

**AIR EMISSION PERMIT NO. 02500002- 001
IS ISSUED TO**

Northern Natural Gas Company

Northern Natural Gas - 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 are as described in the following permit application:

Permit Type

Total Facility Operating Permit

Application Date

September 15, 1995

This permit authorizes the permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The permittee must comply with all the conditions of the permit and with all general conditions listed in Minn. R. 7007.0800, [and all standard permit requirements listed in 40 CFR § 70.6\(a\)](#) which are incorporated by reference. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit as defined in the state Air Pollution Control rules unless the term is explicitly defined in the permit.

Permit Type: Federal; PSD/NSR

Issue Date: November 5, 1997

Expiration: November 5, 2002

All Title I Conditions do not expire.

Michael J. Sandusky
Acting Division Manager
Air Quality Division

for Peder A. Larson
Commissioner
Minnesota Pollution Control Agency

BJN:yma

TABLE OF CONTENTS

Notice to the Permittee

Permit Shield

Facility Description

Table A: Limits and Other Requirements

Table B: Submittals

NOTICE TO THE PERMITTEE:

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

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

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

Questions about this Air Emission Permit or about Air Quality requirements can also be directed to the telephone numbers and address listed above.

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Any requirements which have been determined not to apply are listed in Table A of this permit.

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

FACILITY DESCRIPTION:

The North Branch Compressor Station is used to pressurize natural gas in order to facilitate its transmission through the pipeline system. In operation since 1966, the facility consists of four natural gas-fired reciprocating engines to drive the pipeline natural gas compressors, a natural gas-fired emergency generator and insignificant sources of emissions such as space heaters and a small boiler.

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/05/97

Facility Name: Northern Natural Gas - North Branch

Permit Number: 02500002 - 001

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

Subject Item: Total Facility

What to do	Why to do it
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017
Operating and/or production limits will be placed on emission units based on operating conditions during compliance testing. Limits set as a result of a compliance test (conducted before or after permit issuance) apply until new operating/production limits are set following formal review of a performance test as specified by Minn. R. 7017.2025.	Minn. R. 7017.2025
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, 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)
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
Shutdowns: Notify the Commissioner at least 24 hours in advance of shutdown of any process or control equipment if the shutdown would cause an increase in the emission of air contaminants. At the time of notification, notify the Commissioner of the cause of the shutdown and the estimated duration. Notify the Commissioner again when the shutdown is over.	Minn. R. 7019.1000, subp. 1
Breakdowns: Notify the Commissioner immediately of a breakdown of more than one hour duration of any process or control equipment if the breakdown causes an increase in the emission of air contaminants. At the time of notification or as soon thereafter as possible, the permittee shall also notify the Commissioner of the cause of the breakdown and the estimated duration. Notify the Commissioner again when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Oral Notification of Deviations Endangering Human Health or the Environment: Within 24 hours of discovery, orally notify the Commissioner of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7007.0800, subp. 6(A)
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)
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Record keeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/05/97

Facility Name: Northern Natural Gas - North Branch

Permit Number: 02500002 - 001

Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not federally enforceable.	Minn. R. 7030.0010 - 7030.0080
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16
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

11/05/97

Facility Name: Northern Natural Gas - North Branch
Permit Number: 02500002 - 001

Subject Item: GP 001 Internal Combustion Engines
Associated Items: EU 001 Natural Gas-Fired Reciprocating Engine Unit 1
EU 002 Natural Gas-Fired Reciprocating Engine Unit 2
EU 003 Natural Gas-Fired Reciprocating Engine Unit 3
EU 004 Natural Gas-Fired Reciprocating Engine Unit 4
EU 005 Natural Gas-Fired Auxiliary Generator

What to do	Why to do it
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

TABLE B: SUBMITTALS

11/05/97

Facility Name: Northern Natural Gas - North Branch
Permit Number: 02500002 - 001

Table B lists the submittals you must send to the Commissioner. Table B is divided into two sections, for source-specific submittal requirements and for submittals required of all permittees. Source-specific submittals are further organized as either one-time only or recurrent requirements. You may also be subject to additional reporting requirements contained in the compliance schedule located in Table C of this permit. All submittals must be postmarked or received by the date specified in the table, and certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Submittals which must be provided on standardized forms approved by the Commissioner are noted in Tables B and C.

Send any application for a permit or permit amendment to: Permit Information Coordinator, Permit Section, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4914. Also send the Permit Information Coordinator notices of: accumulated insignificant activities, installation of control equipment, replacement of an emissions unit, and changes that contravene a permit term.

Send all other submittals to: Compliance Tracking Coordinator, Compliance Determination Unit, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

11/05/97

Facility Name: Northern Natural Gas - North Branch

Permit Number: 02500002 - 001

What to send	When to send	Portion of Facility Affected
Computer Dispersion Modeling Protocol	due 1,096 days after Permit Issuance . This protocol will describe the proposed modeling methodology and input data, in accordance with all requirements of 40 CFR pt. 51, Appendix W.	Total Facility
Computer Dispersion Modeling Results	due 1,462 days after Permit Issuance to be submitted after the MPCA has reviewed and approved the modeling protocol.	Total Facility
Report	due 2 days after Discovery of Deviation (Discovery of Deviations Endangering Human Health or the Environment Report (written)), submit a written description of any deviations endangering human health or the environment to the Commissioner. Include the following information in this written description: cause of the deviation; exact dates of the period of the deviation; if the deviation has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Total Facility

TABLE B: RECURRENT SUBMITTALS

11/05/97

Facility Name: Northern Natural Gas - North Branch

Permit Number: 02500002 - 001

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31.	Total Facility
Compliance Certification	due 30 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. The report covers all deviations experienced during the calendar year.	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance (April 1). To be submitted on a form approved by the Commissioner.	Total Facility

TECHNICAL SUPPORT DOCUMENT
For Northern Natural Gas Company (624D)
DRAFT AIR EMISSION PERMIT NO. 02500002-001

This technical support document is for all the interested parties of the draft permit. The purpose of this document is to set forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory or regulatory provisions.

1. General

1.1. Applicant and Stationary Source Location:

Contact/Address	Stationary Source/Address (SIC Code: 4922)
Mr. Ronald Beidelman	Northern Natural Gas Company
Division Environmental Specialist	North Branch Compressor Station
1600 West 82nd Street, Suite 210	6579 420th St.
Minneapolis, MN 55431	North Branch, MN 55056

Owner/Address	
Mr. Gary P. Smith, V.P. Operations	
Northern Natural Gas Company	
7055 Vista Dr. Bristol Building	
West Des Moines, IA 50266	

1.2. Description Of The Facility

Facility Description: The North Branch Compressor Station is used to pressurize natural gas in order to facilitate its transmission through the pipeline system. In operation since 1966, the facility consists of four natural gas-fired reciprocating engines to drive the pipeline natural gas compressors, a natural gas-fired emergency generator and insignificant sources of emissions such as space heaters and a small boiler. Emissions from these engines exceed PSD thresholds, and the facility is considered a major source. There have been no significant modifications at the facility since 1966.

1.2.5 Description of Permit Action

Permit Action - 1997: The facility will be issued their Title V total facility permit based upon their application received 9/15/95. The permit will require the facility to conduct a modeling exercise for NO_x impacts on ambient air quality.

1.3. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

EU #	SV#	Emission Unit Description	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	VOC tpy	Pb tpy	CO tpy	HAPs tpy
001	001	Reciprocating Engine	0.0008	0.0008	0	189.22	7.71	0	106.52	NA
002	002	Reciprocating Engine	0.0008	0.0008	0	189.22	7.71	0	106.52	NA
003	003	Reciprocating Engine	0.0008	0.0008	0	189.22	7.71	0	106.52	NA
004	004	Reciprocating Engine	0.0008	0.0008	0	189.22	7.71	0	106.52	NA
005	005	Emergency Generator	0.00	0.00	0	12.70	0.18	0	10.92	NA

Total Facility Limited Potential Emissions*	0.003	0.003	0	769.58	31.02	0	437.0	NA
Total Facility Actual Emissions**	0.95	0.95	0.06	319.22	7.79	0	40.39	NA

*These are the limited potential emissions from column 3 in GI-07. These total emissions numbers are what would appear in a public notice.

**These were determined from 1995 emissions inventory data and a letter dated 4/7/97 from Ron Beidelman. The emissions inventory may use different emissions factors than those used in the permit application.

Table 2. Facility(TF) and Permit Classification

Classification (put x in appropriate box)	Major/Affected Source	*Synthetic Minor	*Minor
PSD (list pollutant)	NO _x , CO		
NAAR (list pollutant)			x
Part 70 Permit Program (list pollutant)	NO _x , CO		

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

2. Regulatory and/or Statutory Basis

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

Regulatory Overview of Facility

The purpose of this table is to give a summary overview of the significant sources of emissions and the applicable regulations and standards(e.g., NEHSAPS, NSPS.Title I conditions, special operating parameters

*EU, GRP, or SV #	Applicable Regulations	**Comments:
FC	Minn. R. 7009 and 40 CFR pt. 50	Since facility is a major source of NO _x , they must submit a dispersion modeling protocol and results.
FC	Minn. R. 7009 and 40 CFR pt. 50	Records will be maintained at the facility
GP 001 (inc. EU 001 - 005)	Minn. R. 7011.2300	Standards of Performance for Internal Combustion Engines <ul style="list-style-type: none">• Applies to reciprocating engines and emergency generator• SO_x limit does not apply as the facility is located outside the MSP AQ Control Region• Emission limit put at group level to simplify permit. As the facility engines only burn natural gas, it is not expected that this limit would ever be violated, nor needed to be tracked individually.

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

** Comments column is for name of the regulation, citations that need further explanation, and to include essential data used to determine the applicability of that particular regulations, standard or permit condition.

3. Technical Information

STACK/VENT I.D.: 001 - 005

EMISSION UNIT: 001 - 005 - Reciprocating Engines

Emission Factor Comparison

Comments: Permittee used AP-42 to calculate potential emissions

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. 02500002-001 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Attachments:

Staff Members on Permit Team:

Draft permit (GI and CD forms)
EC forms and supporting documents

Bonnie J. Nelson, P.E.
Marshall Cole
Stuart Arkley