

**AIR EMISSION PERMIT NO. 01700019-001
IS ISSUED TO**

Northern Natural Gas Company

Northern Natural Gas - Carlton
225 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 application(s):

Permit Type	Application Date
Total Facility Operating Permit	09/15/1995

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. 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: Part 70/Major for NSR

Issue Date: February 24, 2000

Expiration: February 24, 2005

All Title I Conditions do not expire.

	<u>Ann Foss</u>
for	Rodney Massey Manager South District
for	Karen A. Studders Commissioner Minnesota Pollution Control Agency

BN:dms

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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's) 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	(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.

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, one auxiliary electrical generator, three furnaces and one boiler for space heating, a 2,750-gallon ethylene glycol storage tank and a 1,034-gallon lubricating oil storage tank.

TABLE A: LIMITS AND OTHER REQUIREMENTS

02/24/00

Facility Name: Northern Natural Gas - Carlton

Permit Number: 01700019 - 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
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.	Minn. R. 7017.2025
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, 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
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

02/24/00

Facility Name: Northern Natural Gas - Carlton

Permit Number: 01700019 - 001

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
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)
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 enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

02/24/00

Facility Name: Northern Natural Gas - Carlton

Permit Number: 01700019 - 001

Subject Item: SV 001 Auxiliary Electrical Generator**Associated Items:** EU 001 Auxiliary Electrical 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.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

02/24/00

Facility Name: Northern Natural Gas - Carlton

Permit Number: 01700019 - 001

Subject Item: SV 002 Reciprocating Engine**Associated Items:** EU 002 Natural Gas-Fired Reciprocating Engine

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.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

02/24/00

Facility Name: Northern Natural Gas - Carlton

Permit Number: 01700019 - 001

Subject Item: SV 003 Reciprocating Engine**Associated Items:** EU 003 Natural Gas-Fired Reciprocating Engine

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.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2

TABLE B: SUBMITTALS

02/24/00

Facility Name: Northern Natural Gas - Carlton
Permit Number: 01700019 - 001

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

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

Send any application for a permit or permit amendment to:

Permit Technical Advisor
Permit Section
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

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

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

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

Supervisor
Compliance Determination Unit
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

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

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

02/24/00

Facility Name: Northern Natural Gas - Carlton

Permit Number: 01700019 - 001

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Computer Dispersion Modeling Protocol	due 1,096 days after Permit Issuance. This protocol will describe the proposed modeling methodology and input data, in accordance with all requirements of 40 CFR pt. 51, Appendix W. This is a state-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Total Facility
Computer Dispersion Modeling Results	due 1,462 days after Permit Issuance. To be submitted after the MPCA has reviewed and approved the modeling protocol. This is a state-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Total Facility

TABLE B: RECURRENT SUBMITTALS

02/24/00

Facility Name: Northern Natural Gas - Carlton

Permit Number: 01700019 - 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, both to the Commissioner and to the U.S. EPA regional office in Chicago. This 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

APPENDIX MATERIAL

Facility Name: Northern Natural Gas - Carlton

Permit Number: 01700019-001

APPENDIX I

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 subp.	Rule Description of the Activity	General Applicable Requirement
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)	4. 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)	8. cleaning operations: alkaline/phosphate cleaners and associated cleaners and associated burners. <i>The facility has parts cleaners that use non-halogenated solvents.</i>	Minn. R. 7011.0510/.0515 + Minn. R. 7011.0610 + Minn. R. 7011.0710/0715
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 of particulate matter less than ten microns, volatile organic compounds of nitrogen oxide, sulfur dioxide, particulate 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_x = 0.75 tpy (the largest potential emission of a criteria pollutant)</i>	Minn. R. 7011.0510/0515
3(J)	Fugitive Emissions from roads and parking lots.	Minn. R. 7011.0150
3(K)	Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source, such as spray painting of buildings, machinery, vehicles, and other supporting equipment.	Minn. R. 7011.0710/0715

Under Minn. R. 7007.1250, subp. 1(A), the Permittee may add insignificant activities to the stationary source throughout the term of the permit without getting permit amendments. Certain exclusions apply and are listed in Minn. R. 7007.1250, subp. 2. In addition, this permit specifically prohibits the Permittee from making any modifications that would make the source major under NSR. The following table is a listing of the insignificant activities that the Permittee is somewhat likely to add and their associated applicable requirements.

Minn. R. 7007.1300 , subp.	Rule Description of the Activity	General Applicable Requirement
3(E)	Storage tanks:	
	1. gasoline storage tanks with a combined total tankage capacity of not more than 10,000 gallons; and	Minn. R. 7011.0710/0715 <i>OR</i> Minn. R. 7011.1505, subp. 2(B)/1505, subp. 3(B)
	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.	Minn. R. 7011.0710/0715 <i>OR</i> Minn. R. 7011.1505, subp. 2(B)/1505, subp. 3 (B)
3(H)	Miscellaneous:	
	1. total usage of less than 200 gallons of VOC (including hazardous air pollutant-containing VOC) combined in any consecutive 12 months period at a stationary source;	Minn. R. 7011.0710/0715 <i>OR</i> Minn. R. 7011.0105/0110
	3. equipment used for hydraulic or hydrostatic testing;	Minn. R. 7011.0710/0715
	5. blueprint copiers and photographic processes;	Minn. R. 7011.0105/0110 (opacity)

TECHNICAL SUPPORT DOCUMENT
For
DRAFT AIR EMISSION PERMIT NO. 01700019-001

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

1. General Information (*Information will be obtained from permit application forms GI-01, GI-04, GI-05 parts 1&2, and GI-07*)

1.1. Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number (list both if different)	Facility Address (SIC Code: 4922)
Mr. Ron Beidelman, Division Env. Specialist Enron Corporation 1600 West 82 nd Street Minneapolis, Minnesota 55431	225 Northern Natural Gas Rd Carlton, Minnesota 55718 Carlton County

1.2. Description of the facility

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 NOx from the reciprocating engines.

1.3 Description of any changes allowed with this permit issuance

This permit action does not authorize any change at the facility.

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.

There have been no modifications to the facility that would require a permit amendment since the issuance of the previous total facility permit.

1.5. 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	CO tpy	VOC tpy	Pb tpy
001	001	Auxiliary Emergency Generator	0.0001	0.0001	0	20.33	17.48	0.28	0
002	002	Natural gas-fired Reciprocating Engine	7.85	7.85	0.08	644.74	644.74	15.42	0
003	003	Natural gas-fired Reciprocating Engine	7.85	7.85	0.08	644.74	644.74	15.42	0

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Pb tpy
Total Facility Limited Potential Emissions*	15.7	15.7	0.16	1309.81	78.30	31.12	0
Total Facility Actual Emissions*	0.42	0.42	0.03	148.61	18.3	3.72	0

*These are the limited potential emissions from column 3 in GI-07 from Delta. They differ from those in the permit application sent by the company in that they have been verified and corrected as need be by MPCA staff. These are the potential emissions that would appear in a public notice.

Table 2. Facility(TF) and Permit Classification

Classification (put x in appropriate box)	Major/Affected Source	*Synthetic Minor	*Minor
PSD (list pollutant)	NOx		All other criteria pollutants
NAAR (list pollutant)			
Part 70 Permit Program (list pollutant)	NOx		All other criteria pollutants

* 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.

Permit Action Number:

Date: 2/19/2004

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

Regulatory Overview of Facility

EU, GP, or SV #	Applicable Regulations	Comments:
FC	Minn. R. 7007.0800, subp. 2	Total Facility <ul style="list-style-type: none">Computer Dispersion Modeling for NO_x will be conducted during the life of the permit
EU 001	Minn. R. 7011.2300	Auxiliary Generator <ul style="list-style-type: none">Standards of performance for stationary internal combustion engines – opacity and SO₂Burning pipeline-quality natural gas therefore no additional compliance demonstration required
EU 002, EU 003	Minn. R. 7011.2300	Reciprocating Engines <ul style="list-style-type: none">Standards of performance for stationary internal combustion engines – opacity and SO₂Burning pipeline-quality natural gas therefore no additional compliance demonstration required

3. Technical Information - Emissions calculations attached.

STACK/VENT I.D.: 001

EMISSION UNIT: 001 – Auxiliary Generator

Emission Limit and/or Special Conditions: Sulfur Dioxide limit

Factual and legal basis for above: Minn. R. 7011.2300

Comments: Limit is met by equipment design when burning pipeline quality natural gas. PTE below limit.

- 0.5 lb/MMBtu x 1.7 MMBtu/hr = 0.85 lb/hr allowed by rule > 0.001 lb/hr NOT LIMITING
- Sulfur content of pipeline quality natural gas is 0.00058 lb/MMBtu

STACK/VENT I.D.: 002/003

EMISSION UNIT: 002/003– Reciprocating Engines

Emission Limit and/or Special Conditions: Sulfur Dioxide limit

Factual and legal basis for above: Minn. R. 7011.2300

Comments: Limit is met by equipment design when burning pipeline quality natural gas. PTE below limit.

- 0.5 lb/MMBtu x 32 MMBtu/hr = 16 lb/hr allowed by rule > 0.018 lb/hr NOT LIMITING

Permit Action Number:

Date: 2/19/2004

- Sulfur content of pipeline quality natural gas is 0.00058 lb/MMBtu

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. 01700011-001 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minn. Rules.

Attachments:

Permit Application Forms (GI and CD forms)
EC forms and supporting documents

Staff Members on Permit Team:

Bonnie J. Nelson, P.E.
Stuart Arkley