

**AIR EMISSION PERMIT NO. 09100043-002**  
**(Part 70 Reissuance)**

**IS ISSUED TO**

**Northern Border Pipeline Company**  
for  
Northern Border Pipeline - Compressor Station No. 13  
1890 60th Avenue  
Trimont, Martin County, MN 56176

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	Issuance Date	Action No.
Total Facility Operating Permit	09/18/1995	11/04/1997	09100043-001
Major Permit Amendment Application	03/10/1997	11/04/1997	09100043-001
Total Facility Operating Permit - Reissuance	05/03/2002	See below	09100043-002

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/Limits to Avoid NSR

**Issue Date:** January 24, 2006

**Expiration:** January 24, 2011  
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: 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:**

This permit action is a Part 70 operating permit reissuance for a compressor station on a natural gas pipeline. The station is owned by Northern Border Pipeline Company (the Permittee) and is operated by Northern Plains Natural Gas Company, LLC. The sources of air emissions at this facility include a natural gas-fired turbine compressor (EU 003), a natural gas-fired emergency generator (EU 002), and other activities considered insignificant sources of air emissions. The air emissions from the facility are primarily the result of natural gas combustion and include Particulate Matter (PM and PM<sub>10</sub>), Nitrogen Oxides (NO<sub>x</sub>), Sulfur Dioxide (SO<sub>2</sub>), Carbon Monoxide (CO), and Volatile Organic Compounds (VOC). Emissions of NO<sub>x</sub> and CO from the turbine are controlled with Dry Low Emission (DLE) combustion technology.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

01/24/06

Facility Name: Northern Border Pipeline - Compressor 13

Permit Number: 09100043 - 002

**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>
<b>OPERATIONAL REQUIREMENTS</b>	hdr
Ambient Air Quality Standards: 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, subps. 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
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 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
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
<b>PERFORMANCE TESTING</b>	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
<b>MONITORING</b>	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)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

01/24/06

Facility Name: Northern Border Pipeline - Compressor 13

Permit Number: 09100043 - 002

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
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)
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)
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.	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
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**

01/24/06

Facility Name: Northern Border Pipeline - Compressor 13

Permit Number: 09100043 - 002

**Subject Item:** EU 002 Emergency generator**Associated Items:** SV 002

What to do	Why to do it
EMISSION LIMITS	hdr
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 (note: the potential to emit as determined by AP-42 emission factors is 0.000588 lbs/million BTU heat input)	Minn. R. 7011.2300, subp. 2
OPERATING CONDITIONS	hdr
Fuel type: Natural gas only meeting the definition in 40 CFR Section 60.331(u)	Minn. R. 7005.0100, subp. 35a

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

01/24/06

Facility Name: Northern Border Pipeline - Compressor 13

Permit Number: 09100043 - 002

**Subject Item:** EU 003 Turbine - const. 1997**Associated Items:** SV 003

What to do	Why to do it
EMISSION LIMITS	hdr
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 (note: the potential to emit as determined by AP-42 emission factors is 0.0066 lbs/million BTU heat input)	Minn. R. 7011.2300, subp. 2
Sulfur Dioxide: less than or equal to 0.015 percent by volume at 15 percent oxygen and on a dry basis, or	40 CFR Section 60.333; Minn. R. 7011.2350
Sulfur Content of Fuel: less than or equal to 0.8 percent by weight	
Nitrogen Oxides: less than or equal to 0.0217 percent by volume at 15 percent oxygen and on a dry basis	40 CFR Section 60.332(d), Minn. R. 7011.2350
Nitrogen Oxides: less than or equal to 53.5 lbs/hour during normal operation, and less than or equal to 78.0 lbs/hour during non-DLE operation	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
OPERATING LIMITS	hdr
Fuel type: Natural gas only meeting the definition in 40 CFR Section 60.331(u)	Minn. R. 7005.0100, subp. 35a
Non-DLE Operation: less than or equal to 500 hours per 12-month period.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
PERFORMANCE TESTING	hdr
Initial Performance Test: due 180 days after Permit Issuance for NOx emissions	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7017.2020, subp. 1
MONITORING	hdr
Fuel Monitoring: The Permittee shall follow the applicable monitoring requirements in Section 60.334.	40 CFR Section 60.334(c) and (h); Minn R. 7011.2350
Section 60.334(h)(3) allows the owner or operator to not monitor total sulfur content of gaseous fuel if the fuel is demonstrated to meet the definition of natural gas in Section 60.331(u). Section 60.334(c) allows the owner or operator to continue monitoring NOx under a previously approved alternative procedure for monitoring compliance. The previously approved custom fuel monitoring schedule for this facility does not require the monitoring of nitrogen content of the fuel when firing only natural gas.	
RECORDKEEPING	hdr
Recordkeeping: By the 15th of the month, the Permittee shall generate and maintain records of: 1) the occurrence and duration of all periods of non-DLE operation during the preceding calendar month, 2) the total duration of non-DLE operation during the preceding calendar month, and 3) the total duration of non-DLE operation during the preceding 12-month period.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Recordkeeping: Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.	40 CFR Section 60.7(b), Minn. R. 7019.0100, subp. 1
Recordkeeping: Maintain a file of all measurements, maintenance, reports and records for at least five years.	40 CFR Section 60.7(f); Minn. R. 7019.0100, subp. 1
TURBINE COMPONENT REPLACEMENT	hdr
Turbine Component Replacement Authorization: The Permittee is allowed to replace the compressor, gas generator (combustor), and power turbine of the Cooper Rolls Coberra 6562-DLE gas turbine (EU 003) with similar components without the need for a permit amendment if there is no increase in the hourly emission rate, there are no new applicable requirements triggered, and the Permittee will comply with all existing permit conditions. If the compressor or gas generator is replaced, the Permittee shall furnish notifications and reports and conduct a NOx test in the required timeframes according to 40 CFR part 60 subparts A and GG, and Minn. R. chapter 7017.	Minn. R. 7007.0800, subp. 2

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

01/24/06

Facility Name: Northern Border Pipeline - Compressor 13  
Permit Number: 09100043 - 002

Turbine Component Replacement Recordkeeping: The Permittee shall record the date and nature of each componenet replacement no later than the day after completion of each replacement.	Minn. R. 7007.0800, subp. 5
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## TABLE B: SUBMITTALS

01/24/06

Facility Name: Northern Border Pipeline - Compressor 13  
Permit Number: 09100043 - 002

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:

AQ Permit Technical Advisor  
Industrial 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:

AQ Compliance Tracking Coordinator  
Industrial 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**

01/24/06

Facility Name: Northern Border Pipeline - Compressor 13

Permit Number: 09100043 - 002

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Testing Frequency Plan	due 60 days after Initial Performance Test for NOx emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	EU003

**TABLE B: RECURRENT SUBMITTALS**

01/24/06

Facility Name: Northern Border Pipeline - Compressor 13

Permit Number: 09100043 - 002

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 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 US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility

## APPENDIX I: INSIGNIFICANT ACTIVITIES

Northern Border Pipeline Company - Compressor Station No. 13

Permit Number: 09100043-002

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(H)(3)	Brazing, soldering, and welding equipment	Minn. R. 7011.0610, Minn. R. 7011.0710/0715
3(J)	Unpaved entrance roads and parking lots	Minn. R. 7011.0105/0110, Minn. R. 7011.0150
4	Potential emissions less than 2.28 pounds per hour or actual emissions less than one ton per year for particulate matter, particulate matter less than ten microns, nitrogen oxide, sulfur dioxide, and VOCs. <i>The facility has a 1.336 MMBtu/hr boiler, a parts washer, a portable air compressor, and a portable generator that qualify under this subpart. The air compressor that supplies instrument air is electric-driven.</i>	Minn. R. 7011.0510/0515, Minn. R. 7011.0710/0715, Minn. R. 7011.2300,

## **APPENDIX II: STACK PARAMETERS**

Northern Border Pipeline Company - Compressor Station No. 13

Permit Number: 09100043-002

Source ID	Stack/Vent ID	Stack Height (feet)	Stack Temp (°F)	Flow Rate (acfm)	Stack Dimensions (feet)
EU 002	SV 002	17	1021	2,384	0.67
EU 003	SV 003	55	738	446,313	9.5 x 11

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**AIR EMISSION PERMIT NO. 09100043-002**

This Technical Support Document (TSD) is intended for all parties interested in the permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, 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:**

Applicant/Address	Stationary Source/Address (SIC Code: 4922)
Northern Border Pipeline Company P.O. Box 542500 Omaha, NE 68154-8500	Compressor Station No. 13 1890 60th Avenue, Trimont, Minnesota Martin County
Contact: Ms. Ruth Jensen Phone: 402-492-7465 Fax: 402-492-7485	

**1.2 Description of the Permit Action**

This permit action is a Part 70 operating permit reissuance for a natural gas pipeline compressor station. The station is owned by Northern Border Pipeline Company (the Permittee) and is operated by Northern Plains Natural Gas Company, LLC. The sources of air emissions at this facility include a natural gas-fired turbine compressor (EU 003), a natural gas-fired emergency generator (EU 002), and other activities considered insignificant sources of air emissions. The air emissions from the facility are primarily the result of natural gas combustion and include Particulate Matter (PM and PM<sub>10</sub>), Nitrogen Oxides (NO<sub>x</sub>), Sulfur Dioxide (SO<sub>2</sub>), Carbon Monoxide (CO), and Volatile Organic Compounds (VOC). Emissions of NO<sub>x</sub> and CO from the turbine are controlled with Dry Low Emission (DLE) combustion technology.

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

Standard industry practice with gas turbine maintenance is the scheduled overhaul of components as recommended by the turbine manufacturer after a given number of operating hours. This permit authorizes the replacement of turbine components (*i.e.*, the compressor, gas generator, and power turbine) with similar components. The authorization does not extend to replacements that would increase the hourly emission rate, trigger new applicable requirements, or result in

noncompliance with existing permit conditions. Among other things, these restrictions ensure that a replacement does not constitute a modification or reconstruction under 40 CFR Part 60. These restrictions also ensure that the facility's potential to emit NO<sub>x</sub> does not increase and continues to remain below the New Source Review (NSR) major source thresholds.

#### **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 Reissuance**

The initial Part 70 permit for this facility was issued on November 4, 1997. Since then, the facility submitted an administrative permit application in December 2001 as a result of changes in facility contact information. Since that application was submitted, the facility has had additional changes in contact information; therefore, this permit does not incorporate the outdated information in the administrative amendment application but instead reflects the present contact information for the facility. No other permit amendment applications have been received since the Part 70 permit was initially issued.

#### **1.5 Facility Emissions:**

**Table 1. 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 Potential Emissions	9.5	9.5	9.4	243.8	103.1	3.1*	1.0	1.5
Total Facility Actual Emissions (2004)	6.2	6.2	2.0	92.6	14.1	3.2*	HAPs not reported in emission inventory	

\*The emission factor the Agency used to calculate potential VOC emissions for EU 003 is different than what the Agency used to calculate actual emissions for the 2004 emissions inventory. The Minnesota Pollution Control Agency (MPCA) will correct this inconsistency by basing future actual emissions on the emission factor used to calculate potential emissions.

**Table 2. Facility Classification**

Classification	Major/Affected Source	Synthetic Minor	Minor
NSR/PSD		NO <sub>x</sub>	PM, PM <sub>10</sub> , SO <sub>2</sub> , CO, and VOC
Part 70 Permit Program	NO <sub>x</sub> and CO		PM <sub>10</sub> , SO <sub>2</sub> , and VOC
Part 63 NESHAP			HAPs

This permit does not authorize any changes that would increase emissions.

## **2. Regulatory and/or Statutory Basis**

### New Source Review

This facility is not subject to NSR regulations. The permit includes limits on combustion turbine operations such that potential emissions for all regulated NSR pollutants remain below the major stationary source thresholds.

### Part 70 Permit Program

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

### New Source Performance Standards (NSPS)

The combustion turbine is subject to 40 CFR pt. 60, subp. GG – Standards of Performance for Stationary Gas Turbines.

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

The facility is not a major source of hazardous air pollutants; therefore, no NESHAPs apply.

### Minnesota State Rules

Both of the permitted emission units at the facility, the compressor turbine and the emergency generator, are subject to Minn. R. 7011.2300 - Standards of Performance for Stationary Internal Combustion Engines.

### Dispersion Modeling

The facility modeled CO and NO<sub>x</sub> emissions in October 1990. Because facility changes since then have reduced emissions, additional modeling is not required.

**Table 3. Regulatory Overview of Facility**

EU, GP, or SV	Applicable Regulations	Comments:
EU 002	Minn. R. 7011.2300	Minnesota Standards of Performance for Stationary Internal Combustion Engines.
EU 003	Minn. R. 7011.2300	Minnesota Standards of Performance for Stationary Internal Combustion Engines. This rule applies in addition to the NSPS.
	40 CFR pt. 60, subp. GG; Minn. R. 7011.2350	New Source Performance Standards for Stationary Gas Turbines. Future replacement of components that do not constitute modification or reconstruction under NSPS is authorized.
	Title I Condition: To avoid major source classification under 40 CFR § 52.21	Limit on hours operating in non-DLE mode to avoid classification as a major stationary source under PSD.



### **3. Technical Information**

#### **3.1 Calculations of Potential to Emit (PTE)**

Attachment 1 includes a summary of the PTE for each emissions unit and the total facility as calculated by the MPCA. Attachment 1 also includes the detailed emission spreadsheets prepared by the MPCA and the supporting documentation submitted by the Permittee that were used by the MPCA to calculate the PTE.

Emission calculations for the emergency generator (EU 002) are based on emission factors from AP-42 Chapter 3.2 (July 2000) and a fuel sulfur content of 0.007 percent by weight as limited by the Northern Border Pipeline gas tariff. Operation is assumed to be limited to 500 hours per year as supported by U.S. Environmental Protection Agency (EPA) policy entitled "Calculating Potential to Emit (PTE) for Emergency Generators," dated September 6, 1995.

Emission calculations for the gas turbine compressor (EU 003) are also based on gas tariff limit of 0.007 percent sulfur and emission factors from AP-42 Chapter 3.1 (April 2000), except for NO<sub>x</sub> and CO which are based on manufacturer's guaranteed rates that are higher than AP-42 factors. Attachment 2 contains documentation provided by the Permittee on the manufacturer's guarantees.

Because the DLE technology cannot be engaged for limited periods during startup, shutdown, maintenance, and malfunction, the PTE calculations account for such periods of non-DLE operation. Based on performance test results during non-DLE mode at similar units that resulted in maximum NO<sub>x</sub> emissions of approximately 58 pounds per hour, a conservative emission factor of 78 pounds per hours was proposed by the Permittee. For purposes of calculating PTE, the Permittee proposed 500 hours per year of non-DLE operation which is also conservative considering that total non-DLE operation for this unit was 8.4 hours in 2003.

Minn. R. 7019.1000, subp. 3. requires notification of shutdowns of control equipment or process equipment that increase emissions of any regulated air pollutant. For this facility, non-DLE operation is allowed for up to 500 hours per year and is therefore not considered a shutdown requiring notification under Minn. R. 7019.1000, subp. 3; however, the Permittee must continue to maintain records of the occurrence and duration of non-DLE operation as required by 40 CFR § 60.7(b).

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

**Table 4. Periodic Monitoring**

<b>Emission Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
EU 002	SO <sub>2</sub> ≤ 0.5 lb/MMBtu; Opacity ≤ 20% (Minn. R. 7011.2300)	None	Based on the firing of only natural gas, the AP-42 emission factor, and the natural gas sulfur content, potential SO <sub>2</sub> emissions are significantly less than, and are unlikely to exceed, the rule limit. With the firing of only natural gas, the opacity limit is unlikely to be violated.
EU 003	SO <sub>2</sub> ≤ 0.5 lb/MMBtu; Opacity ≤ 20% (Minn. R. 7011.2300)  NO <sub>x</sub> ≤ 53.5 lbs/hr (limit to avoid NSR major source status)  NO <sub>x</sub> ≤ 0.0217 % by vol.; SO <sub>2</sub> ≤ 0.015% by vol. or fuel sulfur ≤ 0.8% by wt. (40 CFR 60, Subpart GG)  non-DLE operation ≤ 500 hrs/yr (limit to avoid NSR major source status)	None          Performance testing          Performance testing	Based on the firing of only natural gas, the AP-42 emission factor, and the natural gas sulfur content, potential SO <sub>2</sub> emissions are significantly less than, and are unlikely to exceed, the rule limit. With the firing of only natural gas, the opacity limit is unlikely to be violated.          Performance testing plan for NO <sub>x</sub> due 60 days after initial performance test.          Performance testing plan for NO <sub>x</sub> due as indicated above. Fuel sulfur content limit of 0.007% by weight required by the Northern Border Pipeline gas tariff. The Permittee intends to follow the SO <sub>2</sub> monitoring requirements of 40 CFR 60.334(h)(3).          Records of non-DLE operation required to ensure that 500 hour limit is not exceeded and the facility remains below the thresholds of a NSR major source.
EU 003 (cont.)		Monthly recordkeeping of non-DLE operation	

### **3.3 Insignificant Activities**

Northern Border Pipeline Company – Compressor Station No. 13 has several operations which are classified as insignificant activities. These are listed in Appendix I to the permit.

### **3.4 Comments Received**

Public Notice Period: November 17, 2005 – December 16, 2005

EPA 45-day Review Period: November 17, 2005 – December 31, 2005

Comments were not received from the public during the public notice period. In addition, comments were not received from EPA during their review period. No changes to the permit have been made.

## **4. Conclusion**

Based on the information provided by Northern Border Pipeline Company, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 09100043-002, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team:      Steven Pak (permit writer/engineer)  
   Sarah Kilgriff (enforcement)  
   Andrew Place (stack testing)  
   Jenny Reinertsen (peer reviewer)

Attachments:    1. PTE Calculation Spreadsheets  
                         2. Facility Description GI-01  
                         3. Compliance Plan CD-01



**Attachment 1**  
**PTE Calculation Spreadsheets**



**Appendix 2**  
**Facility Description GI-01**





**Appendix 3**  
**Compliance Plan CD-01**