

**AIR EMISSION PERMIT NO. 01700011- 001  
IS ISSUED TO**

Northern Natural Gas Company

Northern Natural Gas - Wrenshall  
County Rd 1  
Wrenshall, Carlton County, Minnesota 55797

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

All Title I Conditions do not expire.

for Ann Foss  
Rodney E. Massey  
District Manager  
South District

for Karen A. Studders  
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'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

The permit shield, however does not apply to:

- 1. Any national ambient air quality standards adopted under section 109 of the Clean Air Act or increment or visibility under Part C of Title I of the Clean Air Act;**
- 2. Any state ambient air quality standard under Minn. R. ch. 7009; and**
- 3. The state noise pollution control rules, Minn. R. ch. 7030.**

**FACILITY DESCRIPTION:**

The Wrenshall Liquid Natural Gas (LNG) Station is used to liquefy and store natural gas for later vaporization and distribution into the underground natural gas pipelines as per demand. The main components of the Wrenshall facility consist of a compressor/turbine building which houses two natural gas-fired turbines, a vaporizer building which houses three natural gas-fired vaporizers, a control office building, a maintenance building, and a 630,000 barrel LNG storage tank which stores liquefied natural gas.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/00

Facility Name: Northern Natural Gas - Wrenshall

Permit Number: 01700011 - 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**

<b>What to do</b>	<b>Why to do it</b>
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
Breakdowns: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control or process equipment if the breakdown causes any increase in the emission 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 under the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2.  At the time of notification or as soon thereafter as possible, 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
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 - Wrenshall

Permit Number: 01700011 - 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)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007. 1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007. 0800, subp. 5(B)
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)
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 - Wrenshall  
Permit Number: 01700011 - 001

**Subject Item:** GP 001 Natural gas-fired Vaporizers

**Associated Items:** EU 002 LNG Vaporizer  
EU 003 LNG Vaporizer  
EU 004 LNG Vaporizer  
SV 002 LNG Vaporizer  
SV 003 LNG Vaporizer  
SV 004 LNG Vaporizer

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	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

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/00

Facility Name: Northern Natural Gas - Wrenshall

Permit Number: 01700011 - 001

**Subject Item:** GP 002 Natural gas-fired Turbines**Associated Items:** EU 005 Natural Gas-Fired Turbine

EU 006 Natural Gas-Fired Turbine

SV 005 Natural Gas-Fired Turbine

SV 006 Natural Gas-Fired Turbine

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	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 - Wrenshall

Permit Number: 01700011 - 001

**Subject Item:** SV 001 Diesel-fired Fire Pump**Associated Items:** EU 001 Flare

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)



**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/00

Facility Name: Northern Natural Gas - Wrenshall

Permit Number: 01700011 - 001

**Subject Item:** CE 001 Flaring**Associated Items:** EU 001 Flare

TK 001 LNG

TK 002 Ethylene

TK 003 Pentane

TK 004 Butane

TK 005 Propane

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/00

Facility Name: Northern Natural Gas - Wrenshall  
Permit Number: 01700011 - 001

**Subject Item:** TK 001 LNG

**Associated Items:** CE 001 Flaring

What to do	Why to do it
The storage vessel shall be equipped with a vapor recovery system or its equivalent.	Minn. R. 7011.1505, subp. 3(C)(2)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/00

Facility Name: Northern Natural Gas - Wrenshall

Permit Number: 01700011 - 001

**Subject Item:** TK 002 Ethylene**Associated Items:** CE 001 Flaring

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/00

Facility Name: Northern Natural Gas - Wrenshall  
Permit Number: 01700011 - 001

**Subject Item:** TK 003 Pentane

**Associated Items:** CE 001 Flaring

What to do	Why to do it
The storage vessel shall be equipped with a vapor recovery system or its equivalent.	Minn. R. 7011.1505, subp. 3(C)(1)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/00

Facility Name: Northern Natural Gas - Wrenshall  
Permit Number: 01700011 - 001

**Subject Item:** TK 004 Butane

**Associated Items:** CE 001 Flaring

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/00

Facility Name: Northern Natural Gas - Wrenshall  
Permit Number: 01700011 - 001

**Subject Item:** TK 005 Propane

**Associated Items:** CE 001 Flaring

What to do	Why to do it
The storage vessel shall be equipped with a vapor recovery system or its equivalent.	Minn. R. 7011.1505, subp. 3(C)(2)

## TABLE B: SUBMITTALS

02/24/00

Facility Name: Northern Natural Gas - Wrenshall  
Permit Number: 01700011 - 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 - Wrenshall

Permit Number: 01700011 - 001

<b>What to send</b>	<b>When to send</b>	<b>Portion of Facility Affected</b>
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, App. 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 - Wrenshall

Permit Number: 01700011 - 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 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 U.S. EPA regional office in Chicago. This report covers all deviations experienced during the calendar year. The EPA copy shall be sent to: Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604	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 - Wrenshall

Permit Number: 01700011-001

### 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.

<b>Minn. R. 7007.1300, subp.</b>	<b>Rule Description of the Activity</b>	<b>General Applicable Requirement</b>
3(A)	Fuel use: space heaters fueled by, kerosene, natural gas, or propane. <i>The existing current total capacity is 40,000 Btu/hr.</i>	Minn. R. 7011.0510/0515
4(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. <i>The facility has a fire pump with actual emissions less than 0.024 for all criteria pollutants. The facility also has a small 16 hp portable generator.</i>	Minn. R. 7011.2300

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.

<b>Minn. R. 7007.1300, subp.</b>	<b>Rule Description of the Activity</b>	<b>General Applicable Requirement</b>
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)

<b>Minn. R. 7007.1300, subp.</b>	<b>Rule Description of the Activity</b>	<b>General Applicable Requirement</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
	4. brazing, soldering or welding equipment;	Minn. R. 7011.0510/.0515, Minn. R. 7011.0610 and Minn. R. 7011.0710/0715 (PM and opacity)
	5. blueprint copiers and photographic processes;	Minn. R. 7011.0105/0110 (opacity)
	8. cleaning operations: alkaline/phosphate cleaners and associated cleaners and associated burners.	Minn. R. 7011.0510/.0515, Minn. R. 7011.0610 and Minn. R. 7011.0710/0715 (PM and opacity)
3(J)	Fugitive Emissions from roads and parking lots.	Minn. R. 7011.0150 (PM)
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 (VOC)

**TECHNICAL SUPPORT DOCUMENT**  
**For Northern Natural Gas Company - Wrenshall Compressor Station (624F)**  
**AIR EMISSION PERMIT NO. 01700011-001**

This Technical Support Document (TSD) is for all the interested parties of the permit. The purpose of this document is to set forth the legal and factual basis for the 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	Wrenshall Compressor Station
1600 West 82nd Street, Suite 210	County Rd 1
Minneapolis, Minnesota 55431	Wrenshall, MN 55797

Owner/Address
Mr. Gary P. Smith, V.P. Operations, NNG Co., PO Box 3330
Omaha, NE 68124

1.2. Description Of The Facility

Facility Description: The facility is a natural gas compressor station on County Road 1 near Wrenshall, Minnesota. The Wrenshall station is used to liquefy and store natural gas for later vaporization and distribution into the underground natural gas pipelines as needed. The facility consists of a compressor/turbine building which houses two natural gas-fired turbines, three natural gas-fired vaporizers, a 630,000 barrel LNG storage tank with a flare which is used to combust excess gasses from the tank, a diesel-fired fire water pump and a natural gas-fired space heater. The facility is a major PSD source. The turbines are not subject to the NSPS for Gas Turbines as they were installed in 1972, prior to October of 1977.

1.2.5 Description of Permit Action

Permit Action - 1998: The facility will be issued a Part 70 total facility permit. No significant modifications are expected at this facility during the lifetime of this permit.

1.3 Description of all submittals since the issuance of the last total facility permit, to be included in the Part 70 Permit.

- Title V TFP Application: Received 9/8/95. Overview of total facility.

#### 1.4. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

EU #	SV#	Emission Unit Description	PM tpy	PM10 tpy	SO2 tpy	NOx tpy	VOC tpy	Pb tpy	CO tpy	HAPs tpy
001	001	Flare	0	0	0	86.67	7.14	0	471.59	NA
002	002	LNG Vaporizer	4.36	0.96	0.19	44.58	0.89	0	11.14	NA
003	003	LNG Vaporizer	4.36	0.96	0.19	44.58	0.89	0	11.14	NA
004	004	LNG Vaporizer	4.36	0.96	0.19	44.58	0.89	0	11.14	NA
005	005	Natural-Gas Turbine	0.52	0.52	0	60.64	0.36	0	30.32	NA
006	006	Natural-Gas Turbine	0.52	0.52	0	60.64	0.36	0	30.32	NA
007	007	Diesel-fired Fire Pump	1.85	1.85	12.70	26.28	2.09	0	5.66	NA

TK#	Emission Unit Description	
001	LNG	<p>The refrigerant components are stored in separate above ground storage tanks equipped with pressure relief valves. The valves are not vented to the atmosphere but instead to the flare.</p> <p>The emissions for the tanks are considered in those for the flare.</p> <p>Those from the refrigerants will be negligible (98% destruction)</p>
002	Ethylene	
003	Pentane	
004	Butane	
005	Propane	

Total Facility Limited Potential Emissions*	15.9	5.77	13.2	367.97	12.62	0	571.31	NA
Total Facility Actual Emissions**	1.72	.40	0.071	51.53	2.801	0	168.28	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 based upon 1995 data

Table 2. Facility(TF) and Permit Classification

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

- 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. Summary of 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*

*EU, GRP, or SV #	Applicable Regulations	**Comments:
FC	Minn. R. 7007.0800, subp. 2	<ul style="list-style-type: none"><li>• Computer Dispersion Modeling will be conducted during the life of the permit</li></ul>
GP 001	Minn. R. 7011.0510	Liquid Natural Gas Vaporizers <ul style="list-style-type: none"><li>• Indirect-heating equipment rule</li></ul>
GP 002	Minn. R. 7011.2300	Natural-gas Fired Turbines - Standards of Performance for Internal Combustion Engines <ul style="list-style-type: none"><li>• Applies to gas turbines</li></ul>

## 3. Technical Information - Emissions calculations attached.

STACK/VENT I.D.: 002

EMISSION UNIT: 002 - Emergency 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 diesel fuel. PTE below limit.

- $0.5 \text{ lb/MMBtu} \times 3.2 \text{ MMBtu/hr} = 1.6 \text{ lb/hr} > 0.64 \text{ lb/hr}$  NOT LIMITING
- Emission factor from manufacturer's test



## 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 Minnesota Rules.

### Attachments:

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

### Staff Members on Permit Team:

Bonnie J. Nelson, P.E.  
Stuart Arkley