitrogen Oxides: less than or equal to 3.35 lbs/million Btu heat input for each emission unit in GP 001.	Title I Condition: emission limit to restrict facility NOx emissions to less than the major source level as defined under 40 CFR Section 52.21(b)
Opacity: less than or equal to 20 percent opacity once operating temperature has been attained. This applies individually to each emission unit in GP 001.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input (equivalent to a fuel oil sulfur content of 0.49 percent by weight). This applies individually to each emission unit in GP 001.	Minn. R. 7011.2300, subp. 2
Permitted Fuel: Distillate Fuel Oil with a maximum sulfur content of 0.49 percent by weight.	Minn. R. 7007.0800, subp. 2
EU 014 and EU 015 Temporary Diesel Engines: The Permittee may operate temporary diesel fuel-fired engines at the facility providing the Permittee follows the fuel usage recordkeeping requirements and meets all applicable emission limits and fuel requirements in this subject item. A temporary engine is any engine that is not located and/or operated at the facility for more than twelve consecutive months, and does not include emission units 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, or 013.	Minn. R. 7007.0800, subp. 2
B. MONITORING AND RECORDKEEPING	hdr
<p>DEFINITION OF "TOTAL GP 001 MONTHLY FUEL USAGE"</p> <p>"TOTAL GP 001 MONTHLY FUEL USAGE" is the monthly GP 001 fuel usage but does not include EU 015 fuel usage when GP 001 (excluding EU 015) fuel usage is less than 60,000 gallons during the month. When GP 001 (excluding EU 015) fuel usage is equal to or greater than 60,000 gallons, "TOTAL GP 001 MONTHLY FUEL USAGE" includes EU 015 fuel usage starting the month after the calculated GP 001 (excluding EU 015) monthly fuel usage exceeds 60,000 gallons, and each month thereafter until GP 001 monthly fuel usage (excluding EU 015) drops below 60,000 gallons.</p> <p>For example, December usage (excluding EU 015) is 50,000 gallons. January usage (excluding EU 015) is 70,000 gallons. The January usage calculation is made by the end of February as required by this permit. So, starting in March, EU 015 fuel usage is tracked and included in the monthly GP 001 fuel usage calculation until monthly usage (excluding EU 015) is less than 60,000 gallons.</p>	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/22/00

Facility Name: NSP - Prairie Island Nuclear Plant

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<p>Fuel Usage Monitoring and Recordkeeping - by the last day of each month, calculate and record:</p> <ol style="list-style-type: none"> 1. the Total GP 001 Monthly Fuel Usage for the previous month, and 2. the GP 001 12-month rolling average fuel usage for the previous 12-month period, by summing the previous twelve Total Monthly GP 001 Monthly Fuel Usage values and dividing by twelve. <p>Refer to the "Total GP 001 Monthly Fuel Usage" definition in the above requirement.</p>	<p>Title I Condition: to restrict facility NOx emissions to less than the major source level as defined under 40 CFR Section 52.21(b); Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Recordkeeping - EU 004 and EU 005 Operating Hours: By the last day of each month, the Permittee shall separately record EU 004 and EU 005 operating hours for the previous month, and separately record cumulative operating hours for EU 004 and EU 005 during the current calendar year.</p>	<p>Title I Condition: to restrict facility NOx emissions to less than the major source level as defined under 40 CFR Section 52.21(b); Minn. R. 7007.0800, subp. 4 and 5</p>
<p>Fuel Supplier Certification: The Permittee shall obtain a single certification from the fuel supplier that guarantees a maximum sulfur content in all fuel oil deliveries thereafter. The single certification shall also state that the supplier will notify the Permittee in writing on the date of delivery of fuel oil with a sulfur content exceeding the guaranteed maximum, that the fuel oil sulfur content exceeds the guaranteed maximum value.</p>	<p>Minn. R. 7007.0800, subp. 4 and 5</p>
<p>C. PERFORMANCE TESTING - EU 002/EU 003</p>	<p>hdr</p>
<p>Initial Performance Test: due 365 days after Permit Issuance to measure NOx emissions from EU 002 or EU 003.</p>	<p>Title I Condition: testing to restrict facility NOx emissions to less than the major source level as defined under 40 CFR Section 52.21(b); Minn. R. 7017.2020, subp. 1 and Minn. R. 7017.2030, subp. 4</p>
<p>Performance Test Pre-Test Meeting: due 7 days before each Performance Test.</p>	
<p>Initial Performance Test: due 365 days after Permit Issuance to measure EU 002 or EU 003 opacity.</p>	<p>Minn. R. 7017.2020, subp. 1 and Minn. R. 7017.2030, subp. 4</p>
<p>Performance Test Pre-test Meeting: due 7 days before each Performance Test.</p>	
<p>D. PERFORMANCE TESTING - EU 004/EU 005</p>	<p>hdr</p>
<p>Initial Performance Test: due 90 days after Notification of resuming operation of either EU 004 or EU 005 for more than 100 hours in any calendar year. This performance test shall measure NOx emissions from EU 004 or EU 005.</p>	<p>Title I Condition: testing to restrict facility NOx emissions to less than the major source level as defined under 40 CFR Section 52.21(b); Minn. R. 7017.2020, subp. 1 and Minn. R. 7017.2030, subp. 4</p>
<p>Performance Test Pre-Test Meeting: due 7 days before each Performance Test.</p>	
<p>Initial Performance Test: due 90 days after Notification of resuming operation of either EU 004 or EU 005 for more than 100 hours in any calendar year. This performance test shall measure opacity emissions from EU 004 or EU 005.</p>	<p>Minn. R. 7017.2020, subp. 1 and Minn. R. 7017.2030, subp. 4</p>
<p>Performance Test Pre-test Meeting: due 7 days before each Performance Test.</p>	
<p>E. PERFORMANCE TESTING - EU 007/EU 008</p>	<p>hdr</p>
<p>Performance Test: due before end of each calendar 60 months starting 12/31/1995 to measure EU 007 or EU 008 NOx emissions. Testing shall commence with EU 008, and subsequently alternate between EU 007 and EU 008.</p>	<p>Title I Condition: testing to restrict facility NOx emissions to less than the major source level as defined under 40 CFR Section 52.21(b); Minn. R. 7017.2020, subp. 1 and Minn. R. 7017.2030, subp. 4</p>
<p>Performance Test Pre-test Meeting: due 7 days before each Performance Test.</p>	
<p>Performance Test: due before end of each calendar 60 months starting 12/31/1995 to measure EU 007 or EU 008 opacity emissions. Testing shall commence with EU 008, and subsequently alternate between EU 007 and EU 008.</p>	<p>Minn. R. 7017.2020, subp. 1 and Minn. R. 7017.2030, subp. 4</p>
<p>Performance Test Pre-test Meeting: due 7 days before each Performance Test.</p>	
<p>F. PERFORMANCE TESTING - EU 010 & EU 011/EU 012 & EU 013</p>	<p>hdr</p>
<p>Performance Test: due before end of each calendar 60 months starting 12/31/1995 to measure NOx emissions from an emission unit pair (EU 010 & 011 or EU 012 & 013) that has not been tested in the previous five years. Testing shall commence with EU 010 & 011 and shall be conducted at intervals not to exceed 60 months.</p>	<p>Title I Condition: testing to restrict facility NOx emissions to less than the major source level as defined under 40 CFR Section 52.21(b); Minn. R. 7017.2020, subp. 1 and Minn. R. 7017.2030, subp. 4</p>
<p>Performance Test Pre-test Meeting: due 7 days before each Performance Test</p>	
<p>Performance Test: due before end of each calendar 60 months starting 12/31/1995 to measure opacity emissions from an emission unit pair (EU 010 & 011 or EU 012 & 013) that has not been tested in the previous five years. Testing shall commence with EU 010 & 011 and shall be conducted at intervals not to exceed 60 months.</p>	<p>Minn. R. 7017.2020, subp. 1 and Minn. R. 7017.2030, subp. 4</p>
<p>Performance Test Pre-test Meeting: due 7 days before each Performance Test</p>	

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/22/00

Facility Name: NSP - Prairie Island Nuclear Plant

Permit Number: 04900030 - 001

<p>General Performance Test (PT) Requirements:</p> <p>Performance Tests are due as outlined in Tables A and B of this permit. See Table B for additional testing requirements.</p> <p>PT Notifications (written): due 30 days before each Performance Test</p> <p>PT Plan: due 30 days before each Performance Test</p> <p>PT Pre-test Meeting: due 7 days before each Performance Test</p> <p>PT Report: due 45 days after each Performance Test</p> <p>PT Report--Microfiche: due 105 days after each Performance Test</p>	<p>Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2</p>
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TABLE A: LIMITS AND OTHER REQUIREMENTS

06/22/00

Facility Name: NSP - Prairie Island Nuclear Plant

Permit Number: 04900030 - 001

Subject Item: EU 001 Boiler 1

Associated Items: SV 001

What to do	Why to do it
A. LIMITS AND OPERATING RESTRICTIONS	hdr
Nitrogen Oxides: less than or equal to 0.144 lbs/million Btu heat input	Title I Condition: emission limit to restrict facility NOx emissions to less than the major source level as defined under 40 CFR Section 52.21(b)
Fuel Usage: less than or equal to 31002 gallons/month using 12-month Rolling Average	Title I Condition: fuel usage limit to restrict facility NOx emissions to less than the major source level as defined under 40 CFR Section 52.21(b)
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
Permitted Fuel: Distillate Fuel Oil Only.	Minn. R. 7007.0800, subp. 2
A temporary boiler may be brought onsite for a period of up to one year, for the purpose of providing steam, heat, or electric power in place of EU 001, when EU 001 is out of operation. The temporary boiler may not be operated at the same time as EU 001 except for up to eight hours during start-up and shutdown transition periods. The temporary boiler must have potential emission rates in lbs/hour for all criteria pollutants that are less than the permit emission limits and potential emission rates of EU 001. All fuel usage by any temporary boiler shall be included in the fuel usage recordkeeping required under this subject item.	Minn. R. 7007.0800, subp. 2
B. RECORDKEEPING	hdr
Fuel Usage Recordkeeping - by the last day of each month, calculate and record: 1. the total EU 001 fuel usage for the previous month, and 2. the EU 001 12-month rolling average fuel usage for the previous 12-month period. Any temporary boiler fuel usage shall be included in this fuel usage recordkeeping	Title I Condition: recordkeeping to restrict facility NOx emissions to less than the major source level as defined under 40 CFR Section 52.21(b)
C. PERFORMANCE TESTING	hdr
Performance Test: due before end of each 60 months starting 12/31/1995 to measure EU 001 NOx emissions. The tests shall be conducted at an interval not to exceed 60 months between test dates. Performance Test Pre-test Meeting: due 7 days before each Performance Test.	Title I Condition: to restrict facility NOx emissions to less than the major source level as defined under 40 CFR Section 52.21(b); Minn. R. 7017.2020, subp. 1 and Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each 60 months starting 12/31/1995 to measure EU 001 opacity. The tests shall be conducted at an interval not to exceed 60 months between test dates. Performance Test Pre-test Meeting: due 7 days before each Performance Test.	Minn. R. 7017.2020, subp. 1 and Minn. R. 7017.2030, subp. 4
General Performance Test (PT) Requirements: Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements. PT Notifications (written): due 30 days before each Performance Test PT Plan: due 30 days before each Performance Test PT Pre-test Meeting: due 7 days before each Performance Test PT Report: due 45 days after each Performance Test Pt Report--Microfiche: due 105 days after each Performance Test	Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2

TABLE B: SUBMITTALS

06/22/00

Facility Name: NSP - Prairie Island Nuclear Plant
Permit Number: 04900030 - 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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

06/22/00

Facility Name: NSP - Prairie Island Nuclear Plant

Permit Number: 04900030 - 001

What to send	When to send	Portion of Facility Affected
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 emissions. This protocol will describe the proposed modeling methodology and input data, in accordance with all requirements of 40 CFR pt. 51, App. W. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	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. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Total Facility
Notification	due 30 days after Resuming Operation by either EU 004 or EU 005 for more than 100 hours in any calendar year. This shall be a written notification indicating that the emission unit has exceeded 100 operating hours in the calendar year.	GP001
Performance Test Notification (written)	due 30 days before Initial Performance Test to measure NOx emissions and opacity from EU 004 or EU 005. This requirement also includes submittal of a written Performance Test Plan.	GP001
Performance Test Notification (written)	due 30 days before Performance Test to measure NOx emissions and opacity from EU 002 or EU 003. This requirement also includes submittal of a written Performance Test Plan.	GP001
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test to measure NOx emissions and opacity from EU 004 or EU 005.	GP001
Performance Test Report - Microfiche Copy	due 105 days after Performance Test to measure NOx emissions and opacity from EU 002 or EU 003.	GP001
Performance Test Report	due 45 days after Initial Performance Test to measure NOx emissions and opacity from EU 004 or EU 005.	GP001
Performance Test Report	due 45 days after Performance Test to measure NOx emissions and opacity from EU 002 or EU 003.	GP001
Testing Frequency Plan	due 60 days after Initial Performance Test to measure NOx emissions and opacity from EU 002 and EU 003. The plan shall specify a NOx and opacity testing frequency for EU 002 and EU 003 using the test data and MPCA guidance. Future performance tests 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. The Plan may propose that future performance tests commence with testing of the emission unit that was not tested during the initial performance test, and that testing alternate between EU 002 and EU 003.	GP001

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

06/22/00

Facility Name: NSP - Prairie Island Nuclear Plant

Permit Number: 04900030 - 001

Testing Frequency Plan	due 60 days after Initial Performance Test to measure NOx emissions and opacity from EU 004 and EU 005. The plan shall specify a NOx and opacity testing frequency for EU 004 and EU 005 using the test data and MPCA guidance. Future performance tests 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. The Plan may propose that future performance tests commence with testing of the emission unit that was not tested during the initial performance test, and that testing alternate between EU 004 and EU 005.	GP001
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TABLE B: RECURRENT SUBMITTALS

06/22/00

Facility Name: NSP - Prairie Island Nuclear Plant

Permit Number: 04900030 - 001

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31.	Total Facility
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). The Certification shall be submitted on a form approved by the Commissioner, both to the Commissioner and to the U.S. EPA regional office in Chicago. This report covers all deviations experienced during the calendar year. The EPA copy shall be sent to: Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604.	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
Performance Test Notification (written)	due 30 days before end of each 60 months starting 12/31/1995 (30 days before each Performance Test) for EU 001. This requirement also includes submittal of a written Performance Test Plan.	EU001
Performance Test Notification (written)	due 30 days before end of each calendar 60 months starting 12/31/1995 to measure EU 008 or EU 007 NOx emissions and opacity (30 days before each Performance Test). This requirement also includes submittal of a written Performance Test Plan.	GP001
Performance Test Notification (written)	due 30 days before end of each calendar 60 months starting 12/31/1995 to measure NOx emissions and opacity on an emission unit pair (EU 010 & 011 or EU 012 & 013) that has not been tested in the previous five years (30 days before each Performance Test). This requirement also includes submittal of a written Performance Test Plan.	GP001
Performance Test Report - Microfiche Copy	due 105 days after end of each 60 months starting 12/31/1995 (105 days after each Performance Test) for EU 001.	EU001
Performance Test Report - Microfiche Copy	due 105 days after end of each calendar 60 months starting 12/31/1995 to measure EU 008 or EU 007 NOx emissions and opacity (105 days after each Performance Test).	GP001
Performance Test Report - Microfiche Copy	due 105 days after end of each calendar 60 months starting 12/31/1995 to measure NOx emissions and opacity on an emission unit pair (EU 010 & 011 or EU 012 & 013) that has not been tested in the previous five years (105 days after each Performance Test).	GP001
Performance Test Report	due 45 days after end of each 60 months starting 12/31/1995 (45 days after each Performance Test) for EU 001.	EU001
Performance Test Report	due 45 days after end of each calendar 60 months starting 12/31/1995 to measure EU 008 or EU 007 NOx emissions and opacity (45 days after each Performance Test).	GP001

TABLE B: RECURRENT SUBMITTALS

06/22/00

Facility Name: NSP - Prairie Island Nuclear Plant

Permit Number: 04900030 - 001

Performance Test Report	due 45 days after end of each calendar 60 months starting 12/31/1995 to measure NOx emissions and opacity on an emission unit pair (EU 010 & 011 or EU 012 & 013) that has not been tested in the previous five years (45 days after each Performance Test).	GP001
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TECHNICAL SUPPORT DOCUMENT
For
DRAFT AIR EMISSION PERMIT NO. 04900030-001

This technical support document 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)
Northern States Power	1717 Wakonade Drive East
414 Nicollet Mall	Welch
Minneapolis, Minnesota 55401-1993	Goodhue County, Minnesota 55089
(612) 337-2287	(651) 998-4564

1.2. Description of the facility

This air emission facility is part of the Northern States Power Prairie Island Nuclear Generating Plant. The air emission facility is composed of an oil-fired heating boiler and 12 diesel-fired engines that are used to either generate emergency power, pump cooling water, or pump water for fire fighting.

1.3 Description of any changes allowed with this permit issuance

No changes are authorized by this permit.

1.4 Description of all amendments issued since the issuance of the last total facility permit (permit No. 202U-91-OT-2) included in this Part 70 Permit.

Permit Number and Issuance Date	Action Authorized
Amendment 1; June 17, 1993	Removal of fuel oil sulfur certification and submittal requirements for boiler (EU 001)
Amendment 2; November 15, 1993	Revision of specified emission unit NO _x performance testing requirement (EU 010 test requirement was replaced by test required for EU 013)

Permit Action Number:
Date: 2/6/2004

1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

EU, SV or GP #	Emission Unit Description	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Pb tpy	All HAPs tpy
EU 001	Heating Boiler	0.37	0.19	13.33	3.75	0.93	0.037	0	0.0128
GP 001	Diesel Engines	7.05	7.05	35.26	236.25	59.94	6.35	0	0.2772

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Pb tpy	All HAPs tpy
Total Facility Limited Potential Emissions*	7.42	7.24	48.59	240.0	60.87	6.39	0	0.29
Total Facility Actual Emissions**	0.96	0.90	0.89	10.64	2.91	0.90	0	not reported

*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 MPCA staff. These are the potential emissions that would appear in a public notice.

**1997 Emission Inventory

Table 2. Facility and Permit Classification

Classification	Major/Affected Source	*Synthetic Minor	*Minor
PSD		NO _x , CO, SO ₂	PM ₁₀ , PM, VOC
NAAR	NA	NA	NA
Part 70 Permit Program	NO _x	CO, PM ₁₀ , SO ₂ , VOC	

* 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

Permit Action Number:

Date: 2/6/2004

Regulatory Overview of Facility

EU, GP, or SV #	Applicable Regulations	Comments:
EU 001	Minn. R. 7007.0510	Standards of Performance for Existing Indirect Heating Equipment – opacity and particulate matter limits
	Title I Condition/40 CFR § 52.21	Monthly distillate oil usage limited to 31,002 gal/month (12-month rolling average) to restrict total facility NO _x emissions to less than major source level defined in 40 CFR § 52.21
GP 001	Title I Condition/40 CFR § 52.21	Monthly distillate oil usage limited to 83,955 gal/month (12-month rolling average) to restrict total facility NO _x emissions to less than major source level defined in 40 CFR § 52.21
	Minn. R. 7007.0800	Fuel supplier certification
	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines – opacity and SO ₂ emission limits (these standards apply individually to each emission unit in GP 001)

3. Technical Information

EU 001 and GP 001 NO_x Emission and Fuel Usage Limits: these limits are used to keep the source a non-major under 40 CFR § 52.21 by restricting total facility NO_x emissions to 240 tons per year. Past performance tests on EU 001 and some of the GP 001 engines measured NO_x emissions less than the 0.144 lb/mmBtu and 3.35 lb/mmBtu limits, respectively.

EU 001 unrestricted fuel consumption capacity is 3,460,200 gallons per year. The EU 001 equivalent 12-month fuel use limit of 372,024 gallons is 10.8% of rated capacity.

GP 001 unrestricted fuel consumption capacity is 14,116,565 gallons per year. The GP 001 equivalent 12-month fuel use limit of 1,007,460 gallons is 5.9% of the rated capacity.

EU 001 and GP 001 Temporary Units: the Permittee is allowed to use a temporary replacement boiler as specified under EU 001 providing emissions do not exceed the permitted and calculated emissions of EU 001. In GP 001, the Permittee is allowed to use temporary engines, EU 014 (<600 Hp) and EU 015 (>600 Hp), and is required to account for the temporary engine usage depending on the engine size and total GP 001 fuel usage. The conditional fuel usage recordkeeping is designed to not burden the Permittee with tracking fuel usage of small (less than 600 Hp) temporary engines (i.e. diesel engine driven air compressors) unless total GP 001 monthly fuel usage equals or exceeds 60,000 gallons per month. This conditional approach is

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acceptable because the monthly GP 001 fuel usage limit is 83,995 gallons (12-month rolling average). Note that a 600 Hp engine consumes approximately 35 gallons of diesel fuel per hour.

EU 001 and GP 001 Performance Testing:

NO_x and opacity testing is required for EU 001. Particulate matter emissions testing is not required for EU 001 because estimated emissions based on AP-42 are approximately 0.015 lb/mmBtu, whereas the applicable limit is 0.6 lb/mmBtu.

GP 001 test deadlines and frequencies were determined in consideration of the following:

- all GP 001 emission units are operated infrequently
- has the emission unit been tested previously?
- results of past NO_x test results for units previously tested.

However, EU 006 and EU 009 NO_x and opacity testing is not required due to the small size of the emission units, very low operating hours, and low NO_x potential emissions from these units. The EU 004 and EU 005 performance test requirements are structured so that these emission units are not required to operate only in order to conduct a performance test.

GP 001 NO_x Performance Testing Summary		
Test Date	EU number	Emission rate (lb/mmBtu)
1991	EU 007 (D3)	2.14
1991	EU 008 (D4)	1.35
1992	EU 012 (D6-1)	1.17
1992	EU 013 (D6-2)	1.35
1995	EU 007 (D3)	2.700
1995	EU 008 (D4)	3.334
1995	EU 012/013 (D6-1&2)	2.000

1997 – 1999 PRAIRIE ISLAND EMISSION UNIT OPERATING HOURS SUMMARY						1997 - 1999 Average Monthly Fuel Oil Usage*
Emission Unit No.	NSP Emission Unit Description	1997 hr/yr	1998 hr/yr	1999 hr/yr	3-yr Average	
EU 001	Heating Boiler	2.3	260.9	1.6	88.3	2907
EU 002	D1	78.1	54	56.4	62.8	1099
EU 003	D2	61.5	35.5	54.3	50.4	882
EU 004	Cooling Water Pump 12	28	25.3	25.3	26.2	120
EU 005	Cooling Water Pump 22	26.7	26.5	43.7	32.3	148
EU 006	Fire Pump 122	36.33	28.59	32.21	32.4	46
EU 007	D3	10.2	8.5	9.5	9.4	146
EU 008	D4	6.2	9	8.8	8.0	124
EU 009	Security	7.4	7.9	7.4	7.6	11
EU 010	D5-1	34.83	45.88	67.66	49.5	695

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EU 011	D5-2	34.83	45.88	67.66	49.5	695
EU 012	D6-1	54.57	41.87	118.62	71.7	1007
EU 013	D6-2	54.57	41.87	118.62	71.7	1007
1997 – 1999 Average Monthly Total GP 001 (EU 002 – 013) Fuel Oil Usage: 5980 gal/mo						

*assumes fuel oil consumption at rated capacity for each engine and the heating boiler

4. Conclusion

Based on the information provided by Northern States Power Company, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 04900030-001 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Marshall M. Cole, Yolanda Hernandez

Attachment: Emission Calculations