



Minnesota Pollution Control Agency

520 Lafayette Road North | St. Paul, Minnesota 55155-4194 | 651-296-6300

800-657-3864 | 651-282-5332 TTY | www.pca.state.mn.us | Equal Opportunity Employer

August 2, 2011

Mr. David L. Nickel
Division Environmental Specialist
Northern Natural Gas Company
1120 Centre Pointe Drive – Suite 400
Mendota Heights, MN 55120

RE: Air Emission Permit No. 02500002-003

Dear Mr. Nickel:

The enclosed permit, Air Emission Permit No. 02500002-003, authorizes operation of your facility located at 6579 420th Street, Harris, Chisago County, Minnesota.

The permit is effective from the issuance date of the permit until the expiration date of the permit. Please read through the permit and review its conditions and requirements. Distribute the permit to staff members responsible for ensuring compliance with the conditions and limitations in the permit. If appropriate, post the permit at the facility.

We appreciate your cooperation and compliance with environmental laws. If you have questions about the permit, please contact me at 651-757-2623.

Sincerely,

A handwritten signature in black ink, appearing to read 'Amrill S. Okonkwo', written over a circular stamp or seal.

Amrill S. Okonkwo
Senior Engineer Specialist
Air Quality Permits Section
Industrial Division

ASO:lao

Enclosure

cc: Robert Beresford, MPCA, Duluth
AQ File No. 624D



AIR EMISSION PERMIT NO. 02500002-003
Total Facility Operating Permit - Reissuance

IS ISSUED TO

Northern Natural Gas Company

NORTHERN NATURAL GAS COMPANY - NORTH BRANCH
6579 420th Street
North Branch, Chisago County, Minnesota 55056

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

This permit reissuance supersedes Air Emission Permit No. 02500002-002, and authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

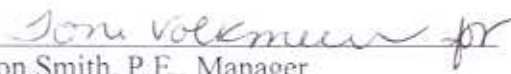
Unless otherwise indicated, all the Minnesota rules cited as the origin of the permit terms are incorporated into the SIP under 40 CFR § 52.1220 and as such as are enforceable by U.S. Environmental Protection Agency (EPA) Administrator or citizens under the Clean Air Act.

Permit Type: Federal; Part 70/Major for NSR;

Operating Permit Issue Date: August 2, 2011

Expiration Date: August 2, 2016 * – All Title I Conditions do not expire.

*The Permittee may continue to operate this facility after the expiration date of the permit, as allowed under Minn. R. 7007.0450, subp. 3.


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

for Paul Aasen
Commissioner
Minnesota Pollution Control Agency

Permit Applications Table

Permit Type	Application Date	Permit Action
Total Facility Operating Permit –Reissuance Supplemental Permit Information	May 4, 2010 December 8, 2010	003

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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:

Northern Natural Gas Company operates a compressor station in North Branch to pressurize natural gas in order to facilitate its transmission through the pipeline system. The facility was built in 1966. The North Branch facility consists of four (4) natural gas-fired reciprocating engines to drive the pipeline natural gas compressors (all four are Worthington ML-7 2-stroke lean burn engines rated at 2,000 horsepower), a diesel-fired emergency generator (a Kohler D300 engine rated at 462 horsepower), and a natural gas fired boiler rated at 3.35 MMBtu/hr. The compressors pressurize the natural gas in the pipeline causing it to flow to the next compressor station. The primary emissions are nitrogen oxides (NO_x) and greenhouse gasses (CO₂e) from the reciprocating engines. Emissions are not controlled. The facility also has equipment that qualifies as insignificant activities under Minn. R. 7007.1300, subparagraphs 3 and 4.

This permit is a reissuance of the Title V operating permit. In this permit, EU 005 (the natural gas-fired auxiliary generator engine) has been removed from the list of permitted facilities. Federal NESHAP requirements for the emergency generator and the boiler have been added.

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Northern Natural Gas Co - North Branch
 Permit Number: 02500002 - 003

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

Subject Item: Total Facility

What to do	Why to do it
SOURCE-SPECIFIC REQUIREMENTS	hdr
DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW	hdr
<p>These requirements apply where there is a reasonable possibility that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test and found to not be part of a major modification, may result in a significant emissions increase. If the ATPA test is not used for a particular project, or if there is not a reasonable possibility that the proposed project could result in a significant emissions increase, then these requirements do not apply to that project.</p> <p>Even though a particular modification is not subject to New Source Review, a permit amendment, recordkeeping, or notification may still be required under Minn. R. 7007.1150 - 7007.1500.</p>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000
<p>Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following information:</p> <ol style="list-style-type: none"> 1. A description of the project 2. Identification of the emission unit(s) whose emissions of an NSR pollutant could be affected 3. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the potential emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the unit(s) could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination. <p>The Permittee shall maintain records of this documentation.</p>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
<p>The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.</p>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
<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"> a. The name and ID number of the facility, and the name and telephone number of the facility contact person b. The annual emissions (actual plus potential, if any part of the project was analyzed using potential emissions) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded. c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection. 	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
OPERATIONAL REQUIREMENTS	hdr
<p>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.</p>	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, supbs. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0100-7009.0080.
<p>The parameters used in NOx modeling for permit number 02500002-003 are listed in Appendix C of this permit.</p>	Title I Condition: 40 CFR Section 52.21(k), Minn. R. 7007.3000; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, supbs. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0100-7009.0080.

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Northern Natural Gas Co - North Branch

Permit Number: 02500002 - 003

<p>Modeling Triggers: For changes that do not require a permit amendment and affect any modeled parameter or emission rate documented in Appendix C, or are an addition to the information documented in Appendix C, a Remodeling Submittal requirement is not triggered at the time of the change. The Permittee shall keep updated records on site of all parameters and emission rates. The Permittee shall submit any changes to parameters and emission rates with the next required Remodeling Submittal.</p> <p>For changes that require a minor, moderate, or major permit amendment and affect any modeled parameter or emission rate documented in Appendix C, or are an addition to the information documented in Appendix C, a Remodeling Submittal requirement is triggered. The Permittee shall include previously made changes to parameters and emission rates that did not trigger a Remodeling Submittal.</p>	<p>Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080</p>
<p>Remodeling Submittal: The Permittee must submit to the Commissioner for approval changes meeting the above criteria and must wait for a written approval before making such changes. For minor amendments, written approval of the modeling may be given before permit issuance; however, this approval applies only to the modeling and not to any other changes. The information submitted must include, for stack and vent sources, source emission rate, location, height, diameters, exit velocity, exit temperature, discharge direction, use of rain caps or rain hats, and, if applicable, locations and dimensions of nearby buildings. For non-stack/vent sources, this includes the source emission rate, location, size and shape, release height, and, if applicable, any emission rate scalars, and the initial lateral dimensions and initial vertical dimensions and adjacent building heights.</p>	<p>Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080</p>
<p>Remodeling Submittal, continued: The plume dispersion characteristics due to the revisions of the information must be equivalent to or better than the dispersion characteristics modeled dated December 15, 1998. The Permittee shall demonstrate this equivalency in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must submit full remodeling.</p>	<p>Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080</p>
<p>Modeling at Reissuance: The Permittee shall submit an assessment with the reissuance application (due as stated elsewhere in this permit) that addresses any changes made during the permit term that did not require a permit amendment but that affected any modeled parameter or emission rate (including adding sources beyond those documented in Appendix C) and were not assessed in a later modeling submittal. The information in this submittal shall be the same as listed in the requirement entitled "Remodeling Submittal".</p>	<p>Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080</p>
<p>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.</p>	<p>Minn. R. 7011.0020</p>
<p>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.</p>	<p>Minn. R. 7019.1000, subp. 4</p>
<p>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.</p>	<p>Minn. R. 7011.0150</p>
<p>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.</p>	<p>Minn. R. 7030.0010 - 7030.0080</p>
<p>Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).</p>	<p>Minn. R. 7007.0800, subp. 9(A)</p>
<p>The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.</p>	<p>Minn. R. 7007.0800, subp. 16</p>
<p>PERFORMANCE TESTING</p>	<p>hdr</p>
<p>Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.</p>	<p>Minn. R. ch. 7017</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Northern Natural Gas Co - North Branch

Permit Number: 02500002 - 003

<p>Performance Test Notifications and Submittals:</p> <p>Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements.</p> <p>Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test</p> <p>The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.</p>	<p>Minn. Rs. 7017.2030, subp. 1-4, 7017.2018 and Minn. R. 7017.2035, subp. 1-2</p>
<p>Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.</p>	<p>Minn. R. 7017.2025</p>
<p>MONITORING REQUIREMENTS</p>	<p>hdr</p>
<p>Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).</p>	<p>Minn. R. 7007.0800, subp. 4(D)</p>
<p>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.</p>	<p>Minn. R. 7007.0800, subp. 4(D)</p>
<p>RECORDKEEPING</p>	<p>hdr</p>
<p>Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).</p>	<p>Minn. R. 7007.0800, subp. 5(C)</p>
<p>Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.</p>	<p>Minn. R. 7007.0800, subp. 5(B)</p>
<p>REPORTING/SUBMITTALS</p>	<p>hdr</p>
<p>Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3.</p> <p>At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.</p>	<p>Minn. R. 7019.1000, subp. 3</p>
<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>	<p>Minn. R. 7019.1000, subp. 2</p>
<p>Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.</p>	<p>Minn. R. 7019.1000, subp. 1</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-4 08/02/11

Facility Name: Northern Natural Gas Co - North Branch

Permit Number: 02500002 - 003

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
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)
Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3100
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Northern Natural Gas Co - North Branch
 Permit Number: 02500002 - 003

Subject Item: GP 001 Internal Combustion Engines

Associated Items: EU 001 Natural Gas Reciprocating Engine 1
 EU 002 Natural Gas Reciprocating Engine 2
 EU 003 Natural Gas Reciprocating Engine 3
 EU 004 Natural Gas Reciprocating Engine 4

What to do	Why to do it
EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 0.50 lbs/million Btu heat input (met by equipment design - engines only burn natural gas, PTE of each is approximately 0.0006 lb/MMBtu).	Minn. R. 7011.2300, subp. 2
Opacity: less than or equal to 20 percent opacity once operating temperatures have been obtained. The averaging time for this limit is any ten consecutive seconds and the opacity limit applies to each individual emission unit.	Minn. R. 7011.2300, subp. 1
Nitrogen Oxides: less than or equal to 50.7 lbs/hour using 3-hour Average applies to each individual emission unit. (modeled limit)	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080
Allowed Fuel: Fuel is limited to natural gas only, by design.	Minn. R. 7005.0100, subp. 35a
Recordkeeping: The Permittee shall record each month by the 15th day, the type of fuel used in each engine.	Minn. R. 7007.0800, subp. 5
At the time of permit issuance, EUs 001, 002, 003 and 004 are considered existing affected sources under 40 CFR pt. 63, subp. ZZZZ as defined at 40 CFR Section 63.6590(a)(1)(i). However, these units meet the criteria in 40 CFR Section 63.6590(b)(3), so no limits, recordkeeping, or notifications from 40 CFR pt. 63, subp. ZZZZ apply to these units.	40 CFR Section 63.6590(a)(1)(i), and (b)(3); Minn. R. 7011.8150

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Northern Natural Gas Co - North Branch

Permit Number: 02500002 - 003

Subject Item: EU 006 Diesel generator

Associated Items: SV 006 Emergency generator

What to do	Why to do it
EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 0.50 lbs/million Btu heat input (met by equipment design - engine PTE based on AP-42 published emission factors is 0.29 lb/MMBtu).	Minn. R. 7011.2300, subp. 2
Opacity: less than or equal to 20 percent opacity once operating temperatures have been obtained. The averaging time for this limit is any ten consecutive seconds.	Minn. R. 7011.2300, subp. 1
Fuel types allowed: Diesel fuel, by equipment design.	Minn. R. 7005.0100, subp. 35a
Hours of Operation Recordkeeping: The Permittee shall maintain documentation on site that the unit is an emergency diesel generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1996, limiting operation to 500 hour per year.	Minn. R. 7007.0800, subp. 4 & 5
Recordkeeping: The Permittee shall record each month by the 15th day, the type of fuel used in the generator.	Minn. R. 7007.0800, subp. 5
OPERATIONAL REQUIREMENTS	hdr
National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE) Requirements, 40 CFR pt. 63, subp. ZZZZ.	hdr
The Permittee must comply with the applicable operating limitations no later than October 19, 2013.	40 CFR Section 63.6595(a)(1); Minn. R. 7011.8150
<p>EU006 must meet the following requirements, except during periods of startup:</p> <ol style="list-style-type: none"> 1. change oil and filter every 500 hours of operation or annually, whichever comes first; 2. inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and 3. inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. <p>Sources have the option to utilize an oil analysis program as described in 40 CFR Section 63.6625(i) in order to extend the specified oil change requirement. Sources can petition the Administrator pursuant to the requirements of 40 CFR Section 63.6(g) for alternative work practices.</p>	40 CFR Section 63.6602; Minn. R. 7011.8150
<p>The Permittee must at all times:</p> <p>(a) Be in compliance with the operating requirements that apply to you.</p> <p>(b) Operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.</p>	40 CFR Section 63.6605; Minn. R. 7011.8150
The Permittee must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:	40 CFR Section 63.6625(e); Minn. R. 7011.8150
The Permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup apply.	40 CFR Section 63.6625(h); Minn. R. 7011.8150

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Northern Natural Gas Co - North Branch

Permit Number: 02500002 - 003

<p>The Permittee must operate the emergency stationary RICE according to the requirements in (1)(i) through (iii) of 40 CFR Section 63.6640(f). Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of 40 CFR Section 63.6640(f), the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines. The requirements in (f)(1)(i) through (iii) are as follows: (i). There is no time limit on the use of emergency stationary RICE in emergency situations. (continued below)</p>	<p>40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150</p>
<p>(continued from above) (ii). You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. (iii). You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. (continued below)</p>	<p>40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150</p>
<p>(continued from above) The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. (continued below)</p>	<p>40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150</p>
<p>(continued from above) The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this 40 CFR Section 63.6640 (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.</p>	<p>40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150</p>
<p>MONITORING AND COMPLIANCE REQUIREMENTS</p>	<p>hdr</p>
<p>The Permittee must install a non-resettable hour meter if one is not already installed.</p>	<p>40 CFR Section 63.6625(f); Minn. R. 7011.8150</p>
<p>The Permittee has the option of utilizing an oil analysis program in order to extend the specified oil change every 500 hours of operation or annually, whichever comes first. The oil analysis must be performed at the same frequency specified for changing the oil. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. (continued below)</p>	<p>40 CFR Section 63.6625(j); Minn. R. 7011.8150</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Northern Natural Gas Co - North Branch

Permit Number: 02500002 - 003

<p>(continued from above)</p> <p>If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.</p>	<p>40 CFR Section 63.6625(j); Minn. R. 7011.8150</p>
<p>The Permittee must demonstrate continuous compliance with each emission limitation and operating limitation that apply to you according to methods specified below. The Permittee must demonstrate compliance with the Work or Management Practices as follows:</p> <p>(i). Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or</p> <p>(ii). Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.</p>	<p>40 CFR Section 63.6640(a); Minn. R. 7011.8150</p>
<p>RECORDKEEPING</p>	<p>hdr</p>
<p>The Permittee shall keep records:</p> <p>(1) A copy of each notification and report that you submitted to comply with 40 CFR pt. 63, subp. ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in 40 CFR Section 63.10(b)(2)(xiv).</p> <p>(2) Records of the occurrence and duration of each malfunction of operation (i.e. process equipment) or the air pollution control and monitoring equipment.</p> <p>(3) Records of all required maintenance performed on the air pollution control and monitoring equipment.</p> <p>(c) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR Section 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.</p>	<p>40 CFR Section 63.6655(a); Minn. R. 7011.8150</p>
<p>The Permittee shall keep records of the Work or Management Practices required in Table 6 of 40 CFR pt. 63, subp. ZZZZ to show continuous compliance with each operating requirement that applies to you.</p>	<p>40 CFR Section 63.6655(d); Minn. R. 7011.8150</p>
<p>The Permittee shall keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan.</p>	<p>40 CFR Section 63.6655(e); Minn. R. 7011.8150</p>
<p>The Permittee shall keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.</p>	<p>40 CFR Section 63.6655(f)(1); Minn. R. 7011.8150</p>
<p>The Permittee shall keep records as follows:</p> <p>(a). Your records must be in a form suitable and readily available for expeditious review according to 40 CFR Section 63.10(b)(1).</p> <p>(b). As specified in 40 CFR Section 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.</p> <p>(c). You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR Section 63.10(b)(1).</p>	<p>40 CFR Section 63.6660(a)-(c); Minn. R. 7011.8150</p>
<p>REPORTING REQUIREMENTS</p>	<p>hdr</p>
<p>The Permittee must report each instance in which you did not meet each operating requirement that applies to you. These instances are deviations from the emission and operating limitations in 40 CFR pt. 63, subp. ZZZZ. These deviations must be reported according to the requirements in 40 CFR Section 63.6650.</p>	<p>40 CFR Section 63.6640(b); Minn. R. 7011.8150</p>
<p>Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR Sections 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A).</p>	<p>40 CFR 63.6650(f); Minn. R. 7011.8150</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-9 08/02/11

Facility Name: Northern Natural Gas Co - North Branch

Permit Number: 02500002 - 003

Subject Item: EU 007 Natural Gas-Fired Boiler**Associated Items:** SV 007 Boiler

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.60 lbs/million Btu heat input using 3-hour Average The PTE is 0.00760 lb/MMBtu based on equipment design and allowable fuel.	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
Allowable Fuel: Fuel used is limited to natural gas only, by design	Minn. R. 7005.0100, subp. 35a
The Permittee shall comply with 40 CFR pt. 63, subp. DDDDD when the rule becomes effective.	Minn. R. 7007.0400, subp. 3, Minn. R. 7007.1400, subp. 1(F)

TABLE B: SUBMITTALS

B-1 08/02/11

Facility Name: Northern Natural Gas Co - North Branch
Permit Number: 02500002 - 003

Also, where required by an applicable rule or permit condition, send to the Permit Document Coordinator notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

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

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

Send submittals that are required 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 any application for a permit or permit amendment to:

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

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

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

B-2 08/02/11

Facility Name: Northern Natural Gas Co - North Branch

Permit Number: 02500002 - 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 08/02/11

Facility Name: Northern Natural Gas Co - North Branch

Permit Number: 02500002 - 003

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 11/05/1997. 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 11/05/1997 (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX B**Facility Name: Northern Natural Gas Co - North Branch****Permit Number: 02500002-003****Insignificant Activities and General Applicable Requirements**

The table below lists the insignificant activities that are currently at the facility and their associated general applicable requirements.

Minn. R. 7007.1300 subpart	Rule Description of the Activity	General Applicable Requirement
3(H)(2)	Equipment used for hydraulic or hydrostatic testing <i>Equipment for hydraulic and hydrostatic testing.</i>	Minn. R. 7011.0710/0715
3(H)(3)	Brazing, soldering or welding equipment <i>Welding equipment. Approximately 200 lb of electrode is consumed during arc welding.</i>	Minn. R. 7011.0510/.0515; Minn. R. 7011.0610 and Minn. R. 7011.0710/0715
3(J)	Fugitive emissions from unpaved roads and parking lots <i>Unpaved roads and a parking lot.</i>	Minn. R. 7011.0150
3(K)	Infrequent use of spray painting equipment for routine housekeeping or plant upkeep activities not associated with primary production processes <i>Equipment for maintenance painting of piping, emission stacks, and other equipment.</i>	Minn. R. 7011.0710/0715

Minn. R. 7007.1300 subpart	Rule Description of the Activity	General Applicable Requirement
4	<p>Individual emissions units at a stationary source, each of which has:</p> <p>A. Potential emissions of 5.7 pounds per hour or actual emissions of two tons per year of carbon monoxide;</p> <p>B. Potential emissions of 2.28 pounds per hour or actual emissions of one ton per year for particulate matter, particulate matter less than ten microns, nitrogen oxide, sulfur dioxide, and VOCs; and</p> <p>C. For hazardous air pollutants, emissions units with:</p> <p>(1) potential emissions of 25 percent or less of the hazardous air pollutant thresholds listed in subp. 5; or</p> <p>(2) combined HAP actual emissions of one ton per year unless the emissions unit emits one or more of the HAPs listed in this subpart.</p> <p>D. Potential emissions up to 10, 000 tons per year or actual emissions up to 1,000 per year CO₂e.</p> <p><i>Nine (9) space heaters with a total rated heat input of 1.205 MMBtu/hour</i></p> <p><i>Sandblasting equipment used to prepare surfaces for painting.</i></p>	<p>Minn. R. 7011.0510/0515</p> <p>Minn. R. 7011.0710/0715</p>

APPENDIX C

Facility Name: Northern Natural Gas Company - North Branch

Permit Number: 02500002-003

NOx Modeled Parameters Relied Upon to Demonstrate Compliance with National Ambient Air Quality Standards (NAAQS)

Source ID	Allowed Fuel	Potential NO_x Emission Rate (lb/hr)	Stack Height (ft)	Stack Exit Diameter (ft)	Exhaust Gas Temperature (°F)	Exhaust Gas Flow Rate (acfm)
EU001	Natural gas	50.7	31.99	1.31	630	9193.9
EU002	Natural gas	50.7	31.99	1.31	630	9193.9
EU003	Natural gas	50.7	31.99	1.31	630	9193.9
EU004	Natural gas	50.7	31.99	1.31	630	9193.9

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 02500002-003

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, subpart 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the determination to issue the permit.

1. General Information

1.1 Applicant and Stationary Source Location:

Table 1. Applicant and Source Address

Applicant/Address	Stationary Source/Address (SIC Code: 4922)
Northern Natural Gas Company 1120 Centre Pointe Drive, Suite 400 Mendota Heights, MN 55120	Northern Natural Gas Company – North Branch 6579 420th Street North Branch, MN 55056 Chisago County
Contact: Dave Nickel, Division Environmental Specialist Phone: (651) 456-1740	

1.2 Facility Description

Northern Natural Gas Company operates a compressor station in North Branch to pressurize natural gas in order to facilitate its transmission through the pipeline system. The facility was built in 1966. The North Branch facility consists of four (4) natural gas-fired reciprocating engines to drive the pipeline natural gas compressors (all four are Worthington ML-7 2-stroke lean burn engines rated at 2,000 horsepower), a diesel-fired emergency generator (a Kohler D300 engine rated at 462 horsepower), and a natural gas-fired boiler rated at 3.35 MMBtu/hr. The compressors pressurize the natural gas in the pipeline causing it to flow to the next compressor station. The primary emissions are nitrogen oxides (NO_x) and greenhouse gases (CO₂e) from the reciprocating engines. Emissions are not controlled. The facility also has equipment that qualifies as insignificant activities under Minn. R. 7007.1300, subparts 3 and 4.

1.3 Description of any Changes Allowed with this Permit Issuance

In this permit reissuance, EU 005 (the natural gas-fired auxiliary generator engine), has been removed from service and is removed from the list of permitted facilities. Federal NESHAP requirements for the emergency generator and boiler have been added. The permit was updated to reflect current MPCA templates and standard citation formatting.

1.4 Description of All Amendments Issued Since the Issuance of the Last Total Facility Permit and to be included in the Part 70 Permit

No amendments have been issued since the reissuance of the Total Facility Operating Permit (permit number 02500002-002) on May 24, 2006.

1.5 Facility Emissions:

Table 2. Total Facility Potential to Emit Summary

	PM tpy	PM ₁₀ tpy	PM _{2.5} tpy	SO ₂ tpy	NO _x tpy	CO tpy	CO _{2e} tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	14	14	14	0.46	895	111	41,938	34	15	22
Total Facility Actual Emissions (2008)	4.3	4.3	*	0.08	280	34	*	11	*	

*Not reported currently in the emission inventory

Table 3. Facility Classification

Classification	Major/Affected Source	Synthetic Minor/Area	Minor/Area
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. No changes are authorized by this permit.

Part 70 Permit Program

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

New Source Performance Standards (NSPS)

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

The requirements of 40 CFR Part 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, are not applicable to the diesel-fired emergency generator engine (EU 006) at this source because, pursuant to 40 CFR

60.4200(a)(2)(i), this engine was manufactured prior to April 1, 2006 and is not a fire pump engines.

The requirements of 40 CFR Part 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, are not applicable to the four spark-ignition internal combustion engines (EU 001 – EU 004) at this source because, pursuant to 40 CFR 60.4320(a)(4), these stationary spark-ignition internal combustion engines commenced construction prior to June 12, 2006, and have not been reconstructed or modified since that time.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility is an existing major source under 40 CFR Part 63 because the potential to emit of a single HAP (formaldehyde) from this source is greater than 10 tons per year.

40 CFR Part 63, Subpart HHH - National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities

The facility does not currently have any glycol dehydration units. Pursuant to 40 CFR 63.1270(c), since this facility does not contain an affected source [a glycol dehydration unit], it is not subject to the requirements of this subpart.

40 CFR Part 63, Subpart ZZZZ- National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines:

The source is subject to the requirements of 40 CFR Part 63, Subpart ZZZZ- National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) because, pursuant to 40 CFR 63.6585, the Permittee owns or operates a stationary RICE at a major or area source of HAP emissions.

EU001, EU002, EU003, and EU004 are 2-stroke lean burn engines with a rating of 2,000 brake horsepower each. The requirements of 40 CFR Part 63, Subpart ZZZZ- National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) are not applicable to EU001, EU002, EU003, and EU004 because, pursuant to 40 CFR 63.6590(b)(3)(i), these engines are existing spark-ignition 2-stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 HP located at a major source of HAP emissions.

EU006 is a diesel-fired emergency generator engine with a rating of 462 brake horsepower. Pursuant to 40 CFR 63.6590(a)(1)(ii), this stationary RICE is an existing stationary RICE subject to this subpart because it: has a site rating of less than or equal to 500 brake HP, is located at a major source of HAP emissions, commenced construction prior to June 12, 2006, and has not been reconstructed since that time. EU006 is subject to subpart ZZZZ.

40 CFR Part 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

This rule was stayed, effective May 18, 2011; therefore, the Permittee is not required to comply with this Subpart DDDDD at this time. The Permittee will comply with the rule when it becomes effective.

Compliance Assurance Monitoring (CAM)

Since no control equipment is utilized to meet applicable emission limits, CAM does not apply.

Environmental Review & AERA

No new significant emission units are being added in this permit action, and emissions of pollutants are not expected to increase. Therefore, this permit reissuance is not subject to environmental review and is not required to perform an Air Emissions Risk Analysis (AERA).

Minnesota State Rules

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

- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines
- Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment

Table 4. Regulatory Overview of Facility

Level ₁	Applicable Regulations	Comments:
Total Facility (TF)	Minn. R. chs. 7002, 7007, 7009, 7019, 7030 ²	Table A of this permit contains some requirements that apply to some facilities in Minnesota. Reporting and monitoring requirements are contained in Table B of this permit.
TF	40 CFR pt. 50; Minn. R. Stat. Section 116.07; Minn. R. 7007.0100; Minn. R. 7009.0010-7009.0080	Modeling requirements to ensure that emissions do not cause a violation of the national ambient air quality standards (NAAQS)
EU001 – EU004	Minn. R. 7011.2300	Reciprocating Engines Standards of Performance for Stationary Internal Combustion Engines – opacity and SO ₂
	40 CFR § 52.21 (k), Minn. R. 7007.3000; Minn. Stat. Section 116.07, subs. 4a & 9; Minn. R. 7007.0100, subs. 7(A), 7(L) & 7(M);	NOx limit was derived from computer dispersion modeling.

	Minn. R. 7007.0800, subps. 1, 2, &4; Minn. R. 7009.0010-7009.0080	
EU006	Minn. R. 7011.2300	Auxiliary Emergency Generator Standards of Performance for Stationary Internal Combustion Engines – opacity and SO ₂
EU007	Minn. R. 7011.0510	Boiler Standards of Performance for Existing Indirect Heating Equipment – particulate matter and opacity

¹Where the requirement appears in the permit (e.g., EU, SV, GP, etc.).

²This is a state-only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act. These permit requirements are mandated by state law rather than by the federal Clean Air Act. The language is to clarify the distinction between permit conditions that are required by federal law and those that are required by state law. State law requirements are not enforceable by U. S. EPA or by citizens under the federal Clean Air Act, but are fully enforceable by the MPCA and citizens under provisions of state law.

3. Technical Information

3.1 Calculations of Potential to Emit

Attachment I to this TSD contains detailed spreadsheets and supporting information prepared by the MPCA based on information provided by the Permittee. All emissions calculations are based on EPA approved emissions factors from AP-42 or manufacturer's data, fuels burned, and equipment capacity.

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

Table 5. Periodic Monitoring

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
EU001, EU 002, EU 003, EU 004,	SO ₂ ≤ 0.50 lb/MMBtu Opacity ≤ 20 % with exceptions (Minn. R. 7011.2300)	None	EU001 – EU004 are reciprocating engines burning pipeline natural gas. EPA defines “pipeline quality natural gas” as having a sulfur content of 0.5 grains per 100 standard cubic feet. The AP-42 emission factor for EU001 - EU004 is 0.00059 lb SO ₂ /MMBtu of fuel input, based on a fuel sulfur content of 0.2 grains of sulfur per 100 standard cubic feet. Based on AP-42 and natural gas sulfur content, the PTE of the unit is significantly less than the rule limit; therefore, it is highly unlikely that it could violate the applicable requirement.
EU006	SO ₂ ≤ 0.50 lb/MMBtu Opacity ≤ 20 % with exceptions (Minn. R. 7011.2300)	None	EU006 is an engine burning diesel fuel. Based on AP-42 and diesel fuel sulfur content, the PTE of this emission unit is 0.29 lb SO ₂ /MMBtu, which is less than the rule limit. Therefore, it is unlikely that this engine could violate the applicable requirement.
EU007	PM ≤ 0.60 MMBtu/hr, Opacity ≤ 20% with exceptions (Minn. R. 7011.0510)	None	EU007 is a boiler burning pipeline natural gas. The only permitted fuel is natural gas. Based on AP-42, the PTE of the unit is significantly less than the rule limit; therefore, it is highly unlikely that it could violate the applicable requirement.

3.3 Permit Organization

The permit meets the MPCA Delta Guidance for ordering and grouping of requirements.

3.4 Insignificant Activities

Northern Natural Gas Company – North Branch has several operations which are classified as insignificant activities. These are listed in Appendix B to the permit.

The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this Facility are only subject to general applicable requirements. Using the criteria outlined earlier in this TSD, the

following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities. See Attachment I to this TSD for PTE information for the insignificant activities.

Table 6. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Equipment used for hydraulic or hydrostatic testing <i>[hydraulic and hydrostatic testing equipment]</i>	PM, variable depending on airflow Opacity \leq 20% with exceptions (Minn. R. 7011.0710/0715)	While no known emissions estimation method exists for this equipment, based on general knowledge of how they operate, it is highly unlikely that this equipment could generate particulate matter. In addition, this equipment would be operated and vented directly into a building, so testing is not feasible.
Brazing, soldering or welding equipment <i>[welding equipment, approximately 200 pounds of electrode is consumed per year]</i>	PM, variable depending on airflow Opacity \leq 20% with exceptions (Minn. R. 7011.0710/0715)	For welding equipment, based on EPA published emissions factors, it is highly unlikely that the welding equipment could violate the applicable requirement. In addition, this unit is typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Blueprint copiers and photographic processes <i>[blueprint copiers]</i>	Opacity \leq 20% (Minn. R. 7011.0105/0110)	While no known emissions estimation method exists for these units, based on general knowledge of how they operate, it is highly unlikely that they could generate visible emissions. In addition, these units would be operated and vented directly into an office area, so monitoring or testing is not feasible.
Fugitive emissions from unpaved roads and parking lots <i>[unpaved roads and parking lot]</i>	All persons shall take reasonable precautions to prevent the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate. (Minn. R. 7011.0150)	For the unpaved roadways: based on short length of the roadway, it is highly unlikely that fugitive dust from the roadway would violate the applicable requirements.
Infrequent use of spray painting equipment for routine housekeeping or plant upkeep activities not associated with primary production processes <i>[painting of piping,</i>	PM, variable depending on airflow Opacity \leq 20% with exceptions (Minn. R. 7011.0710/0715)	For spray painting equipment: based on the paint-handling capacity of this equipment, it is highly unlikely that the spray painting equipment could violate the applicable requirement.

Insignificant Activity	General Applicable Emission limit	Discussion
<i>emission stacks, and other equipment]</i>		
Individual emission units, each of which have potential emissions less than 2.28 lbs/hr or actual emissions of one ton per year for NO _x , SO ₂ , PM, PM ₁₀ , and VOC, 25% or less of the HAP thresholds listed in Minn. R. 7007.1300, subpart 5, and 10,000 tons/yr or actual emissions up to 1,000 tons/yr CO ₂ e. <i>[insignificant natural gas-fired space heaters]</i>	PM ≤ 0.60 or 0.40 MMBtu/hr, depending on year constructed Opacity ≤ 20% with exceptions (Minn. R. 7011.0510/0515)	For the insignificant furnaces: based on the fuels used and EPA published emissions factors, it is highly unlikely that the insignificant space heaters could violate the applicable requirements.
Individual emission units, each of which have potential emissions less than 2.28 lbs/hr or actual emissions of one ton per year for NO _x , SO ₂ , PM, PM ₁₀ , and VOC, 25% or less of the HAP thresholds listed in Minn. R. 7007.1300, subpart 5, and 10,000 tons/yr or actual emissions up to 1,000 tons/yr CO ₂ e. <i>[sandblasting]</i>	PM, variable depending on airflow Opacity ≤ 20% with exceptions (Minn. R. 7011.0710/0715)	For the sandblasting equipment: based on the abrasive-handling capacity of the equipment used and EPA published emissions factors, it is unlikely that the insignificant sandblasting equipment could violate the applicable requirements.

3.5 Comments Received

Public Notice Period: June 15, 2011- July, 15, 2011

EPA 45-day Review Period: June 15, 2011- July 30, 2011

Comments were not received from the public during the public notice period. Comments were not received from EPA during their review period.

4. Permit Fee Assessment

This permit action is the reissuance of an individual Part 70 permit; therefore, no application fees apply under Minn. R. 7002.0016, subpart 1.

5. Conclusion

Based on the information provided by Northern Natural Gas Company – North Branch, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 02500002-003, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Amrill Okonkwo (permit writer/engineer)
Amanda Baynham, Eastern Research Group (contractor)
Stephen Treimel, Eastern Research Group (contractor)
Robert Beresford (enforcement)
Toni Volkmeier (peer reviewer)

AQ File No. 624D; DQ 3106

Attachments: 1. PTE Summary and Emissions Calculation Spreadsheets
2. Facility Description and CD-01 Forms
3. Points Calculator Spreadsheet

Attachment 1. PTE Summary and Emission Calculations
(Xcel Spreadsheet, paper copy only)

Attachment 2. Facility Description and CD-01 Forms
(Delta Printouts, paper copy only)

Attachment 3. Points Calculator
(Xcel Spreadsheet, paper copy only)



Minnesota Pollution Control Agency
Air Permit Tracking and Actions Summary

SCANNED

rev 12/08/03

AQ File No.: **624D** Facility ID No.: **02500002 DQ 3106**
 CDS No.: 066020002 Action Number: **003**
 Facility Name, Street Address, and County: **Northern Natural Gas Co - North Branch**
6579 420th St Chisago County
Harris, MN 55032 Metro Region
 Contact/Phone/Fax: **Mr. Ron Beldelman Dave Nickel** 651-456-1712 651-456-1740
 Mailing Information: 1120 Centre Pointe Dr Ste 400
 Mendota Heights, MN 55120
 SIC/Description: 4922 gas pipeline

DELTA FACILITY SIZE/PERMIT TYPE (check appropriate boxes)

Part 70	<input checked="" type="checkbox"/>	State	<input type="checkbox"/>
Part 70/NSR Authorization	<input type="checkbox"/>	Limits to avoid Part 70/Major for NSR	<input type="checkbox"/>
Part 70/Incorporates Existing NSR Conditions	<input type="checkbox"/>	True Minor for Part 70/Major for NSR	<input type="checkbox"/>
Part 70/Major for NSR	<input type="checkbox"/>	Limits to avoid Part 70/Limits to avoid NSR	<input type="checkbox"/>
Part 70/Limits to avoid NSR	<input type="checkbox"/>	Limits to avoid Part 70/True Minor for NSR	<input type="checkbox"/>
Part 70/True Minor for NSR	<input type="checkbox"/>	True Minor for Part 70/True Minor for NSR	<input type="checkbox"/>
		Other/Unknown	<input type="checkbox"/>

Minn. R. CHAPTER 7007 PERMIT ACTION (check appropriate box)

Total Facility
 Major Amendment
 Moderate Amendment
 Minor Amendment
 Administrative Amendment
 Other Reissuance
 Permit Number (from cover page): _____
 Existing Permit Expiration Date: _____

ACTIONS - PERMIT ENGINEER:

New Source Y N
 Modification to Source Y N
 Non Attainment Area Y N
 Emissions Increase from Permit Action (as defined by New Source Review):
 Major Synthetic Minor Natural Minor None Decrease

SIGNATURES:

Public Notice: Initials Date EPA Review: Initials Date Issuance: Initials Date
 Originator: ASD 5/31/2011 ASD 5/31/2011 ASD 8/2/2011
 Supervisor/Lead: CS 5/31/2011 CS 5/31/2011 CS 8/2/11
 Section/Division Mgr.: _____
 Permit effective on date of last signature, Public Notice effective on day after published date.

AQ File No.: **624D** Facility ID No.: **02500002**
 Facility Name: Northern Natural Gas Co - North Branch

ADDITIONAL REGULATORY PROGRAMS AND STANDARDS:

NSPS (40 CFR 60)	Y	<input checked="" type="radio"/> N	→ specify subpart: _____
NESHAP (40 CFR 63)	<input checked="" type="radio"/> Y	N	→ specify subpart: <u>2222 3 DDDDD</u>
SIP ORDER	Y	<input checked="" type="radio"/> N	→ specify pollutant: _____
AERA	Y	<input checked="" type="radio"/> N	→ (if Yes, what was result of AERA process _____ _____
EAW	Y	<input checked="" type="radio"/> N	→ Reason: _____ RGU: _____
EIS	Y	<input checked="" type="radio"/> N	→ Reason: _____ RGU: _____

ACTIONS TRACKING

	5/4/10		Entered into Permit Tracker	5/5/10
Application Received				
Public Notice	<u>6/15/2011</u>	(start)	<u>7/15/2011</u>	(end)
EPA 45-day review	<u>6/15/2011</u>	(start)	<u>7/30/2011</u>	(end)
Public Meeting	<u>/</u>	(date)		
Board Action	<u>/ N/A</u>	(date)		

ACTIONS - SUPPORT STAFF:

- _____ Original Tracking Sheet to AQ file w/permit
- _____ Copy of Application attached with all Registration & General Permits to AQ Permit File
- _____ Date permit locked and by whom

Peer Review Checklist

Facility Name: Northern Natural Gas Company-North Branch
Permit Number: 02500002-003 DQ Number: 3106
Permit Author: Contractor (Eastern Research Group)/ Amrill Okonkwo
Date Submitted for Review: 5/10/2011
Peer Reviewer: Toni Volkmeier
Date Review Completed: 5/10/11
All comments resolved to my satisfaction: TAV 5/10/11 (peer reviewer initials)

Permit Peer Review

1. Read TSD, including sample calculations *- IA space heaters - different category needed Done*
A TSD is adequate if the reviewer finds that they understand the type of facility, applicable requirements, type of permit, and special or unusual permit conditions just from the TSD. A thorough TSD makes review of the application unnecessary. Sufficient calculations must be attached so the Peer Reviewer can verify that calculations are done correctly. A CD-01 must also be attached.
2. Review permit *- IA space heaters should be moved to a different category (appendix) Done*
If the TSD is thorough and detailed and the permit done correctly, the Peer Reviewer will have no questions about the permit.
The Peer Reviewer may review the application as well if desired. *- Type @ EUCO Done*
 Application reviewed
3. Review EAW/EIS applicability *NA*
Check that EAW/EIS requirements were correctly assessed for construction permits.
4. Review Permit Shield language
If template language is not used, check for an explanation/documentation in the TSD.
5. Check Applicable Requirements; including NSR, NSPS, NESHAPS, CAM, RMP, Acid Rain
Check the adequacy of permit conditions for each of these applicable requirements, e.g., are synthetic minor conditions for NSR written properly
NA 112g applicability -- For construction permits, check applicability of 112g
 Compliance Certification -- for State permits, to be submitted ONLY to MPCA, i.e. edit standard Delta language as necessary
6. Check modeling requirements (policy, NAAQS, MAAQS, increments, EELs)
Check that modeling has been done, or the permit contains the appropriate modeling requirements
7. Check emission limits and compliance demonstration methods
Check that Compliance Demonstration methods are consistent with the associated limit, such as averaging times.
 Check Periodic Monitoring requirements

NA Check Performance testing requirements, especially for new APCE

8. Audit the Delta permit conditions

Check some of the permit conditions to verify that limits have been entered on the Limit Screen, Submittals on the S/A screen, etc.

9. Check that necessary documents are in Delta

The Technical Support Document and any other MPCA-generated documents that support the permit (e.g., spreadsheets) must be in Delta. If the permittee submitted an electronic version of their calculations, they should be copied into Delta as well.

10. Check the Permit Action Summary Form (Delta) for completeness

The permit action summary form must be complete and correct for future use of Delta to identify facilities with specific types of conditions.

11. Audit the information in the Delta Facility Description

The PTE entered on the tabs in the Facility Description must be consistent with the permit and TSD. Verify that emission unit, tanks, etc., have been revised and/or updated for the given permit action.

I think you retired the wrong SV (50006) should have retired 50005; now, 50006 does not show up as an associated item for 50006
Jane

12. For applicable projects, review the Points Calculator

Verify that the fees assessed are correct and clearly documented in the "Comments" column within the worksheet.

Verify that the version of the Fee Calculator in the Central File in Delta matches the one saved within the FeeTracking.xls workbook on the x drive.

NA 13. For **first permits** only – check Actual emissions for first-time invoice

For a first-time permit, actual emissions must be accurately estimated for the fee invoice.

Applicability Determination Peer Review

1. Read the Applicability Determination letter. Review other relevant materials as needed.

The determination letter should be thorough, including a reference to the date the MPCA received the request, a brief summary of the request, and a clear statement of the MPCA's determination. The statement should include key assumptions and qualifiers that were relied upon with references to critical definitions, criteria, and/or applicable requirements so that the basis for the determination is clear and logical.

Permit Tracking Report

Filter: ? Sort: ?

Trk Id:	3106	Record Active:	<input checked="" type="checkbox"/> Y	Proj Pickedup Target:	03/15/2011		
Preferred Id:	02500002	Proj Pickedup Actual:	<input checked="" type="checkbox"/> Y	03/15/2011			
Facility Name:	Northern Natural Gas Co - North Branch				Correct/Complete Application:	04/16/2011	
Action Code:	Reissuance Of Part 70	App Timely:	<input checked="" type="checkbox"/> Y	Project On Hold:			
Existing Operating Permit:	<input checked="" type="checkbox"/> Y	Current Permit Type Code:	Part 70 - TFP	Project Off Hold:			
Expire Date Current Permit:	03/14/2011	Resultant Permit#:	02500002-003	Site Visit:			
Project Rolled Into Other:	<input checked="" type="checkbox"/> N	Resultant Permit#:	02500002-003	Internal Meeting:			
Consulting Firm:	Rolled into Other Trk ID:				Public Meeting:		
MPCA Region/County:	St. Paul	Chisago	SIC Code:	4922	Board Meeting:		
Sector Group:	None	Six Sigma:	N	EAW/EIS Target:			
Speed Bumps:	<input checked="" type="checkbox"/> N	Funding Source:	REG	EAW/EIS Actual:			
Tribal?:	<input checked="" type="checkbox"/> N	Work Plan Year:	2012	Modeling Target:			
Permit Writer:	Okonkwo, Amrill				Modeling Actual:		
Contractor:	<input checked="" type="checkbox"/> Y	Name:	Eastern Research Group			Const Auth Target:	07/15/2011
Date of First Contact:		First Preapp Mtg:		Risk Manager Target:		Const Auth Actual:	07/15/2011
App Received:	05/04/2010	Date Assigned To Staff:		Risk Manager Actual:		Issuance Target:	07/29/2011
Admin Completion Done:	<input checked="" type="checkbox"/> N	Technical Completion Done:	<input checked="" type="checkbox"/> N	Resolve Compl Target:		Issuance Actual:	08/02/2011
Ready to be Assigned:		Application on Hold:	<input checked="" type="checkbox"/> N	Resolve Compl Actual:			
Comments:	(2) Contractor Permit Supplemental Information rec'd 12/8/10 bo. Permit Issued						
		1st Draft To Permittee Tgt:	05/20/2011				
		1st Draft To Permittee Act:	05/10/2011				
		Final Cmts Back Permittee:	05/19/2011				

Northern Natural Gas Co- North Branch (02500002-003)

Documentation expected to be in files at the start of public notice (in DELTA where indicated):

Sent to be filed?	Item
<input type="checkbox"/> NA <input checked="" type="checkbox"/> sent to be filed	Early project scheduling letter that includes standard procedures on communication and dispute resolution, and project schedule (OnBase and Delta);
<input type="checkbox"/> NA <input checked="" type="checkbox"/> sent to be filed	Notes/records of any significant information requests to permittee, how and basically what requested (OnBase, DELTA activity log – kept up-to-date during project);
<input type="checkbox"/> NA <input checked="" type="checkbox"/> sent to be filed	Permittee responses to above/note date of response (OnBase, DELTA activity log – kept up-to-date during project);
<input type="checkbox"/> NA <input type="checkbox"/> sent to be filed	Any other letters that revise project schedule (OnBase and Delta);
<input type="checkbox"/> NA <input checked="" type="checkbox"/> sent to be filed	Draft permit sent to the permittee (OnBase and cover letter in Delta also);
<input type="checkbox"/> NA <input checked="" type="checkbox"/> sent to be filed	Permittee responses to draft permit (OnBase and Delta if received electronically);
<input checked="" type="checkbox"/> NA <input type="checkbox"/> sent to be filed	Modeling information and data, if applicable (with the Permit Application and/or Modeling File(s), as appropriate);
<input checked="" type="checkbox"/> NA <input type="checkbox"/> sent to be filed	Air Emission Risk Analysis (AERA), if applicable (“RASS” Excel Workbook in Delta, salient excerpts attached to and summarized in TSD, as appropriate); and
<input checked="" type="checkbox"/> NA <input type="checkbox"/> sent to be filed	Risk Manager Memo and attachments, if applicable (attached to TSD and in Delta).

Additional File Content after Permit Issuance (for final Routing):

Sent to be filed?	Item
<input type="checkbox"/> NA <input checked="" type="checkbox"/> sent to be filed <input type="checkbox"/> in routing folder	Draft permit placed on public notice, EPA letter, and Public Notice (OnBase; EPA letter and electronic version of Public Notice in Delta also);
<input checked="" type="checkbox"/> NA <input type="checkbox"/> sent to be filed <input type="checkbox"/> in routing folder	Board Item, if applicable, including Board Agenda, Notice To Interested Parties, Issue Statement, proposed Findings of Fact, Conclusions of Law and Order, proposed staff resolution, as well as all attachments to the Board Item (OnBase and Delta); and
<input checked="" type="checkbox"/> NA <input type="checkbox"/> sent to be filed <input type="checkbox"/> in routing folder	Signed Findings of Fact, Conclusions of Law and Order, if applicable (OnBase and Delta if different from proposed).
<input type="checkbox"/> NA <input checked="" type="checkbox"/> sent to be filed <input type="checkbox"/> in routing folder	Final Certified Permit Application (with application in OnBase);
<input type="checkbox"/> NA <input checked="" type="checkbox"/> sent to be filed <input type="checkbox"/> in routing folder	Public comments and responses, if any (Letters and e-mails in OnBase if voluminous, otherwise attached to Technical Support Document (TSD)); Responses to Comments Document in OnBase – attached to TSD or Citizens' Board Item, if applicable – and Delta; and
<input type="checkbox"/> NA <input type="checkbox"/> sent to be filed <input checked="" type="checkbox"/> in routing folder	Final permit (and transmittal letter) and Technical Support Document and Board item, if applicable (OnBase and Delta);

Date when you sent "last materials" to be filed: |

The above are key components of the Administrative Record for the permit. In cases where controversy or litigation is anticipated, work early with the Attorney General's Office to coordinate development of the Administrative Record and an Index. Examples of other items to be included in the Record are guidance documents, Internet website printouts, maps, photographs, memos, technical reports, modeling input/out files on CD, e-mails, etc. It's important to date and file all items on an ongoing basis.