

**AIR EMISSION PERMIT NO. 01700019- 003**  
**(Part 70 Reissuance)**

**IS ISSUED TO**

**Northern Natural Gas Company**  
P.O. Box 3330  
Omaha, NE 68103-3300

For

**NORTHERN NATURAL GAS - CARLTON**  
1995 Northern Natural Gas Road  
Carlton, Carlton County, MN 55718

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

Permit Type	Application Date
Total Facility Operating Permit - Reissuance	08/17/2004, supplemented 10/26/2005

This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

**Permit Type:** Federal; Pt 70/Major for NSR

**Issue Date:** May 24, 2006

**Expiration:** May 24, 2011  
All Title I Conditions do not expire.

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

for Sheryl A. Corrigan  
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 the 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:**

Built in 1969, the Carlton Natural Gas Compressor Station is used to pressurize natural gas in order to facilitate its transmission through the pipeline system. The Facility consists of two natural gas-fired reciprocating engines and one auxiliary electrical generator. The Facility also has equipment that qualifies as insignificant activities under Minn. R. 7007.1300, subps. 3 and 4. These are listed in Appendix B of the permit.

The Facility is an existing major source under New Source Review, the Part 70 operating permit program, and the Part 63 National Emissions Standards for Hazardous Air Pollutants (NESHAPs).

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-1

05/24/06

Facility Name: Northern Natural Gas Co - Carlton

Permit Number: 01700019 - 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**

<b>What to do</b>	<b>Why to do it</b>
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"> <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>	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
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.	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"> <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>	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
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, supbs. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0100-7009.0080.
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

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

05/24/06

Facility Name: Northern Natural Gas Co - Carlton

Permit Number: 01700019 - 003

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)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
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
The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080. Compliance shall be demonstrated upon written request of the MPCA.	40 CFR pt. 50; Minn. Stat. Sec. 116.07, subds. 4a and 9; Minn. R. 7007.0100, subps. 7A, 7L and 7M; Minn. R. 7007.0800, subps. 1, 2, and 4; Minn. R. 7009.0010-7009.0080
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
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: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
PERFORMANCE TESTING	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
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
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.	Minn. R. 7017.2025
MONITORING REQUIREMENTS	hdr
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, 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)
RECORDKEEPING	hdr

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

05/24/06

Facility Name: Northern Natural Gas Co - Carlton

Permit Number: 01700019 - 003

Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original 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)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original 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(B)
REPORTING/SUBMITTALS	hdr
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3.  At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2.  At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	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
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
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****A-4**

05/24/06

Facility Name: Northern Natural Gas Co - Carlton

Permit Number: 01700019 - 003

**Subject Item:** EU 001 Auxiliary Electrical Generator**Associated Items:** SV 001 Auxiliary Electrical Generator

What to do	Why to do it
Fuel Usage: Natural gas only, by design.	Minn. R. 7005.0100, subp. 35a
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
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input . The potential emissions are 0.0006 lb/MMBtu based on equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2

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

05/24/06

Facility Name: Northern Natural Gas Co - Carlton

Permit Number: 01700019 - 003

**Subject Item:** EU 002 Gas Reciprocating Engine 1**Associated Items:** SV 002 Reciprocating Engine

What to do	Why to do it
Fuel Usage: Natural gas only, by design.	Minn. R. 7005.0100, subp. 35a
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
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input . The potential emissions are 0.0006 lb/MMBtu based on equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2



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

05/24/06

Facility Name: Northern Natural Gas Co - Carlton

Permit Number: 01700019 - 003

**Subject Item:** EU 003 Gas Reciprocating Engine 2**Associated Items:** SV 003 Reciprocating Engine

What to do	Why to do it
Fuel Usage: Natural gas only, by design.	Minn. R. 7005.0100, subp. 35a
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
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input . The potential emissions are 0.0006 lb/MMBtu based on equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2

**TABLE B: SUBMITTALS****B-1** 05/24/06

Facility Name: Northern Natural Gas Co - Carlton

Permit Number: 01700019 - 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

Facility Name: Northern Natural Gas Co - Carlton  
Permit Number: 01700019 - 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** 05/24/06

Facility Name: Northern Natural Gas Co - Carlton

Permit Number: 01700019 - 003

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. 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 following Permit Issuance (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**  
**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.

<b>Minn. R. 7007.1300 subp.</b>	<b>Rule Description of the Activity</b>	<b>General Applicable Requirement</b>
3(E)(2)	Non-hazardous air pollutant VOC storage tanks with a combined total tankage capacity of not more than 10,000 gallons of non-hazardous air pollutant VOCs and with a vapor pressure of not more than 1.0 psia at 60 degrees Fahrenheit.  <i>The Facility has a 2750-gallon tank for ethylene glycol that is a closed system. They were installed prior to 1973; therefore, no tank standards of performance apply.</i>	Minn. R. 7011.0710/0715
3(H)(2)	equipment used for hydraulic or hydrostatic testing  <i>The facility has equipment for hydraulic and hydrostatic testing.</i>	Minn. R. 7011.0710/0715
3(H)(3)	brazing, soldering or welding equipment  <i>The facility has welding equipment.</i>	Minn. R. 7011.0510/.0515; Minn. R. 7011.0610 and Minn. R. 7011.0710/0715
3(H)(4)	blueprint copiers and photographic processes  <i>The facility has blueprint copiers</i>	Minn. R. 7011.0105/0110 (opacity)
3(I)	Individual emissions units at a stationary source, each of which have a potential to emit the following pollutants in amounts less than:  1. 4,000 lbs/year of carbon monoxide; and  2. 2,000 lbs/year each of nitrogen oxide, sulfur dioxide, particulate matter, particulate matter less than ten microns, volatile organic compounds (including hazardous air pollutant-containing VOC), and ozone.  <i>The Facility has 3 furnaces and 1 boiler which burn natural gas as fuel. Combined, they total 1.726 MMBtu/hr; PTE for NO<sub>x</sub> = 0.75 tpy (the largest potential emission of a criteria pollutant).</i>	Minn. R. 7011.0510/0515

**APPENDIX B**  
**Insignificant Activities and General Applicable Requirements**

<b>Minn. R. 7007.1300 subp.</b>	<b>Rule Description of the Activity</b>	<b>General Applicable Requirement</b>
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><i>The Facility has an oil and water separator used to recycle lube oil in the plant. The maximum throughput of the oil/water mixture is about 500 gallons per year based on historical usage. Water vapor is emitted through a stack at the plant and the polyoxyalkylene oil is reused at the plant. The glycol is less than 0.1% in suspension before treatment.</i></p>	Minn. R. 7011.0710/0715

**APPENDIX C**  
**Modeled Parameters**

<b>Source ID</b>	<b>Stack/Vent ID</b>	<b>Stack Height (ft)</b>	<b>Stack Temp (°F)</b>	<b>Flow Rate (acfm)</b>	<b>Stack Diameter (ft)</b>	<b>NO<sub>x</sub> Emissions Rate (lb/hr)</b>
EU 001	001	10	560	914	0.3	3.76
EU 002	002	65	850	22099	2.5	101.4
EU 003	003	65	850	22099	2.5	101.4

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**AIR EMISSION PERMIT NO. 01700019-003**

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

**1. General Information**

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

<b>Facility Mailing &amp; Contact Address</b>	<b>Stationary Source/Address (SIC Code: 4922)</b>
Mr. Ron Beidelman 1650 82 <sup>nd</sup> Street W, Suite 1250 Bloomington, MN 55431 (952) 887-1712	NNG Company – Carlton 1995 Northern Natural Gas Road Carlton, MN 55718 Carlton County
<b>Owner Address</b>	
P.O. Box 3330, Omaha, NE 68103-3300	

**1.2. Description of the Permit Action**

Northern Natural Gas Company operates a natural gas compressor station in Carlton to pressurize natural gas in order to facilitate its transmission through the pipeline system. The facility was built in 1969. The main components of the Carlton facility consist of an auxiliary building which houses an office and maintenance shop area, and the compressor building which houses two natural gas-fired reciprocating compressor engines. The largest emissions are nitrogen oxides (NO<sub>x</sub>) from the reciprocating engines.

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

This permit does not authorize any changes or increases in emissions.

**1.4 Description of All Amendments to be Included in the Part 70 Permit**

There have been three administrative amendment applications submitted for changes to responsible official. These are summarized in Table 1 below.

**Table 1. Permit Amendment Description**

<b>Permit Number and Issuance Date</b>	<b>Action Authorized</b>
NA	Administrative Amendment Application received 12/19/01 to change the name of the legally responsible official.
NA	Administrative Amendment Application received 7/17/02, to change the name of the legally responsible official.
NA	Administrative Amendment Application received 11/4/02, to change



Permit Number and Issuance Date	Action Authorized
	the name of the legally responsible official.

## 1.5. Facility Emissions:

**Table 2. 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	10.8	10.8	0.17	905	136	33.8	15.6	22.4
Total Facility Actual Emissions (2004)	0.85	0.85	0.01	55.7	6.8	2.1	HAPs not reported in emission inventory	

**Table 3. Facility Classification**

Classification	Major/Affected Source	Synthetic Minor	Minor
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.

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

The facility is an existing major source under 40 CFR pt. 63. EU001 is an emergency stationary RICE, and EU002 and EU003 are existing 2-cycle lean burn stationary RICEs. Under 40 CFR §63.6590(b)(3), “A stationary RICE which is an existing spark ignition 2 stroke lean burn (2SLB) stationary RICE, an existing spark ignition 4 stroke lean burn (4SLB) stationary RICE, an existing compression ignition (CI) stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, does not have to meet the requirements of this subpart and of subpart A of this part. No initial notification is necessary.”

Although the Permittee indicated in the permit application that the facility would be subject to 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, the only such units at the facility are “existing

small gaseous fuel boilers and process heaters” (40 CFR 63.7506(c)(3)). 40 CFR 63.7506(c) states that “The affected boilers and process heaters listed in paragraphs (c)(1) through (4) of this section are not subject to the initial notification requirements in Sec. 63.9(b) and are not subject to any requirements in this subpart or in subpart A of this part (i.e., they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSM plans, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart, or any other requirements in subpart A of this part).”

#### Compliance Assurance Monitoring (CAM)

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

#### 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

**Table 4. Regulatory Overview of Facility**

EU, GP, or SV	Applicable Regulations	Comments:
EU 001	Minn. R. 7011.2300	<p>Auxiliary Generator</p> <ul style="list-style-type: none"> <li>• Standards of performance for stationary internal combustion engines – opacity and SO<sub>2</sub></li> <li>• Burning pipeline-quality natural gas therefore no additional compliance demonstration required</li> </ul>
EU 002, EU 003	Minn. R. 7011.2300	<p>Reciprocating Engines</p> <ul style="list-style-type: none"> <li>• Standards of performance for stationary internal combustion engines – opacity and SO<sub>2</sub></li> <li>• Burning pipeline-quality natural gas therefore no additional compliance demonstration required</li> </ul>

### **3. Technical Information**

#### **3.1 Calculations of Potential to Emit**

Attachment 1 of this TSD contains detailed spreadsheets and supporting information prepared by both the Permittee and the MPCA. 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**

<b>Emission Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
EU001, EU002, EU003	SO <sub>2</sub> ≤ 0.5 lb/MMBtu Opacity ≤ 20 % with exceptions (Minn. R. 7011.2300)	None	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.

### 3.3 Insignificant Activities

NNG 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.

**Table 6. Insignificant Activities**

<b>Insignificant Activity</b>	<b>General Applicable Emission limit</b>	<b>Discussion</b>
Fuel use: space heaters fueled by, kerosene, natural gas, or propane	PM ≤ 0.6 or 0.4, depending on year constructed Opacity ≤ 20% with exceptions (Minn. R. 7011.0510/515)	For this unit, based on the fuels used and EPA published emissions factors, it is highly unlikely that it could violate the applicable requirement. In addition, these types of units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Equipment used for hydraulic or hydrostatic testing	PM, variable depending on airflow Opacity ≤ 20% (Minn. R. 7011.0710/715)	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 particulate matter. In addition, these units would be operated and vented directly into a building, so testing is not feasible.
Brazing, soldering or	PM, variable depending	For these units, based on EPA published

<b>Insignificant Activity</b>	<b>General Applicable Emission limit</b>	<b>Discussion</b>
welding equipment	on airflow Opacity $\leq$ 20% (Minn. R. 7011.0710/715)	emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Individual units with actual emissions less than 2000 lb/year of certain pollutants	SO <sub>2</sub> < 0.5 lb/MMBtu Opacity $\leq$ 20% (Minn. R. 7011.2300)	For these units, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirements.

### **3.4 Permit Organization**

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

### **3.5 Comments Received**

Public Notice Period: 4/6/06 – 5/5/06

EPA 45-day Review Period: 4/6/06 – 5/22/06

Comments were not received from the public during the public notice period.

Comments were not received from EPA during their review period.

## **4. Conclusion**

Based on the information provided by Northern Natural Gas, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 01700019-003 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: Margaret Bartz/Toni Volkmeier (permit writers/engineers)  
Bob Beresford (enforcement)  
Bonnie Nelson (peer reviewer)

Attachments: 1. PTE Summary and Calculation Spreadsheets  
2. Modeling Information  
3. Facility Description and CD-01 Forms