

**AIR EMISSION PERMIT NO. 03700015- 003**  
**(Part 70 Reissuance)**

**IS ISSUED TO**

Northern States Power Co dba Xcel Energy

**XCEL ENERGY – INVER HILLS GENERATING PLANT**  
3185 117th Street East  
Inver Grove Heights, Dakota County, MN 55077

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	
Major Amendment	11/20/2002
Total Facility Operating Permit - Reissuance	9/30/2004

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, and any additions or changes to conditions incorporated into Minnesota's State Implementation Plan (SIP) under 40 CFR § 52.1220, designated "Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP" must go through the federal SIP approval process before becoming effective. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

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

**Permit Type:** Federal; Pt 70; Title I SIP Conditions (SO<sub>2</sub>)

**Issue Date:** October 27, 2006

**Expiration:** October 27, 2011  
All Title I Conditions do not expire.

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

for Brad Moore  
Acting Commissioner  
Minnesota Pollution Control Agency

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**NOTICE TO THE PERMITTEE:**

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

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

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

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

**PERMIT SHIELD:**

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

## **FACILITY DESCRIPTION:**

Xcel Energy's Inver Hills Generating Plant is a peak electrical generation facility with a capacity of 440 megawatts. The facility is on call to operate, as needed, any or all of six identical pre-NSPS General Electric primary turbine/generator sets. Each turbine is capable of using natural gas, distillate oil, or residual oil as a fuel source. Historically, natural gas has been the primary fuel source. Fuel oil is most frequently used during curtailment of the natural gas supply. The turbines commenced operation prior to November 15, 1990; thus, they are not subject to Title IV of the Clean Air Act (the Acid Rain Provisions).

The Inver Hills Generating Plant also has two post-1990 Caterpillar emergency diesel-fired reciprocating internal combustion engine generators. The Permittee has applied for a new unit exemption and agreed to limit diesel fuel sulfur content to 0.05 percent by weight.

Another activity at the site is the storage of distillate oil and other petroleum products in ten million-gallon above-ground storage tanks. There are also several insignificant sources.

## **PER 003**

Air Emission Permit No. 03700015-003 is the reissuance of the Part 70 permit for the Xcel Energy – Inver Hills Generating Plant. It supersedes Air Emission Permit No. 03700015-002. The permit does not authorize any new construction or physical modifications, although some changes have been made to the permit primarily to facilitate changes to SIP.

The SIP conditions in the permit ensure that the air quality in the area around the Inver Hills Generating Plant (the Pine Bend area) remain in compliance with the National Ambient Air Quality Standards (NAAQS) for sulfur dioxide. This permit streamlines the facility's SIP requirements. In doing so, the permit becomes more restrictive (i.e., more protective of the NAAQS). The Title I SIP conditions in the permit will be submitted to the EPA for its approval of the changes to the SIP.

A small number of housekeeping changes have also been made in this permit.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

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10/27/06

Facility Name: Xcel Energy Inver Hills Generating Plant

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

**Subject Item: Total Facility**

<b>What to do</b>	<b>Why to do it</b>
<b>A. OPERATIONAL REQUIREMENTS</b>	hdr
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
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
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
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
Parameters Used in Modeling: The stack heights, emission rates, and other parameters used in the modeling for the SO <sub>2</sub> SIP are listed in GP 003 of this permit. The Permittee must submit to the Commissioner for approval any revisions of these parameters and must wait for a written approval before making such changes. The information submitted must include, at a minimum, the locations, heights and diameters of the stacks, locations and dimensions of nearby buildings, the velocity and temperatures of the gases emitted, and the emission rates. The plume dispersion characteristics due to the revisions of the information must be equivalent to or better than the dispersion characteristics modeled in the SO <sub>2</sub> SIP submittal. The Permittee shall demonstrate this equivalency in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7009.0020
The Permittee shall comply and upon written request demonstrate compliance, with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0100-7009.0080.
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
<b>B. POLLUTION CONTROL EQUIPMENT REQUIREMENTS</b>	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)
<b>C. TESTING REQUIREMENTS</b>	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

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

10/27/06

Facility Name: Xcel Energy Inver Hills Generating Plant

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Performance Test Notifications and Submittals:  Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements.  Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test  The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. Rs. 7017.2030, subp. 1-4, 7017.2018 and Minn. R. 7017.2035, subp. 1-2
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.	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
<b>D. MONITORING REQUIREMENTS</b>	hdr
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)
<b>E. RECORDKEEPING</b>	hdr
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original 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)
State Implementation Plan Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of the required monitoring, sample, measurement, or report that corresponds with the "Title I Condition: State Implementation Plan for SO <sub>2</sub> " requirement.	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP
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)
<b>F. REPORTING</b>	hdr
Oral or Written (faxed) 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****A-3**

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Facility Name: Xcel Energy Inver Hills Generating Plant

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<p>Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2.</p> <p>At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.</p>	Minn. R. 7019.1000, subp. 2
<p>Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3.</p> <p>At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.</p>	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)
Deviations from requirements cited as "Title I Conditions: State Implementation Plan for SO <sub>2</sub> " shall be reported semi-annually with the Semi-annual Deviations Report required by this permit. Reporting shall occur even if there were no deviations for this reporting period.	Minn. R. 7007.0800, subp. 6(C)1; Alternative to SIP Quarterly Report.
<p>Quarterly Report for the State Implementation Plan for Sulfur Dioxide:</p> <p>Not more than 30 days after the end of each calendar quarter starting 07/28/1992, the Permittee shall submit a report containing the following information:</p> <p>1) The percent sulfur content by weight and the heating value of the fuel oil in million British Thermal Units per gallon; and</p> <p>2) A summary of any exceedances of the emission limitation, monthly fuel use limitation and the sulfur content limitation during the calendar quarter. The report shall provide an explanation of each exceedance which occurred or a statement stating that no exceedances occurred. The report shall also state if fuel oil was burned during the monitored quarter.</p>	Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP
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.	Minn. R. 7019.3000 through 7019.3010
G. DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW	hdr
<p>These requirements apply where there is a reasonable possibility that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test and found to not be part of a major modification, may result in a significant emissions increase. If the ATPA test is not used for a particular project, or if there is not a reasonable possibility that the proposed project could result in a significant emissions increase, then these requirements do not apply to that project.</p> <p>Even though a particular modification is not subject to New Source Review, a permit amendment, recordkeeping, or notification may still be required under Minn. R. 7007.1150 - 7007.1500.</p>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000

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

10/27/06

Facility Name: Xcel Energy Inver Hills Generating Plant

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<p>Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following information:</p> <ol style="list-style-type: none"> <li>1. A description of the project</li> <li>2. Identification of the emission unit(s) whose emissions of an NSR pollutant could be affected</li> <li>3. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the potential emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the unit(s) could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination.</li> </ol> <p>The Permittee shall maintain records of this documentation.</p>	<p>Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 &amp; 5</p>
<p>The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.</p>	<p>Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 &amp; 5</p>
<p>The Permittee must submit a report to the Agency if the annual summed (actual plus potential, if applicable) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain:</p> <ol style="list-style-type: none"> <li>a. The name and ID number of the facility, and the name and telephone number of the facility contact person</li> <li>b. The annual emissions (actual plus potential, if any part of the project was analyzed using potential emissions) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded.</li> <li>c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.</li> </ol>	<p>Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 &amp; 5</p>



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

10/27/06

Facility Name: Xcel Energy Inver Hills Generating Plant

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**Subject Item: GP 001 Electric Generating Combustion Turbines****Associated Items:** EU 001 Combustion Turbine 1

EU 002 Combustion Turbine 2

EU 003 Combustion Turbine 3

EU 004 Combustion Turbine 4

EU 005 Combustion Turbine 5

EU 006 Combustion Turbine 6

SV 001 Stack 1, Gas Turbine 1

SV 002 Stack 2, Gas Turbine 2

SV 003 Stack 3, Gas Turbine 3

SV 004 Stack 4, Gas Turbine 4

SV 005 Stack 5, Gas Turbine 5

SV 006 Stack 6, Gas Turbine 6

What to do	Why to do it
EMISSION AND OPERATIONAL LIMITS	hdr
Opacity: less than or equal to 20 percent once operating temperatures have been attained. This limit applies to each unit individually.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.67 lbs/million Btu heat input on an instantaneous basis. This limit applies to each unit individually.  THIS LIMIT WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP; allowed under Minn. R. 7011.2300, subp. 2
Sulfur Dioxide: less than or equal to 0.50 lbs/million Btu heat input on an instantaneous basis. This limit applies to each unit individually.  THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7007.0800, subp. 2; Minn. R. 7011.2300, subp. 2
Allowable Fuel Types: Distillate fuel oil, residual fuel oil, and natural gas.  THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7007.0800, subp. 2
Allowable Fuel Types: Distillate fuel oil and natural gas.  THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7007.0800, subp. 2
Fuel Oil Usage: Not to exceed 9.41 million gallons per month on a 12-month rolling average basis.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP
Sulfur Content of Fuel: less than or equal to 0.64 percent by weight for all fuels.  THIS LIMIT WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP
Sulfur Content of Fuel: less than or equal to 0.48 percent by weight for all fuels.  (Compliance with this limit demonstrates with the 0.50 lb SO2/million BTU limit.)  THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7007.0800, subp. 2
Operating Hours: less than or equal to 3800 hours/year (12-month rolling sum basis) for all six units combined while operating inlet foggers and combusting fuel oil.	Minn. R. 7007.0800, subp. 2 to limit inlet cooling increase of SO2 and NOx emissions to less than 100 tpy to avoid Environmental Review required by Minn. R. 4410.4300
MONITORING REQUIREMENTS	hdr

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

10/27/06

Facility Name: Xcel Energy Inver Hills Generating Plant

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<p>Fuel Oil Analysis:</p> <p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>The Permittee shall obtain the fuel oil sulfur content and heating value by either of the following methods:</p> <p>a. By obtaining and retaining a fuel supplier certification from the fuel supplier for each shipment of distillate, residual, or diesel fuel oil delivered to the Facility. Each fuel supplier certification shall include the following information:</p> <ol style="list-style-type: none"> <li>1) The name of the supplier;</li> <li>2) The location of where the sample was drawn for analysis to determine the sulfur content of the fuel oil. Specifically, the certification shall include whether each shipment was sampled as delivered to the Facility, or whether the sample was drawn from the storage tanks at the fuel oil supplier's or oil refiner's facility, or other location;</li> <li>3) The sulfur content of the fuel oil from which the shipment came;</li> </ol>	<p>Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP</p>
<p>Fuel Oil Analysis (cont.):</p> <ol style="list-style-type: none"> <li>4) The method used to determine the sulfur content shall be American Society for Testing Materials (ASTM) Method D-1552 or another EPA approved ASTM Method as listed in 40 CFR 60, Appendix A, Method 19, Sec. 5.2.2; and</li> <li>5) The heating value (million British Thermal Units per gallon) of the fuel oil determined in accordance with ASTM Methods D-240, D-1989 or other EPA approved methods,</li> </ol> <p>OR,</p> <p>b. By sampling and analyzing the fuel in accordance to the following:</p> <ol style="list-style-type: none"> <li>1) While the fuel tank is being filled, the Permittee shall collect a sample of the fuel delivery in accordance with ASTM Method D-4057 or other EPA approved method;</li> <li>2) The Permittee shall analyze fuel delivery samples to determine the sulfur content in accordance with ASTM Method D-1552 or other approved EPA method and heating value of the fuel in accordance with ASTM Method D-240, D-1989 or other approved EPA method;</li> </ol>	<p>Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP</p>
<p>Fuel Oil Analysis (cont.):</p> <ol style="list-style-type: none"> <li>3) If the fuel delivery sample analysis result is no greater than 0.64% sulfur, the Permittee shall compute a weighted average sulfur content of the fuel in the tank using the analysis from the fuel delivery sample and any previous value for sulfur content of fuel in the tank.</li> <li>4) If the delivery sample analysis result is greater than 0.64% sulfur, then a sample must be taken from the fuel tank and analyzed for sulfur content and heating value. The Permittee shall use the tank analysis as the new sulfur content and heating value of the fuel in the tank.</li> <li>5) In January and July of each year, the Permittee shall collect a sample from the fuel line to the gas turbines. The sample shall be analyzed for sulfur content and heating value. The results shall be used as the new sulfur content and heating value of the fuel in the tank.</li> </ol>	<p>Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP</p>
<p>Fuel Oil Analysis:</p> <p>THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>The Permittee shall obtain the fuel oil sulfur content and heating value by one of the following methods:</p> <p>METHOD A. By sampling and analyzing the fuel in accordance to the following:</p> <ol style="list-style-type: none"> <li>1) While the fuel tank is being filled, the Permittee shall collect a sample of the fuel delivery in accordance with ASTM Method D-4057 or other EPA approved method;</li> <li>2) The Permittee shall analyze fuel delivery samples to determine the sulfur content in accordance with ASTM Method D-1552 or other approved EPA method and heating value of the fuel in accordance with ASTM Method D-240, D-1989 or other approved EPA method;</li> </ol>	<p>Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-7**

10/27/06

Facility Name: Xcel Energy Inver Hills Generating Plant

Permit Number: 03700015 - 003

<p>Fuel Oil Analysis (cont.)</p> <p>3) If the fuel delivery sample analysis result is no greater than 0.48% sulfur, the Permittee shall compute a weighted average sulfur content of the fuel in the tank using the analysis from the fuel delivery sample and any previous value for sulfur content of fuel in the tank.</p> <p>4) If the delivery sample analysis result is greater than 0.48% sulfur, then a sample must be taken from the fuel tank and analyzed for sulfur content and heating value. The Permittee shall use the tank analysis as the new sulfur content and heating value of the fuel in the tank.</p> <p>5) In January and July of each year, the Permittee shall collect a sample from the fuel line to the gas turbines. The sample shall be analyzed for sulfur content and heating value. The results shall be used as the new sulfur content and heating value of the fuel in the tank.</p> <p>OR,</p> <p>METHOD B. By limiting fuel oil sulfur content to 0.10% by weight. The sulfur content will be assured by:</p>	<p>Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP</p>
<p>Fuel Oil Analysis (cont.)</p> <p>1) Obtaining and retaining a guarantee from the fuel supplier indicating that each shipment of fuel oil delivered to the Facility will not contain more than 0.10 percent by weight; and by</p> <p>2) Sampling and analyzing the fuel in accordance with the following:</p> <p>a) While the fuel tank is being filled, the Permittee shall collect a sample of the fuel delivery in accordance with ASTM Method D-4057 or other EPA approved method;</p> <p>b) The Permittee shall analyze fuel delivery samples to determine the sulfur content in accordance with ASTM Method D-1552 or other approved EPA method and heating value of the fuel in accordance with ASTM Method D-240, D-1989 or other approved EPA method;</p>	<p>Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP</p>
<p>Fuel Oil Analysis (cont.)</p> <p>c) If any delivery sample analysis result is greater than 0.10% sulfur, then a sample must be taken from the fuel tank and analyzed for sulfur content and heating value. The Permittee shall use the tank analysis as the new sulfur content and heating value of the fuel in the tank.</p>	<p>Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP</p>
<p>Fuel Supplier Certification: Keep on site a copy of the fuel supplier certification identifying the type of fuel oil and the percent by weight sulfur content range.</p> <p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p>	<p>Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7007.0800, subp. 4(B)</p>
<p>Fuel Supplier Certification or Guarantee: Keep on site a copy of the fuel supplier certification or guarantee identifying the type of fuel oil and the percent by weight sulfur content range.</p> <p>THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p>	<p>Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7007.0800, subp. 4(B)</p>
<p>Daily Recordkeeping. On each day of operation, the Permittee shall record the total quantity of all fuel used at the facility. This shall be based on flowmeters.</p>	<p>Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7007.0800, subp. 4(B)</p>
<p>Fuel Usage Recordkeeping: By the 15th day of each month, the Permittee shall use daily fuel usage records to calculate the monthly fuel usage on a 12-month rolling average basis.</p>	<p>Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7007.0800, subp. 4(B)</p>
<p>SO<sub>2</sub> Emission Rate From Fuel Oil Combustion:</p> <p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>The Permittee shall calculate the SO<sub>2</sub> emission rate using the sulfur content and heating value with the following formula:</p> $\text{Emissions Rate (lb SO}_2\text{/MMBtu)} = \frac{N \times \% \text{sulfur}}{\text{heating value (Btu/gal)}}$ <p>Where N = 142,000 for distillate oil and 157,000 for residual oil The units for N = Btu lbs SO<sub>2</sub>/(MMBtu)(gal)</p>	<p>Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7007.0800, subp. 4(B)</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-8**

10/27/06

Facility Name: Xcel Energy Inver Hills Generating Plant

Permit Number: 03700015 - 003

RECORDKEEPING	hdr
<p>SO2 and Emissions and Operating Records.</p> <p>THIS CONDITION WILL BE TERMINATED ON THE DATE THE USEPA APPROVES THE REVISION TO THE SIP.</p> <p>The Permittee shall generate and maintain records containing information to demonstrate compliance with the emission limitation and operating requirements. The Permittee shall retain records containing the following information:</p> <p>1) The fuel oil supplier's certifications containing the information listed in the previous monitoring requirements and the date of each fuel oil delivery cross-referenced to the certification accompanying that delivery; or the results of the fuel oil analyses for sulfur content (percent by weight) and heating value (million British Thermal Units per gallon), the date the fuel oil was sampled, and the methods used to sample the fuel oil and determine the sulfur content and heating value of the fuel oil.</p>	<p>Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP</p>
<p>SO2 and Emissions and Operating Records (cont.)</p> <p>2) Monthly and 12-month rolling average fuel oil use. The records shall be signed by the person entering information into the record.</p>	<p>Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP</p>
<p>SO2 and Emissions and Operating Records.</p> <p>THIS CONDITION WILL BECOME EFFECTIVE ON THE DATE THE USEPA APPROVES THE REVISION INTO THE SIP.</p> <p>The Permittee shall generate and maintain records containing information to demonstrate compliance with the emission limitation and operating requirements. The Permittee shall retain records containing the following information:</p> <p>1) The results of the fuel oil analyses for sulfur content (percent by weight) and heating value (million British Thermal Units per gallon), the date the fuel oil was sampled, and the methods used to sample the fuel oil and determine the sulfur content and heating value of the fuel oil.</p> <p>2) Monthly and 12-month rolling average fuel oil use. The records shall be signed by the person entering information into the record.</p>	<p>Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP; Minn. R. 7007.0800, subp. 5</p>
<p>Inlet Fogging Monthly Recordkeeping: by the 15th day of each month, calculate and record the inlet fogging operating hours, while combusting fuel oil, for the previous month and the previous 12-month period (12-month rolling sum).</p>	<p>Minn. R. 7007.0800, subp. 5</p>
<p>Inlet Fogging Daily Recordkeeping: Each day record the following for each emission unit in GP 001 whenever inlet fogging was used:</p> <ol style="list-style-type: none"> <li>1. Start and stop times of inlet fogger operation;</li> <li>2. Individual and total hours of operation of the inlet foggers;</li> <li>3. Type of fuel consumed during inlet fogging operation;</li> <li>4. Time of any fuel changes during inlet fogging operation.</li> </ol>	<p>Minn. R. 7007.0800, subp. 5</p>

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

10/27/06

Facility Name: Xcel Energy Inver Hills Generating Plant

Permit Number: 03700015 - 003

**Subject Item: GP 002 Emergency Diesel Generators****Associated Items:** EU 007 Diesel Generator 1 ODG-GEN-001

EU 008 Diesel Generator 2 ODG-GEN-002

SV 007 Stack 7, Diesel Generator 1

SV 008 Stack 8, Diesel Generator 2

What to do	Why to do it
Operating Hours: less than or equal to 816 hours/year using 12-month Rolling Sum as a total for GP 002.	Title I Condition: To remain a nonmajor modification for NOx under 40 CFR Section 52.21.
Sulfur Content of Fuel: less than or equal to 0.05 percent by weight	40 CFR 72.7, New Unit Exemption, Acid Rain Program; meets requirement of Minn. R. 7011.2300 subp. 2
Opacity: less than or equal to 20 percent once operating temperatures are attained (applies individually to each emission unit or stack)	Minn. R. 7011.2300, subp. 1
The permittee shall obtain from the fuel supplier a certificate or other record indicating that the fuel delivered for use in the GP 002 emission units has a sulfur content less than or equal to 0.05 percent by weight on a 12-month annual average.	40 CFR 72.7, New Unit Exemption, Acid Rain Program, Minn. R. 7007.0800, subp. 4 and 5
Recordkeeping: For each day of operation of any GP 002 emission unit(s), record the operating start and stop times. By the 15th of each month, calculate and record the total combined GP 002 operating hours for the previous month, and for the previous 12-month period (12-month rolling sum).	Title I Condition: To remain a nonmajor modification for NOx under 40 CFR Section 52.21.

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

10/27/06

Facility Name: Xcel Energy Inver Hills Generating Plant

Permit Number: 03700015 - 003

**Subject Item: GP 003 Electric Generating Combustion Turbine Stack Vents****Associated Items:** SV 001 Stack 1, Gas Turbine 1

SV 002 Stack 2, Gas Turbine 2

SV 003 Stack 3, Gas Turbine 3

SV 004 Stack 4, Gas Turbine 4

SV 005 Stack 5, Gas Turbine 5

SV 006 Stack 6, Gas Turbine 6

What to do	Why to do it
Stack Height: greater than or equal to 32 feet from ground level. This requirement applies to each individual stack.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP
Stack Cross-Sectional Area: less than or equal to 150 square feet (7.5 x 20 feet). This requirement applies to each individual stack.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP
Air Flow Rate: greater than or equal to 1150000 actual cubic feet/minute for each individual stack exhaust. This limit represents the modeled exhaust flow rate from each stack vent at maximum peak load/peak SO2 emissions. It is not representative of the flow rates at lower loads.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP
Temperature: greater than or equal to 1050 degrees F for each individual stack exhaust. This limit represents the modeled exhaust temperature in each stack vent at maximum peak load/peak SO2 emissions. It is not representative of the exhaust temperature at lower loads.	Title I Condition: State Implementation Plan (SIP) for SO2 NAAQS, 40 CFR pt. 50 and Minnesota SIP

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Xcel Energy Inver Hills Generating Plant  
Permit Number: 03700015 - 003

Subject Item: GP 004 Storage Tanks

Associated Items: TK 001 distillate oil  
TK 002 distillate oil  
TK 003 distillate oil

What to do	Why to do it
EMISSION AND OPERATIONAL LIMITS	hdr
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)

## TABLE B: SUBMITTALS

B-1 10/27/06

Facility Name: Xcel Energy Inver Hills Generating Plant  
Permit Number: 03700015 - 003

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:

AQ Permit Technical Advisor  
Industrial 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:

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

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

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

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

Facility Name: Xcel Energy Inver Hills Generating Plant  
Permit Number: 03700015 - 003

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility

**TABLE B: RECURRENT SUBMITTALS****B-3** 10/27/06

Facility Name: Xcel Energy Inver Hills Generating Plant

Permit Number: 03700015 - 003

What to send	When to send	Portion of Facility Affected
Quarterly Report	due 30 days after end of each calendar quarter starting 07/28/1992. The report shall contain the following: 1) The percent sulfur content by weight and the heating value of the fuel oil in million British Thermal Units per gallon; 2) Summary of any exceedances of the emission limitation, monthly fuel use limitation and the sulfur content limitation during the calendar quarter. The report shall provide an explanation of each exceedance which occurred or a statement stating that no exceedances occurred. The report shall also state if fuel oil was burned during the monitored quarter.	Total Facility
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 07/25/2000 . The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Compliance Certification	due 31 days after end of each calendar year starting 07/25/2000 (for the previous calendar year). The Certification shall be submitted on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX MATERIAL

Facility Name: Xcel Energy Inver Hills Generating Plant

Permit Number: 03700015-003

**Appendix A**

(Not used in Permit Number 03700015-003)

## APPENDIX MATERIAL

Facility Name: Xcel Energy Inver Hills Generating Plant

Permit Number: 03700015-003

### **Appendix B Insignificant Activities**

Brazing, soldering and welding equipment

Spray paint equipment used for facility upkeep

Temporary (emergency) heating equipment (small portable propane heaters)

Internal combustion engines (< 250 hp) burning distillate oil, gasoline or natural gas

VOC fugitives from pumps, valves, and flanges on distillate oil forwarding systems and loading rack

Substation Black Start Diesel Generator (150 hp) <sup>1</sup>

Fire Pump Diesel Engine (340 hp) <sup>1</sup>

Water Tank Heater for fire protection systems

Temporary engines for various compressors and pumps (< 250 hp)

VOC fugitive emissions from solvents (parts washers no longer use solvents)

Various small fuel oil tanks (two 3300 gallon tanks by generator building; one 300 gallon tank by fuel forwarding house; six 300 gallon oil/waste water tanks under loading rack; one 500 gallon tank southwest of plant; one 250 gallon tank inside foam house)

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<sup>1</sup> Emergency / backup equipment PTE is based on 500 hours per year worst case assumptions, in accordance with EPA policy.

# APPENDIX MATERIAL

Facility Name: Xcel Energy Inver Hills Generating Plant

Permit Number: 03700015-003

## Appendix C New Unit Exemptions for EU007 and EU008

### New Unit Exemption

For more information, see instructions and refer to 40 CFR 72.7

This submission is    New    ☐    Revised    ☒

#### Step 1

Identify the new unit by plant name, State, ORIS Code (if assigned) and Unit ID#.

Inver Hills Generating Plant Plant Name	MN State	1913 ORIS Code	7 Unit ID#
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#### Step 2

List to one decimal place the nameplate capacity of each generator served by the unit. Then total these entries and enter the result.

					Total
1.8 MWe	Mwe	MWe	MWe	Mwe	1.8 MWe

#### Step 3

List all fuels currently burned or expected to be burned, by the unit and the percent sulfur content by weight of each.

Content	Fuel (current)	Sulfur Content (current)	Fuel (expected)	Sulfur (expected)
	Diesel fuel	0.05%	Diesel fuel	0.05%

#### Step 4

Identify the first full calendar

## APPENDIX MATERIAL

Facility Name: Xcel Energy Inver Hills Generating Plant

Permit Number: 03700015-003

year in which the unit meets  
(or will meet) the requirements  
of 40 CFR 72.7(a).

**January 1, 2000**  
**Special Provisions**

step 5

Read the special provisions.

(1) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 72.7 shall (i) comply with the requirements of 40 CFR 72.7(a) for all periods for which the unit is exempt under 40 CFR 72.7 and (ii) comply with the requirements of the Acid Rain Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(2) For any period for which a unit is exempt under 40 CFR 72.7, the unit is not an affected unit under the Acid Rain Program and 40 CFR parts 70 and 71 and is not eligible to be an opt-in source under 40 CFR part 74. As an unaffected unit, the unit shall continue to be subject to any other applicable requirements under 40 CFR parts 70 and 71.

(3) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 72.7 shall retain at the source that includes the unit records demonstrating that the requirements of 40 CFR 72.7(a) are met. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the Administrator or the permitting authority. Such records shall include, for each delivery of fuel to the unit or for fuel delivered to the unit continuously by pipeline, the type of fuel, the sulfur content, and the sulfur content of each sample taken. The owners or operators bear the burden of proof that the requirements of paragraph 40 CFR 72.7(a) are met.

(4) On the earliest of the following dates, a unit exempt under 40 CFR 72.7(b), (c), or (e) shall lose its exemption and become an affected unit under the Acid Rain Program and 40 CFR parts 70 and 71: (i) the date on which the unit first serves one or more generators with total nameplate capacity in excess of 25 MWe; (ii) the date on which the unit burns any coal or coal-derived fuel except for coal-derived gaseous fuel with a total sulfur content no greater than natural gas; or (iii) January 1 of the year following the year in which the annual average sulfur content for gaseous fuel burned at the unit exceeds 0.05 percent by weight (as determined under 40 CFR 72.7(d)) or for nongaseous fuel burned at the unit exceeds 0.05 percent by weight (as determined under 40 CFR 72.7(d)).

Notwithstanding 40 CFR 72.30(b) and (c), the designated representative for a unit that loses its exemption under 40 CFR 72.7 shall submit a complete Acid Rain permit application on the later of January 1, 1998 or 60 days after the first date on which the unit is no longer exempt. For the purpose of applying monitoring requirements under 40 CFR 75, a unit that loses its exemption under 72.7 shall be treated as a new unit that commenced commercial operation on the first date on which the unit is no longer exempt.

# APPENDIX MATERIAL

Facility Name: Xcel Energy Inver Hills Generating Plant

Permit Number: 03700015-003

## New Unit Exemption

For more information, see instructions and refer to 40 CFR 72.7

This submission is New ☐ Revised ☒

### Step 1

Identify the new unit by plant name, State, ORIS Code (if assigned) and Unit ID#.

Inver Hills Generating Plant Plant Name	MN State	1913 ORIS Code	8 Unit ID#
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### Step 2

List to one decimal place the nameplate capacity of each generator served by the unit. Then total these entries and enter the result.

1.8 MWe	MWe	MWe	MWe	MWe	Total 1.8 MWe
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### Step 3

List all fuels currently burned or expected to be burned, by the unit and the percent sulfur content by weight of each.

Content	Fuel (current)	Sulfur Content (current)	Fuel (expected)	Sulfur (expected)
	Diesel fuel	0.05%	Diesel fuel	0.05%

### Step 4

Identify the first full calendar year in which the unit meets (or will meet) the requirements of 40 CFR 72.7(a).

January 1, 2000  
Special Provisions

## APPENDIX MATERIAL

Facility Name: Xcel Energy Inver Hills Generating Plant

Permit Number: 03700015-003

### step 5

Read the special provisions.

(1) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under 40 CFR 72.7 shall (i) comply with the requirements of 40 CFR 72.7(a) for all periods for which the unit is exempt under 40 CFR 72.7 and (ii) comply with the requirements of the Acid Rain Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(2) For any period for which a unit is exempt under 40 CFR 72.7, the unit is not an affected unit under the Acid Rain Program and 40 CFR parts 70 and 71 and is not eligible to be an opt-in source under 40 CFR part 74. As an unaffected unit, the unit shall continue to be subject to any other applicable requirements under 40 CFR parts 70 and 71.

(3) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under 40 CFR 72.7 shall retain at the source that includes the unit records demonstrating that the requirements of 40 CFR 72.7(a) are met. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the Administrator or the permitting authority. Such records shall include, for each delivery of fuel to the unit or for fuel delivered to the unit continuously by pipeline, the type of fuel, the sulfur content, and the sulfur content of each sample taken. The owners or operators bear the burden of proof that the requirements of paragraph 40 CFR 72.7(a) are met.

(4) On the earliest of the following dates, a unit exempt under 40 CFR 72.7(b), (c), or (e) shall lose its exemption and become an affected unit under the Acid Rain Program and 40 CFR parts 70 and 71: (i) the date on which the unit first serves one or more generators with total nameplate capacity in excess of 25 MWe; (ii) the date on which the unit burns any coal or coal-derived fuel except for coal-derived gaseous fuel with a total sulfur content no greater than natural gas; or (iii) January 1 of the year following the year in which the annual average sulfur content for gaseous fuel burned at the unit exceeds 0.05 percent by weight (as determined under 40 CFR 72.7(d)) or for nongaseous fuel burned at the unit exceeds 0.05 percent by weight (as determined under 40 CFR 72.7(d)).

Notwithstanding 40 CFR 72.30(b) and (c), the designated representative for a unit that loses its exemption under 40 CFR 72.7 shall submit a complete Acid Rain permit application on the later of January 1, 1998 or 60 days after the first date on which the unit is no longer exempt. For the purpose of applying monitoring requirements under 40 CFR 75, a unit that loses its exemption under 72.7 shall be treated as a new unit that commenced commercial operation on the first date on which the unit is no longer exempt.



**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**AIR EMISSION PERMIT NO. 03700015-003**

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

**1. General Information**

**1.1. Applicant and Stationary Source Location:**

Applicant/Address	Stationary Source/Address (SIC Code: 4911)
Northern States Power (dba Xcel Energy) 414 Nicollet Mall Minneapolis, MN 55401-1993	3185 117th Street East Inver Grove Heights (Dakota County), Minnesota
Contact: John Chelstrom Phone: (612)330-7682	

**1.2. Description of the Permit Action**

The Inver Hills Generating Plant is a peak electrical generation facility with a capacity of 440 megawatts (MW). The facility is composed of six identical pre-NSPS General Electric natural gas or fuel oil-fired simple cycle combustion turbine/generator sets. The facility is on call to operate, as needed, any or all of the six primary turbine/generator sets. Each turbine is capable of using natural gas, distillate oil, or residual oil as a fuel source. Natural gas is the primary fuel, and fuel oil is used mostly during curtailment of natural gas (which is almost always a winter phenomena, unless a natural gas pipeline break occurs during non-winter months). The Permittee has indicated that historically the overall fuel usage for the turbines is 90 percent natural gas and 10 percent fuel oil. There are also two emergency generators powered by diesel engines and several insignificant emission sources on site. Distillate oil and other petroleum products are stored in three 10 million gallon above ground storage tanks.

The turbines are not subject to Title IV because they commenced operation before November 15, 1990, (§72.6(b)(1)). The facility also has two post-1990 Caterpillar emergency diesel-fired reciprocating internal combustion engines that are grid connected and therefore subject to Title IV. The Permittee committed to limiting diesel fuel sulfur content to 0.05 percent by weight in these units and applied for a new unit exemption from EPA's Acid Rain program.

Due to the low level of public interest in this facility (ascertained by the low levels of complaints received by the MPCA about the facility and the facility's relatively low emissions), no Community Involvement Team was convened to educate the public about the reissuance of the Part 70 permit.

### **1.3 Description of any Changes Allowed with this Permit Issuance**

The permit application submitted by Xcel Energy ("Xcel") contained no new physical changes or changes in the method of operation at the facility. The facility, however, proposed changes to some of the State Implementation Plan (SIP) conditions in the permit.

The Pine Bend area surrounding Xcel's Inver Hills facility currently meets all National and Minnesota Ambient Air Quality Standards (NAAQS and MAAQS). At one time, however, the area's ambient air exceeded the sulfur dioxide (SO<sub>2</sub>) NAAQS. In response, the MPCA crafted conditions designed to bring the area into attainment with the standards. Those conditions applied to this and other facilities determined to be responsible for the ambient air quality problems. The MPCA is required to have a plan to maintain compliance with the NAAQS. Conditions in the permit identified as "Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS" are elements of this maintenance plan.

This permit prepares for the simplification of conditions in Minnesota's SO<sub>2</sub> SIP. The company proposes to forego some flexibility allowed under the previous permit for this simplification. The new conditions are more conservative than those contained in the previous permit, as (following their approval by EPA) they will impose lower sulfur fuel content limits; reduce the number of allowable fuels; eliminate alternative means of demonstrating compliance; and remove alternative recordkeeping requirements. A new compliance method is added, allowing the company to avoid certain analyses if fuel with a much lower sulfur content is used.

Minnesota must incorporate these changes into its SIP after which EPA must approve them. For this reason, the conditions that are to be eliminated include language indicating that they are no longer applicable only after EPA approves the change.

A detailed analysis of the changes to the permit and the rationale for making those changes is provided in Attachment 4.

#### **1.4 Description of All Amendments Issued Since the Issuance of the Last Total Facility Permit.**

<b>Permit Number and Issuance Date</b>	<b>Action Authorized</b>
<b>03700015-001</b> July 25, 2000	Initial Part 70 permit <ul style="list-style-type: none"> <li>▪ Transferred Administrative Order conditions to Part 70 permit (transfer effective July 8, 2004; see 69 FR 31891, June 8, 2004)</li> <li>▪ Added conditions authorizing installation and use of an inlet cooling (inlet fogging) system</li> </ul>
<b>03700015-002</b> September 10, 2003	Major permit amendment <ul style="list-style-type: none"> <li>▪ Revised Title V modeling requirements</li> <li>▪ Removed certain unneeded limits on CO and NO<sub>x</sub> emissions related to the inlet fogging system</li> </ul>

#### **1.5. Facility Emissions:**

**Table 1. Total Facility Potential to Emit Summary**

	PM (tpy)	PM <sub>10</sub> (tpy)	SO <sub>2</sub> (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	VOC (tpy)	Single HAP (tpy)	All HAPs (tpy)
Total Facility Limited Potential Emissions	292	292	12300	21400	89	55	18.2	31.3
Total Facility Actual Emissions (2005)	3.5	3.5	8.7	220	1.0	0.9	HAPs not reported in emission inventory	

**Table 2. Facility Classification**

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

## **2. Regulatory and/or Statutory Basis**

### New Source Review

The facility is an existing major source under New Source Review regulations. (Potential emission of PM, PM<sub>10</sub>, and SO<sub>2</sub> exceed the 250 tpy threshold, as do potential and actual emissions of NO<sub>x</sub>.) No physical changes or changes in the method of operation are authorized by this permit.

### Part 70 Permit Program

The facility is a major source under the Part 70 permit program. (The potential of the facility to emit PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> exceeds the 100 tpy threshold. In addition, the facility's emissions exceed the 10 tpy and 25 tpy thresholds for single and total Hazardous Air Pollutants (HAPs).

### New Source Performance Standards (NSPS)

There are no New Source Performance Standards applicable to the operations at this facility.

### National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility's emissions exceed the 10 tpy and 25 tpy thresholds for single and total HAPs, so the facility is a major HAP source. The combustion turbines are affected sources subject to 40 CFR 63 Subpart YYYY. Since, however, they are existing stationary combustion turbines, there are no applicable requirements for them in this NESHAP. (See 40 CFR § 63.6095.)

### Compliance Assurance Monitoring (CAM)

None of the units at the facility are subject to CAM because they have no control equipment.

### Minnesota State Rules

Portions of the facility are subject to Minn. R. 7011.2300 (Standards of Performance for Stationary Internal Combustion Engines).

The distillate oil tanks associated with the facility are not subject to Minn. R. 7011.1505 (Standards of Performance for Storage Vessels) since the vapor pressure of the oil falls below 128 mm Hg (2.5 psia). (The highest vapor pressure identified in the application for distillate fuel oil no. 2 fuel oil has a vapor pressure of about 6 mm Hg (0.115 psia).)

**Table 3. Regulatory Overview of Facility**

<b>EU, GP, or SV</b>	<b>Applicable Regulations</b>	<b>Comments</b>
GP001 (EU001 – EU006)	<i>Standards of Performance for Stationary Internal Combustion Engines</i> (Minn. R. 7011.2300)	SO <sub>2</sub> emission limit: ≤ 0.5 lbs/MMBtu (the SIP limit overrides this limit for the gas turbines)  Opacity limit: ≤ 20 percent once operating temp. is attained
	<i>Standards of Performance for Existing Stationary Internal Combustion Engines</i> (Minn. R. 7011.2300)	SO <sub>2</sub> emission limit: ≤ 1.6 lbs/MMBtu  Opacity limit: ≤ 20 percent once operating temp. is attained
	<i>State Implementation Plan Conditions for Sulfur Dioxide Maintenance Area</i> (40 CFR § 52.1220)  (The latest revision became effective July 8, 2004. See 69 FR 31891, June 8, 2004.)	Fuel oil sulfur content limit: ≤ 0.64 percent by weight (after EPA approval, this is reduced to 0.5 percent by weight)  Fuel oil usage limitation: ≤ 9.41 million gallons per month based on a 12-month rolling average.  SO <sub>2</sub> emission limit: ≤ 0.67 lbs/MMBtu (after EPA approval, this is reduced to 0.50 lbs/MMBtu)
	<i>National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines</i> (40 CFR 63 Subpart YYYY)	The emission units in GP001 are existing stationary combustion turbines. The NESHAP has no requirements for these types of units.
GP002 (EU007, EU008)	<i>Standards of Performance for Stationary Internal Combustion Engines</i> (Minn. R. 7011.2300)	SO <sub>2</sub> emission limit: ≤ 0.5 lbs/MMBtu  Opacity limit: ≤ 20 percent once operating temp. is attained
	<i>Acid Rain program: Exemption for New Units</i> (40 CFR § 72.7)	Fuel oil sulfur content limit: ≤ 0.05 percent by weight

EU, GP, or SV	Applicable Regulations	Comments
GP004 (TK001, TK002, TK003)	<i>Industrial Process Equipment Rule</i> (Minn. R. 7011.0715)	<p>Opacity limit: <math>\leq 20</math> percent</p> <p>Particulate limit: <math>\leq 0.3</math> gr/dscf unless required to comply with the less stringent of either Minn. R. 7011.0730 or Minn. R. 7011.0735  <i>[This condition is not included in the permit since the tanks will not emit particulate matter.]</i></p> <p>These 10,000,000 gallon tanks were installed in 1972. They are not subject to Minn. Rule 7011.1505, Subp. 2.C.(1) (<i>Standards of Performance for Storage Tanks</i>) because the vapor pressure of the stored liquid is less than 1 psia. Absent a separate standard, IPER applies.</p>

### 3. Technical Information

This section discusses a number of technical and regulatory decisions that were made during the review of the application and during permit drafting.

#### 3.1 Calculations of Potential to Emit

Xcel submitted emission calculations that were reviewed and corrected. The most recent version of AP-42 was the source of criteria pollutant and Hazardous Air Pollutant emission factors for the six combustion turbines and the two diesel generators. Volatile organic emissions from the tanks were calculated using the TANKS 4.0 program.

Attachment 1 to this TSD contains Form GI-07, which summarizes the PTE of the Facility, while Attachment 2 contains detailed spreadsheets and supporting information prepared by the MPCA and the Permittee.

#### 3.2 Periodic Monitoring

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

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

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

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

**Table 4. Periodic Monitoring**

<b>Emission Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
GP001 (EU001 – EU006)	Minn. R. 7011.2300	Performance Tests for Opacity	Each combustion turbine was tested once during the five-year permit term while burning fuel oil. In each case, the opacity reading was 0%. <sup>1</sup> Because there appears to be little chance of violating the 20% limit, the requirement to conduct periodic opacity testing has been eliminated from the permit.
	State Implementation Plan for Sulfur Dioxide	Fuel Sulfur Content Restriction / Sulfur Dioxide Limit	<p>The amount of fuel used at the facility must be tracked daily. The sulfur content of each shipment of fuel oil used at the facility must be analyzed upon receipt. On a monthly basis, the facility determinates compliance with the fuel usage limit. Sulfur dioxide emission rates are also calculated from these data.</p> <p>This level of monitoring is appropriate due to the low level of SO<sub>2</sub> emissions at the facility and the low concentration of sulfur in the oil relative to the limit.</p>

<sup>1</sup> Opacity tests were performed on August 1, 2000 (CT #1 and #2); April 24, 2001 (CT #3); April 9, 2002 (CT #4); April 2, 2003 (CT #5); and May 27, 2004 (CT #6). These tests were reviewed by the MPCA.

<b>Emission Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
GP002 (EU007, EU008)	Title I Condition: 40 CFR § 52.21 (limits hours of operation; keeps NO <sub>x</sub> emissions below PSD thresholds)	Daily recordkeeping of the time of the start and stop of operation; monthly calculation of 12-month rolling sum	The combined limit on the two emergency diesel generators ensures that NO <sub>x</sub> emissions remain below PSD levels. Daily recordkeeping is needed for determining usage (when the units are actually operating). Actual hours of operation have been much less than the allowed 816 hours, so a relaxed calculation period of a month is appropriate.
	40 CFR § 72.7 (New Unit Exemption for the Acid Rain program)	Fuel Sulfur Content Restriction / Sulfur Dioxide Limit	<p>The amount of fuel used at the facility must be tracked daily. The fuel oil supplier must provide a certification or other record that the sulfur content of the fuel oil meets the limit. On a monthly basis, the facility determinates compliance with the fuel usage limit. Sulfur dioxide emission rates are also calculated from these data.</p> <p>This level of monitoring meets the standard of reasonable precision, reliability, accessibility, and timeliness required by the regulation.</p>
GP004	Minn. R. 7011.0715	None	The Industrial Process Equipment rule applies as a default since no other standard applies. The tanks are not expected to generate particulate matter or opacity.

### **3.3 Insignificant Activities**

Xcel Energy's Inver Hills Generating Plant has several operations that are identified as insignificant activities. These activities have no applicable requirements and have no associated periodic monitoring requirements. They are listed in Appendix B to the permit.



### **3.4 Modeling Submittal**

Xcel was required to submit dispersion modeling information for PM<sub>10</sub> and NO<sub>x</sub> for this facility by November 23, 2003. Xcel fulfilled this requirement. The requirement has been removed from the permit.

### **3.5 “Additional” Emission Units**

Three existing tanks were previously considered insignificant activities but are now identified as emission units. Their emissions are now calculated to exceed one ton of VOCs per year, which exceeds the threshold for insignificant activities. They have been added to Delta so that their emissions will be quantified and reported; however, there are no applicable conditions for the tanks, so there are no permit conditions addressing these tanks.

### **3.6 Permit Organization**

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. The permit conditions are placed at the group level. Group 1 includes the six electric generating combustion turbines (six emission units). Group 2 includes the two emergency diesel generators. Group 3 consists of the stacks for each of the electric generating combustion turbines (i.e., the stacks for the members of Group 1.)

In addition, there are two appendices to the permit. (Appendix A is reserved for the Operator's Summary which is not used with this permit.) Appendix B contains a listing of the Insignificant Activities at the facility. Appendix C records the New Unit Exemptions from the requirements of the Acid Rain program for Emission Units EU007 and EU008. (See 40 CFR § 72.7 for more information.)

### **3.7 Comments Received**

The Public Notice Period began on September 8, 2006 and ended October 9, 2006. No comments were received from the public during the public notice period.

The EPA 45-day Review Period began on September 8, 2006 and ended October 23, 2006. No comments were received from the public during the public notice period. During this period, discussions were held with EPA reviewers for the State Implementation Plan (SIP). (These reviewers were interested in the permit because it contains conditions identified as a "Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS" that will be incorporated into Minnesota's SIP.) These discussions identified some misunderstandings between the MPCA and EPA Region 5. The misunderstandings were clarified without any changes to the permit.

### **3.8 Post-Public Notice Permit Changes**

During the public comment period, MPCA staff noticed that a SIP condition (i.e., a condition identified as a "Title I Condition: State Implementation Plan (SIP) for SO<sub>2</sub> NAAQS") requiring a Quarterly Report was a submittal/action requirement and, therefore, part of Table B of the permit. Since Table B contains no citations, EPA had not identified this condition as part of the SIP. To ensure that this requirement would be included in the SIP when EPA modified Minnesota's Plan, a permit condition was added basically duplicating this submittal/action requirement so that it would appear with the appropriate citation in Table A. (The new condition can be found under the Reporting heading of the Facility section.)

No additional public comment period or EPA review was needed since the condition reiterates an existing condition. A reference to this change has also been added to the "Summary of Changes to SIP Conditions" in Attachment 4.

## **4. Conclusion**

Based on the information provided by Xcel Energy, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 03700015-003 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:

Richard Cordes	Permit writer/engineer
Emily Hansen	Enforcement
Curt Stock	Stack testing
Catherine Neuschler	State Implementation Plan
Marshall Cole	Peer reviewer

Attachments to the Technical Support Document:

Attachment 1	PTE Summary Spreadsheet
Attachment 2	Calculation Spreadsheets
Attachment 3	Facility Description and CD-01 Forms
Attachment 4	Changes to SIP Conditions

# Attachment 1 to the Technical Support Document for Permit Action Number 03700015-003 *PTE Summary Spreadsheet*

MINNESOTA POLLUTION CONTROL AGENCY  
AIR QUALITY  
520 LAFAYETTE ROAD  
ST. PAUL, MN 55155-4194

29 August, 2006 14:04

## FACILITY DESCRIPTION: Potential-to-emit (by item)

Show: Active and Pending Records  
AQD Facility ID: 03700015  
Facility Name: Xcel Energy - Inver Hills Generating Pit

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
EU 001							
	Acetaldehyde	PER 001		1.54E-02	6.75E-02	6.75E-02	
	Acetaldehyde	PER 003		3.91E-02	1.71E-01	1.71E-01	4.76E-03
	Acrolein	PER 003		6.25E-03	2.74E-02	2.74E-02	7.62E-04
	Benzene	PER 001		2.60E-02	1.14E-01	1.14E-01	
	Benzene	PER 003		5.08E-02	2.22E-01	2.22E-01	2.18E-03
	Arsenic compounds	PER 001		4.50E-03	1.98E-02	1.98E-02	
	Arsenic compounds	PER 003		1.02E-02	4.45E-02	4.45E-02	1.49E-04
	1,3-Butadiene	PER 003		1.48E-02	6.47E-02	6.47E-02	2.68E-04
	Beryllium	PER 003		2.86E-04	1.25E-03	1.25E-03	4.21E-06
	Beryllium Compounds	PER 001		3.00E-04	1.30E-03	1.30E-03	
	Cadmium compounds	PER 001		6.80E-03	2.96E-02	2.96E-02	
	Cadmium compounds	PER 003		4.43E-03	1.94E-02	1.94E-02	6.52E-06
	Carbon Monoxide	PER 001		1.12E+02	4.92E+02	4.92E+02	5.30E-01
	Carbon Monoxide	PER 003		3.05E+00	1.33E+01	1.33E+01	5.30E-01
	Cobalt compounds	PER 001		8.40E-03	3.68E-02	3.68E-02	
	Chromium compounds	PER 001		4.34E-02	1.90E-01	1.90E-01	
	Chromium compounds	PER 003		1.02E-02	4.45E-02	4.45E-02	1.49E-04
	Ethylbenzene	PER 003		3.13E-02	1.37E-01	1.37E-01	3.61E-03
	Formaldehyde	PER 001		3.18E-01	1.39E+00	1.39E+00	
	Formaldehyde	PER 003		6.94E-01	3.04E+00	3.04E+00	8.84E-02
	Naphthalene	PER 001		5.90E-03	2.58E-02	2.58E-02	
	Naphthalene	PER 003		3.23E-02	1.41E-01	1.41E-01	6.30E-04
	HAPs - Total	PER 001		1.90E+00	8.31E+00	8.31E+00	
	HAPs - Total	PER 003		1.19E+00	5.21E+00	5.21E+00	1.40E-01
	Mercury	PER 003		1.11E-03	4.85E-03	4.85E-03	1.63E-05
	Mercury Compounds	PER 001		6.50E-03	2.84E-02	2.84E-02	
	Phenol	PER 001		1.24E-02	5.43E-02	5.43E-02	
	Propylene oxide	PER 003		2.83E-02	1.24E-01	1.24E-01	3.45E-03
	Toluene	PER 001		4.83E-01	2.11E+00	2.11E+00	
	Toluene	PER 003		1.27E-01	5.56E-01	5.56E-01	1.55E-02
	Xylenes (mixed isomers)	PER 003		6.25E-02	2.74E-01	2.74E-01	7.62E-03
	Manganese compounds	PER 001		3.14E-01	1.37E+00	1.37E+00	
	Manganese compounds	PER 003		7.29E-01	3.19E+00	3.19E+00	1.07E-02
	Phosphorus	PER 001		2.77E-01	1.21E+00	1.21E+00	
	Total Polycyclic aromatic hydro	PER 003		3.69E-02	1.62E-01	1.62E-01	8.05E-04
	Nickel compounds	PER 001		1.11E+00	4.85E+00	4.85E+00	
	Nickel compounds	PER 003		4.25E-03	1.86E-02	1.86E-02	6.25E-05
	Nitrogen Oxides	PER 001		6.44E+02	2.82E+03	2.82E+03	7.70E+00
	Nitrogen Oxides	PER 003		8.12E+02	3.56E+03	3.56E+03	7.70E+00
	Lead	PER 001		5.00E-02	2.30E-01	2.30E-01	
	Lead	PER 003		1.29E-02	5.66E-02	5.66E-02	
	Particulate Matter < 10 micron	PER 001		5.63E+01	2.47E+02	2.47E+02	6.70E-01
	Particulate Matter < 10 micron	PER 003		1.11E+01	4.85E+01	4.85E+01	6.70E-01
	Total Particulate Matter	PER 001		5.63E+01	2.47E+02	2.47E+02	6.70E-01
	Total Particulate Matter	PER 003		1.11E+01	4.85E+01	4.85E+01	6.70E-01
	Antimony compounds	PER 001		2.03E-02	8.89E-02	8.89E-02	

Page 1 of 9

# **Attachment 2 to the Technical Support Document for Permit Action Number 03700015-003** *Calculation Spreadsheet*

Sample Calculations

Xcel Energy - Inver Hills Generating Plant  
Sample Calculations

Emission Unit ID	Unit Name	Pollutant	Max Process Rate	Emission Factor	Emission Factor Source	Emission Rate	Uncontrolled Potential to Emit	Pollution Control Efficiency	Controlled Potential to Emit	Linked Potential to Emit	2002 to 2003 Average Throughput	Units	Actual Emissions	Existing Permit Limit
B3331	Combustion Turbine No. 1 (2003)	CO	877.00	MMBtu/hr	2.03E-01	August 1, 2000 Stack Test	1.93E+00	0.54E+00	0.38E+00	0.54E+00	NA	00	00	00
							$\frac{1}{1} \text{ (Max Process Rate) } \times \text{ (Emission Factor)}$							
							$\frac{1}{1} \text{ (Emission Rate, lb/hr) } \times \text{ (2,000 lb/ton) } / \text{ (2,000 lb/ton)}$							
							$\frac{1}{1} \text{ (Uncontrolled PTE, tpy) } \times \text{ (100-Pollution Control Efficiency) } / \text{ 100}$							
							$\frac{1}{1} \text{ (Max Process Rate) } \times \text{ (Percent Load) } / \text{ (2,000 lb/ton)}$							
							$\frac{1}{1} \text{ (Average Actual Process Rate) } \times \text{ (Emission Factor) } / \text{ (2,000 lb/ton)}$							

[1]. For criteria pollutants, MPCA Form GL-07-R, page 4, indicates the actual amounts do not need to be included on this form.

Xcel - Inver Hills Generating Plant  
Printed on 12/20/2003 10:45 PM

Page 1 of 1

# Attachment 3 to the Technical Support Document for Permit Action Number 03700015-003 *Facility Description and CD-01 Forms*



MINNESOTA POLLUTION CONTROL AGENCY  
AIR QUALITY  
520 LAFAYETTE ROAD  
ST. PAUL, MN 55155-4194

29 August, 2006 13:53

## FACILITY DESCRIPTION: GROUPS (GP)

Show: Active and Pending Records

Action: PER 003

AQD Facility ID: 03700015

Facility Name: Xcel Energy - Inver Hills Generating Plt

	ID No.	Added By (Action)	Retired By (Action)	Include in EI	Operator ID for item	Group Description	Group Items	Group Status
1	GP 001	PER 001		<input type="checkbox"/>		Electric Generating Combustion Turbines	EU 001, EU 003, EU 003, EU 004, EU 006, EU 006, SV 001, SV 002, SV 003, SV 004, SV 005, SV 006	Active
2	GP 002	PER 001		<input type="checkbox"/>		Emergency Diesel Generators	EU 007, EU 008, SV 007, SV 008	Active
3	GP 003	PER 001		<input type="checkbox"/>		Electric Generating Combustion Turbine Stack Vents	SV 001, SV 002, SV 003, SV 004, SV 005, SV 006	Active
4	GP 004	PER 003		<input type="checkbox"/>		Storage Tanks	TK 001, TK 002, TK 003	Active



FACILITY DESCRIPTION: STACK/VENTS (SV)

Show: Active and Pending Records

Action: PER 003

AQD Facility ID: 03700015

Facility Name: Xcel Energy - Inver Hills Generating Plt

	ID No.	Added By (Action)	Retired By (Action)	Operator ID for Item	Operators Description	Height of Opening From Ground (feet)	Inside Dimensions		Design Flow Rate at Top (ACFM)	Exit Gas Temperature at Top (°F)	Flow Rate/ Temperature Information Source	Discharge Direction	Stack/ Vent Status
							Diameter or Length (feet)	Width (feet)					
1	SV 001	PER 001			Stack 1, Gas Turbine 1	32.0	7.50	20.00	1339750	1050	Manufacturer	Up, No Cap	Active
2	SV 002	PER 001			Stack 2, Gas Turbine 2	32.0	7.50	20.00	1339750	1050	Manufacturer	Up, No Cap	Active
3	SV 003	PER 001			Stack 3, Gas Turbine 3	32.0	7.50	20.00	1339750	1050	Manufacturer	Up, No Cap	Active
4	SV 004	PER 001			Stack 4, Gas Turbine 4	32.0	7.50	20.00	1339750	1050	Manufacturer	Up, No Cap	Active
5	SV 005	PER 001			Stack 5, Gas Turbine 5	32.0	7.50	20.00	1339750	1050	Manufacturer	Up, No Cap	Active
6	SV 006	PER 001			Stack 6, Gas Turbine 6	32.0	7.50	20.00	1339750	1050	Manufacturer	Up, No Cap	Active
7	SV 007	PER 001			Stack 7, Diesel Generator 1	23.0	1.33		14110.0	891	Manufacturer	Up, No Cap	Active
8	SV 007	PER 003			Stack 7, Diesel Generator 1	27.75	1.33		14110.0	891	Manufacturer	Up, No Cap	Active
9	SV 008	PER 001			Stack 8, Diesel Generator 2	23.0	1.33		14110.0	891	Manufacturer	Up, No Cap	Active
10	SV 008	PER 003			Stack 8, Diesel Generator 2	27.75	1.33		14110.0	891	Manufacturer	Up, No Cap	Active



FACILITY DESCRIPTION: EMISSION UNIT (EU)

Show: Active and Pending Records

Action: PER 003

AQD Facility ID: 03700015

Facility Name: Xcel Energy - Inver Hills Generating Plt

	ID No.	Added By (Action)	Retired By (Action)	Insignif-icant Activity	Operator ID for item	Stack/Vent ID No(s).	Control Equip. ID No(s).	Operator Description	Manufacturer	Model Number	SIC	Max. Design Capacity	Maximum Design Capacity Units	Maximum Fuel Input (million Btu)
1	EU 001	PER 001		<input type="checkbox"/>		SV 001 (M)		Combustion Turbine 1	General Electric	7001B	4911	977	MMBtu/hr	977
2	EU 002	PER 001		<input type="checkbox"/>		SV 002 (M)		Combustion Turbine 2	General Electric	7001B	4911	977	MMBtu/hr	977
3	EU 003	PER 001		<input type="checkbox"/>		SV 003 (M)		Combustion Turbine 3	General Electric	7001B	4911	977	MMBtu/hr	977
4	EU 004	PER 001		<input type="checkbox"/>		SV 004 (M)		Combustion Turbine 4	General Electric	7001B	4911	977	MMBtu/hr	977
5	EU 005	PER 001		<input type="checkbox"/>		SV 005 (F)		Combustion Turbine 5	General Electric	7001B	4911	977	MMBtu/hr	977
6	EU 006	PER 001		<input type="checkbox"/>		SV 006 (M)		Combustion Turbine 6	General Electric	7001B	4911	977	MMBtu/hr	977
7	EU 007	PER 001		<input type="checkbox"/>		SV 007 (M)		Diesel Generator 1 OCG-GEN-001	Caterpillar	3516TA	4911	121	gph	16.81
8	EU 007	PER 003		<input type="checkbox"/>		SV 007 (M)		Diesel Generator 1 OCG-GEN-001	Caterpillar	3516TA	4911	121	gph	16.81
9	EU 008	PER 001		<input type="checkbox"/>		SV 008 (M)		Diesel Generator 2 OCG-GEN-002	Caterpillar	3516TA	4911	121	gph	16.81
10	EU 008	PER 003		<input type="checkbox"/>		SV 008 (M)		Diesel Generator 2 OCG-GEN-002	Caterpillar	3516TA	4911	121	gph	16.81





MINNESOTA POLLUTION CONTROL AGENCY  
AIR QUALITY  
530 LAFAYETTE ROAD  
ST. PAUL, MN 55155-4194

29 August, 2006 13:54

## FACILITY DESCRIPTION: STORAGE TANKS (TK)

Show: Active and Pending Records

Action: PER 003

AQD Facility ID: 03700015

Facility Name: Xcel Energy - Inver Hills Generating Plt

	ID No.	Added By (Action)	Retired By (Action)	Insignif-icant Activity	Operator ID for item	Control Equip. ID No(s).	Product Stored	Interior Height (ft.)	Interior Diameter (ft.)	Capacity (1000 gal)	Construction Type
1	TK 001	PER 002		<input type="checkbox"/>			fuel oil			10000	
2	TK 001	PER 003		<input type="checkbox"/>	Tank 2		distillate oil	45	195	10000	Fixed Roof
3	TK 002	PER 002		<input type="checkbox"/>			fuel oil			10000	
4	TK 002	PER 003		<input type="checkbox"/>	Tank 3		distillate oil	45	195	10000	Fixed Roof
5	TK 003	PER 002		<input type="checkbox"/>			fuel oil			10000	
6	TK 003	PER 003		<input type="checkbox"/>	Tank 4		distillate oil	45	195	10000	Fixed Roof



## COMPLIANCE PLAN CD-01

Facility Name: Xcel Energy Inver Hills Generating Plant

Permit Number: 03700015 - 003

Subject Item:		Total Facility	
	NC/CA	Citation	Requirement
1.0		hdr	A. OPERATIONAL REQUIREMENTS
2.0		Minn. R. 7007.0800, subp. 16	The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.
3.0		Minn. R. 7030.0010 - 7030.0080	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.
4.0		Minn. R. 7007.0800, subp. 9(A)	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.
5.0		Minn. R. 7011.0020	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.
6.0		Minn. R. 7019.1000, subp. 4	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.
7.0		Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS, 40 CFR pt. 50; Minn. R. 7009.0020	Parameters Used in Modeling: The stack heights, emission rates, and other parameters used in the modeling for the SO <sub>2</sub> SIP are listed in GP 003 of this permit. The Permittee must submit to the Commissioner for approval any revisions of these parameters and must wait for a written approval before making such changes. The information submitted must include, at a minimum, the locations, heights and diameters of the stacks, locations and dimensions of nearby buildings, the velocity and temperatures of the gases emitted, and the emission rates. The plume dispersion characteristics due to the revisions of the information must be equivalent to or better than the dispersion characteristics modeled in the SO <sub>2</sub> SIP submittal. The Permittee shall demonstrate this equivalency in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel.
8.0		40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0100-7009.0080.	The Permittee shall comply and upon written request demonstrate compliance, with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080.
9.0		Minn. R. 7011.0150	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.
10.0		hdr	B. POLLUTION CONTROL EQUIPMENT REQUIREMENTS
11.0		Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)	Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.
12.0		hdr	C. TESTING REQUIREMENTS
13.0		Minn. R. ch. 7017	Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.

**Attachment 4 to the Technical Support Document  
for Permit Action Number 03700015-003**  
*Changes to the SIP Conditions*

In the application for a renewal of the Part 70 operating permit for its Inver Hills Generating Plant, Xcel Energy requested that the MPCA change a number of conditions that are included in Minnesota's State Implementation Plan (SIP) to maintain the Pine Bend area (the area surrounding the Inver Hills Generating Plant) as an attainment (maintenance) area for sulfur dioxide (SO<sub>2</sub>).<sup>2</sup>

There have been two very significant changes since the State Implementation Plan (SIP) for the Inver Hills Generating Station was first prepared. First, the Pine Bend area is now in attainment with the National Ambient Air Quality Standards (NAAQS) for SO<sub>2</sub>. (This continues to be demonstrated, most recently in the ambient air quality modeling included with the July 18, 2006 SIP submittal from the Minnesota Pollution Control Agency to Region 5 of the U.S. Environmental Protection Agency. That submittal includes changes to the SIP proposed by Flint Hills Resources, LP for its Rosemount refinery.) Second, low-sulfur fuels are commonly produced and are widely available.

At its Inver Hills facility, Xcel receives a shipment of low-sulfur fuel oil by pipeline roughly every other year. Fuel analysis reports reviewed in 2006 indicate that the sulfur content of the delivered fuel ranges between 0.01 and 0.03 percent sulfur by weight (0.01 - 0.03 wt percent).

The MPCA agreed to make some of the changes requested by Xcel. In addition, the MPCA initiated changes to clarify the SIP conditions.<sup>3</sup> The changes to the SIP conditions continue to assure that compliance with the SO<sub>2</sub> NAAQS is maintained.

The permit reflects the following changes to the SIP that were proposed for facility's combustion turbines:

***Sulfur dioxide limit.*** The maximum allowable sulfur dioxide emission rate will be changed from 0.67 pounds per million BTU to 0.50 pounds per million BTU. This lower emission rate is

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<sup>2</sup> The MPCA submitted the Title I SIP conditions in Air Emission Permit No. 03700015-001 to the US Environmental Protection Agency in August 2002. EPA reviewed and approved those Title I SIP conditions as of July 2, 2004. (See 69 FR 31891.) The approval of those SIP conditions represents the most recent action on the SIP conditions for this facility.

<sup>3</sup> Air Emission Permit No. 03700015-001 (and, subsequently, 03700015-002) included an alternative Fuel Supplier Certification for GP 001 (Electric Generating Combustion Turbines) identified as an "Alternative to SIP monitoring for the Fuel Oil Analysis and SO<sub>2</sub> Emission Rate calculation." However, this condition was not identified as a Title I Condition for the SIP. Since it lacked this identification, the MPCA did not believe it was approved by US EPA into the SIP in its July 2, 2004 action.

To provide a less onerous fuel certification process protective of the SO<sub>2</sub> NAAQS, the MPCA is proposing an alternative method of fuel oil analysis that, upon approval by US EPA, will become a part of the SO<sub>2</sub> SIP for the Inver Hills Generating Plant.

already allowed as an alternative to the existing limit. However, the higher maximum emission rate will be eliminated from the permit after the SIP change is approved by EPA.

**Allowable fuels.** The SIP conditions in the permit currently allow the combustion of natural gas, distillate oil, and residual oil. Residual oil will be removed as an allowable fuel. The remaining fuels are currently allowed by the permit, but the fuel likely to have the highest sulfur content – residual oil – will not be able to be burned after EPA approves the SIP changes.

**Fuel oil sulfur content.** The permit's SIP conditions currently allow a fuel oil sulfur content of 0.64 percent by weight. The proposed permit would reduce the maximum allowable fuel sulfur content to 0.48 percent by weight (after EPA's approval). A maximum fuel sulfur content of 0.48 wt percent effectively limits the emissions of sulfur dioxide below 0.50 lb/MMBtu, as shown below:

$$\left( \frac{0.485 \text{ lb}_S}{100 \text{ lb}_{FO}} \right) \left( \frac{\text{lb}_{FO}}{19429 \text{ BTU}_{FO}} \right) \left( \frac{64.06 \text{ lb}_{SO_2}}{32.07 \text{ lb}_S} \right) \left( \frac{1000000 \text{ BTU}_{FO}}{\text{MMBTU}_{FO}} \right) = 0.499 \frac{\text{lb}_{SO_2}}{\text{MMBTU}_{FO}}$$
$$\left( \leq 0.5 \frac{\text{lb}_{SO_2}}{\text{MMBTU}_{FO}} \right)$$

Note: Heating values for No. 2 distillate oil range from 19429 Btu/lb to 19701 Btu/lb.  
Use of the lower end of the range is the more conservative option.

Thus, compliance with the 0.50 lb SO<sub>2</sub>/MMBtu limit is demonstrated by compliance with the fuel sulfur content limit of 0.48 percent by weight.

**Fuel oil analysis.** The SIP conditions in the current permit provide two options for Xcel to demonstrate compliance with the fuel sulfur limit. The first is by obtaining a fuel oil certification indicating that each shipment meets the allowed limits. While fuel oil suppliers may have routinely provided certifications when the SIP was originally developed for the Pine Bend area, fuel certification are no longer available from these suppliers. (In their place, the fuel supplier will provide a guarantee that shipments will meet a fuel oil specification.) Because of this, the first option described above – acquiring a certification on each shipment – is no longer a feasible alternative. This option will be eliminated from the SIP and the permit.

The alternative compliance method in the SIP (and the permit) allows the facility to perform an analysis for sulfur content in the fuel oil, including the testing of the fuel oil in the fuel line to the gas turbines in January and in July. Since the Inver Hills facility now receives low-sulfur fuel oil (less than 0.05 percent sulfur by weight), these conditions are overly rigorous. In particular, there are difficulties in obtaining fuel oil certifications for each individual shipment, and the sampling and testing of the fuel oil in the fuel lines seems exceptionally burdensome. (The facility's supplier guarantees that the sulfur content of the fuel oil will not exceed 0.05 percent by weight. A copy of this guarantee is presented at the end of this attachment.)

Because of this, an additional method of compliance has been proposed. The first requirement of this new option would be for Xcel to obtain an assurance from its fuel suppliers that the oil it receives would contain less than 0.10 percent sulfur by weight. This certification would not be required for each shipment but could be a “blanket” guarantee for anticipated (future) deliveries, such as the one included with the TSD. The fuel supplier would be required to notify Xcel of exceptional events (i.e., when the delivered oil exceeded the 0.10 percent threshold). In those cases, the new option would not be available and Xcel would need to comply with the remaining option from the existing SIP and permit.

The second requirement of this new compliance option would be for Xcel to sample and analyze the fuel oil when it is delivered. Again, a 0.10 weight percent sulfur threshold would be used. (Again, if the sulfur content of the fuel oil, as sampled and analyzed by Xcel, exceeds 0.10 percent, Xcel would need to comply with the other option.)

Since the fuel oil used in the combustion turbines is transported to the facility by pipeline, the facility would sample the incoming fuel oil as it is pumped into the storage tanks. Independent samples would be taken at the beginning, middle and end of the shipment, with each sample analyzed so that compliance with the fuel oil sulfur limits could be demonstrated with each sample.

Because the threshold of 0.10 weight percent is below the proposed threshold of 0.48 weight percent by a factor of nearly five, this new option provides sufficient assurance that the SO<sub>2</sub> NAAQS will continue to be attained.

**Table: Summary of Changes to SIP Conditions**

<b>Permit Limitation or Condition</b>	<b>Description of Change</b>	<b>Effect</b>
Sulfur dioxide limit	The maximum allowable sulfur dioxide emission rate will be changed from 0.67 pounds per million BTU to 0.50 pounds per million BTU.	The new, lower emission rate is already allowed as an alternative to the existing limit. However, the maximum emission rate will be reduced.
Limitation on types of fuels burned	Residual oil will be eliminated as an allowable fuel.	The remaining fuels are currently allowed by the permit, but the fuel likely to have the highest sulfur content can no longer be burned.
Sulfur content of fuel	The maximum allowable fuel sulfur content will be changed from 0.64 percent by weight to 0.48 percent by weight.	The lower sulfur content is already allowed. However, the maximum fuel sulfur content will be reduced.

<b>Permit Limitation or Condition</b>	<b>Description of Change</b>	<b>Effect</b>
Fuel Oil Analysis	The compliance option that relies on a fuel supplier's certification will be eliminated.	Fuel oil suppliers no longer certify sulfur content on each fuel shipment, so this option has not recently been used. There is no real effect from its elimination.
Fuel Oil Analysis	A different method of demonstrating compliance with the fuel sulfur content limit will be added.	As long as the fuel oil contains less than 0.10 percent sulfur by weight, the company will be able to use a less onerous compliance option.
Fuel Supplier Certification	The new condition provides an option to keep a guarantee <i>or</i> a certification from the fuel supplier on hand instead requiring a certification.	This supports the new method of demonstrating compliance with the fuel sulfur limit. That method requires a guarantee from the fuel supplier rather than a certification.
SO <sub>2</sub> Emission Rate calculation	The description of how to calculate the emissions rate will be removed.	None. The calculation above ensures that compliance with the fuel sulfur content of 0.48 percent by weight cannot lead to an exceedance of the 0.50 lb SO <sub>2</sub> per million BTU limit.
SO <sub>2</sub> and Emissions and Operating Records	The requirement to retain records related to fuel oil sampling and analyses performed by the company will be removed.	Existing conditions requiring that records related to retaining fuel oil supplier's certifications for five years will be kept in the permit.
Quarterly Reporting requirement	A condition was added mirroring the language of a submittal/action condition already in the permit. No new requirements were added.	The new condition will appear in Table A of the permit with a citation that identifies it as a "Title I Condition: State Implementation Plan (SIP) for SO <sub>2</sub> NAAQS."

## Supplier Guarantee

Jul 18, 2006 3:32PM Xcel Energy Environmental Svcs.

No. 1976 P. 2



March 4, 2004

Mr. Dennis Wanless  
Xcel Energy  
414 Nicollet Mall (RS - 10)  
Mpls., Mn. 55401

Re: Sulfur Content Certification of #2 Low Sulfur Diesel Fuel

This letter is to certify that all diesel fuel received by Xcel Energy from Flint Hills Resources has been certified with a sulfur content not to exceed .05%. FHR Pine Bend Refinery does not produce any diesel fuel exceeding this amount.

As an extra measure to assure this product specification, I have discontinued any ability for Xcel Energy to pull High Sulfur products from the following terminal locations:  
Pine Bend Refinery  
Rostville, Mn FHR Terminal  
Rochester, Mn - Megellan Terminal  
Sioux Falls, SD - Megellan Terminal

In the future FHR will only quote Low Sulfur products to Xcel Energy. In the event that a shipment of fuel goes out to Xcel Energy above this guaranteed sulfur concentration, FHR will provide notification to Xcel Energy of the date of delivery and location of the fuel that exceeded the guaranteed maximum value.

If you have any additional concerns feel free to contact me at 651-480-3806. Thank you for your continued business.

Don Howe  
Account Manager

Don

- P.O. Box 64556 - Saint Paul, Minnesota 55164 - 651.480.3888 -