AIR EMISSION PERMIT NO. 09100043- 001
IS ISSUED TO

Northern Border Pipeline Company

for

Northern Border Pipeline Co. Compressor Station No. 13
RR 1, Box 50
Trimont, Martin County, Minnesota 56176

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

Permit Type	Application Date
Total Facility Operating Permit	September 18,1995
Major Amendment Permit Application	February 1997

This permit authorizes the permittee to operate and construct 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, subp. 16, 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 Minnesota Air Pollution Control rules unless the term is explicitly defined in the permit.

Permit Type: Federal Part 70
Issue Date: November 4, 1997
Expiration: November 4, 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

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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	(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:

Northern Border Pipeline Company (the Permittee) owns a natural gas pipeline that runs through Trimont, Minnesota. Air emission sources at the station include: a gas turbine, two emergency generators, and a small boiler. The boiler and one of the emergency generators are insignificant activities. The Permittee will be replacing the existing turbine with a new turbine that has lower emission rates.

Alternative Operating Scenarios (2): Since there may be a lengthy transition between the removal of the existing turbine and the installation and operation of the new turbine, the permit must address the use of both turbines. This will be accomplished by using two operating scenarios as follow:

- Scenario No. 1: The existing turbine and emergency generator are operational. Operating and emission limits remain on the turbine.

- Scenario No. 2: The existing turbine is removed. The new turbine is constructed, may begin operation and the emergency generator continues to operate.

At no time in the permit's life will both turbines be allowed to operate simultaneously. When the new turbine is up and running, the old turbine will be required to be removed permanently. When the existing turbine is removed, and the new turbine installed, the facility will become a true nonmajor facility for Prevention of Significant Deterioration (no limits required) and a major source for Part 70.

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/04/97

Facility Name: Northern Border Pipeline Co Compressor S

Permit Number: 09100043 - 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)
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)
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)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/04/97

Facility Name: Northern Border Pipeline Co Compressor S

Permit Number: 09100043 - 001

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 Condtions 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

11/04/97

Facility Name: Northern Border Pipeline Co Compressor S

Permit Number: 09100043 - 001

Subject Item: **EU 001 Turbine - const. 1992**

Associated Items: SV 001

What to do	Why to do it
ALTERNATIVE OPERATING SCENARIO	hdr
OPERATING SCENARIO #1: The Permittee shall comply with the requirements of EU 001 until the Permittee wishes to to operate under Operating Scenario #2 (EU 003). At that time, the Permittee shall record in a log on site the date of the removal of EU 001 and the change to EU 003 and send a written notification to the MPCA of the dates of the change. From that date forward, the Permittee shall comply with the requirements of EU 003.	Minn. R. 7007.0800, subp. 11
Nitrogen Oxides: less than or equal to 0.0171 percent by volume at 15 percent oxygen and on a dry basis.	40 CFR Section 60.332(d), Minn. R. 7011.2350
Nitrogen Oxides (from operation of the compressor turbine engine): less than or equal to 0.00323 lb NOx/hp-hr based on a 365-day rolling sum.	Title I Condition: limit taken to avoid classification as a major source for 40 CFR Section 52.21
Horsepower-hour limitation: The operation of the compressor turbine engine shall not exceed 151.5 million hp-hr/yr on a 365-day rolling sum. The 365-day rolling sum shall be determined using existing operating records, and the limit for each succeeding day shall be the difference between the annual limit and the actual horsepower-hours for the previous 364 days.	Title I Condition: limit taken to avoid classification as a major source for 40 CFR Section 52.21
Torquemeter and Hour Meter: The Permittee shall install and maintain a continuous duty torquemeter to measure actual shaft horsepower. In addition, the Permittee shall installl, maintain and monitor actual engine hours with a non-resettable meter.	Title I Condition: limit taken to avoid classification as a major source for 40 CFR Section 52.21
Fuel Flow Monitoring System: A fuel flow monitoring system will be used as a secondary means of determining NOx emissions by continuously calculating NOx emissions based on fuel flow measurements in accordance with the fuel flow monitoring system plan which is maintained at the facility.	Title I Condition: limit taken to avoid classification as a major source for 40 CFR Section 52.21
Torquemeter Operation and Maintenance Plan: The Permittee shall operate and maintain the torquemeter in accordance with the Operation and Maintenance Plan which is maintained at the facility. The plan shall include as a minumum, the following information: 1. A preventive maintenance program for avoidance of breakdown and shutdown, including semiannual inspection of leads, interconnecting cables and connectors; a field check of ZTD every 15 months, but at least each calendar year; a monthly complement check; and maintain one spare torquemeter) 2. An identification of operating conditions that will be monitored, an identification of the normal operating range and a description of the method of detecting and informing operating personnel of any malfunction or breakdown. 3. A description of the corrective procedures that will be taken in the event of a malfunction or breakdown. 4. A description of the records that will be kept to show that the plan is implemented.	Title I Condition: limit taken to avoid classification as a major source for 40 CFR Section 52.21
Notification of Torquemeter Breakdown or Malfunction: by the 15th day of the month following the month of said downtime. This notification shall include the number of horsepower-hours manually calculated and the total horsepower-hours run at the end of the downtime period for the previous 12-month period on a rolling sum basis. The engine horsepower will be assumed to be maximum horsepower.	Title I Condition: limit taken to avoid classification as a major source for 40 CFR Section 52.21
Fuel burned: Natural gas only.	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 0.8 percent by weight	40 CFR Section 60.333(b), Minn. R. 7011.2350
Custom Monitoring Schedule (a): Sulfur monitoring shall be conducted twice monthly for six (6) months. If the monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR Section 60.333(b), then sulfur monitoring shall be conducted once per quarter for six (6) quarters.	40 CFR Section 60.334(b)(2)
Custom Monitoring Schedule (b): If, after the monitoring required in item (a) above, the sulfur content shows little variability and, when calculated as sulfur dioxide, represents consistent compliance with 40 CFR Section 60.333(a), sulfur monitoring shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.	40 CFR Section 60.334(b)(2), Minn. R. 7011.2350
Test Methods: Compliance with the sulfur content standard shall be determined by analyzing fuel sulfur content using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, a gas chromatograph or other approved alternative method.	40 CFR Section 60.335(e), Minn. R. 7011.2350

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/04/97

Facility Name: Northern Border Pipeline Co Compressor S

Permit Number: 09100043 - 001

Notification of Noncompliance: Should any sulfur analysis indicate noncompliance with 40 CFR Section 60.333(b), as described in 40 CFR Section 60.334(c)(2), the Permittee shall notify the MPCA of such excess emissions and the custom fuel monitoring schedule shall be re-examined by the Administrator. Sulfur monitoring shall be conducted weekly during the interim period when the custom fuel-monitoring schedule is being re-examined.	40 CFR Section 60.334(b)(2), Minn. R. 7011.2350
Reporting: If there is a change in fuel supply, the Permittee shall notify the Commissioner of such change for re-examination of the custom fuel schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.	40 CFR Section 60.334(b)(2), Minn. R. 7011.2350
Notification of Modification: The Permittee must notify the Commissioner of any physical or operational change to an existing NSPS affected facility which may increase the emission rate 60 days or as soon as possible before the change is commenced.	40 CFR Section 60.7(a)(4)
Opacity: greater than or equal to 20 percent opacity for no more than 10 consecutive seconds once operating temperatures have been obtained.	Minn. R. 7011.2300, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/04/97

Facility Name: Northern Border Pipeline Co Compressor S

Permit Number: 09100043 - 001

Subject Item: **EU 002 Emergency generator**

Associated Items: SV 002

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

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/04/97

Facility Name: Northern Border Pipeline Co Compressor S

Permit Number: 09100043 - 001

Subject Item: **EU 003 Turbine - const. 1997**

Associated Items: SV 003

What to do	Why to do it
ALTERNATIVE OPERATING SCENARIO	hdr
OPERATING SCENARIO #2: The Permittee shall comply with the requirements of EU 003 when it is constructed. At this time EU 001 will no longer exist.	Minn. R. 7007.0800, subp. 11
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
Performance Test: due 180 days after Initial Startup but no later than 60 days after achieving maximum production rate to determine compliance with 40 CFR Section 60.322(a)(2).	40 CFR Section 60.8(a)
Performance Test Pre-test Meeting: due 7 days before Performance Test	Minn. R. 7017.2030, subp. 4
Sulfur Content of Fuel: less than or equal to 0.8 percent by weight	40 CFR Section 60.333(b), Minn. R 7011.2350
Custom Monitoring Schedule (a): Sulfur monitoring shall be conducted twice monthly for six (6) months. If the monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR Section 60.333(b), then sulfur monitoring shall be conducted once per quarter for six (6) quarters.	40 CFR Section 60.13(i) to comply with 40 CFR Section 60.334(b)(2), Minn. R 7011.2350
Custom Monitoring Schedule (b): If, after the monitoring required in item (a) above, the sulfur content shows little variability and, when calculated as sulfur dioxide, represents consistent compliance with 40 CFR Section 60.333(a), sulfur monitoring shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.	40 CFR Section 60.13(i) to comply with 40 CFR Section 60.334(b)(2), Minn. R 7011.2350
Test Methods: Compliance with the sulfur content standard shall be determined by analyzing fuel sulfur content using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, a gas chromatograph or other approved alternative method.	40 CFR Section 60.13(i) to comply with 40 CFR Section 60.335(e), Minn. R. 7011.2350
Notification of Noncompliance: Should any sulfur analysis indicate noncompliance with 40 CFR Section 60.333(b), as described in 40 CFR Section 60.334(c)(2), the Permittee shall notify the MPCA of such excess emissions and the custom fuel monitoring schedule shall be re-examined by the Administrator. Sulfur monitoring shall be conducted weekly during the interim period when the custom fuel-monitoring schedule is being re-examined.	40 CFR Section 60.334(b)(2), Minn. R 7011.2350
Reporting: If there is a change in fuel supply, the Permittee shall notify the Commissioner of such change for re-examination of the custom fuel schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.	40 CFR Section 60.334(b)(2), Minn. R 7011.2350
Notification of Modification: The Permittee must notify the Commissioner of any physical or operational change to an existing NSPS affected facility which may increase the emission rate 60 days or as soon as possible before the change is commenced.	40 CFR Section 60.7(a)(4)
Opacity: greater than or equal to 20 percent opacity for no more than 10 consecutive seconds once operating temperatures have been obtained.	Minn. R. 7011.2300, subp. 1

TABLE B: SUBMITTALS

11/04/97

Facility Name: Northern Border Pipeline Co Compressor S

Permit Number: 09100043 - 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

11/04/97

Facility Name: Northern Border Pipeline Co Compressor S

Permit Number: 09100043 - 001

What to send	When to send	Portion of Facility Affected
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	EU003
Notification of the Anticipated Date of Initial Startup	due 30 days before Anticipated Date of Initial Startup , but not more than 60 days before.	EU003
Notification of the Date Construction Began	due 30 days after Start Of Construction	EU003
Notification	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
Performance Test Notification (written)	due 30 days before Performance Test	EU003
Performance Test Plan	due 30 days before Performance Test	EU003
Performance Test Report - Microfiche Copy	due 105 days after Performance Test	EU003
Performance Test Report	due 45 days after Performance Test	EU003

TABLE B: RECURRENT SUBMITTALS

11/04/97

Facility Name: Northern Border Pipeline Co Compressor S

Permit Number: 09100043 - 001

What to send	When to send	Portion of Facility Affected
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar half-year following Startup	EU001, EU003
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
DRAFT AIR EMISSION PERMIT NO. 09100043-001
NORTHERN BORDER PIPELINE COMPANY - COMPRESSOR STATION NO. 13
(AQD File No. 1871A)

This Technical Support Document (TSD) is for all the interested parties of the permit and to meet the requirements that have been set forth by the federal regulations and Minnesota Rules (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 preliminary 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 3330 Omaha, Nebraska 68103 Contact: Ms. Ruth Jensen (402)398-7716	Compressor Station No. 13 RR 1 Box 50 Trimont, MN 56176

1.1.1 Description of the Facility

Northern Border Pipeline Company (the Permittee) owns a natural gas pipeline that runs through Trimont, Minnesota. Northern Natural Gas Company (a wholly-owned subsidiary) is the operator of this pipeline. Air emission sources at the station include: a 21,843 horsepower gas turbine, a 380 kilowatt (kW) emergency generator, a small boiler, and a small kW emergency generator. The boiler and the small emergency generator are insignificant activities. The Permittee will be removing the existing turbine and replacing it with a 41,837 horsepower gas turbine.

1.2. Description of the Permit Action

The Permittee is currently permitted as a nonmajor source for PSD. The current permit action will 1) remove limits from emergency generator; 2) allow operation of the existing turbine under operating limits (Operating Scenario #1) until the Permittee installs the new turbine, EU 003 (Operating Scenario #2). When the existing turbine is removed, and the new turbine installed, the facility will become a true nonmajor facility for PSD (no limits required) and a major source for Part 70.

Alternative Operating Scenarios (2): Since there may be a lengthy period while the existing turbine is operational before the installation and operation of the new turbine, the permit must address the use of both turbines. This will be accomplished by using two operating scenarios as follow:

- Scenario #1: The existing turbine and emergency generator are operational. Operating and emission limits remain on the turbine.

- Scenario #2: The existing turbine is not operating. The new turbine and emergency generator are operational. Only applicable NSPS and state regulations apply to these emission units, they have not asked for any "synthetic minor" limits to avoid any regulation.

The transition between the two compressors will consist of decommissioning the existing turbine, and installing the new turbine in the same physical space previously occupied by the existing turbine. The new turbine will utilize some of the existing "skin" and compressor. The facility will not be operating for approximately 6-8 weeks during this transition.

NESHAPs - Is not applicable to this facility. Facility would be considered an area source. Total allowable HAP emissions from facility are 3 tons per year.

NSPS - Subp. GG applies.

EAW - Permit action, addition of new turbine and removal of existing turbine will result in an emissions decrease. Therefore, EAW review is not required.

Modeling - This facility modeled CO and NOx emissions October 1990. The results of the modeling showed very little impact to the ambient air when compared to the standards. With this permit action, emissions will be even further reduced. Dennis Becker of the Program Development Section, MPCA concurs with this assessment, and agrees that no further air modeling is warranted.

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 9/14/95. Basis of Turbine #001, emergency generator and insignificant activity calculations. Overview of total facility.

Major Modification: Amendment issued 3/17/95 to change emission limit and operation limit for existing turbine (EU 001).

Major Modification: The MPCA received a major modification application in February 1997 for permission to construct and operate a natural gas turbine. Unrestricted emissions do not exceed the PSD modification significance thresholds for any of the criteria pollutants.

1.4. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

PTE of total facility prior to reissuance and modification

EU #	SV#	Emission Unit Description	PM tpy	PM10 tpy	SO2 tpy	NOx tpy	VOC tpy	Pb tpy	CO tpy	HAPs tpy
001	001	Turbine	12.9	12.9	0.6	249.03	6.4	0	110.0	NA
002	002	Emergency Generator	0.003	0.003	0	0.98	0.02	0	0.12	NA
003	003	Turbine	0	0	0	0	0	0	0	NA
		TOTAL	12.903	12.903	0.6	250.01	6.42	0	110.12	

Alternative Operating Scenario #1: Prior to installation of new turbine (EU 003)

EU #	SV#	Emission Unit Description	PM tpy	PM10 tpy	SO2 tpy	NOx tpy	VOC tpy	Pb tpy	CO tpy	HAPs tpy
001	001	Turbine	12.9	12.9	0.6	244.67	6.4	0	110.0	NA
002	002	Emergency Generator	0.01	0.01	0.001	4.08	0.40	0	2.06	NA
003	003	Turbine	0	0	0	0	0	0	0	NA
		TOTAL	12.91	12.91	0.601	248.75	6.8	0	112.06	

Alternative Operating Scenario #2: After removal of existing turbine (EU 001)

EU #	SV#	Emission Unit Description	PM tpy	PM10 tpy	SO2 tpy	NOx tpy	VOC tpy	Pb tpy	CO tpy	HAPs tpy
001	001	Turbine	0	0	0	0	0	0	0	NA
002	002	Emergency Generator	0.01	0.01	0.001	4.08	0.40	0	2.06	NA
003	003	Turbine	20	20	9.3	234	13	0	98	NA

Total Facility Limited Potential Emissions*	20.01	20.01	9.30	238.08	13.40	0	100.06	NA
Total Facility Actual Emissions**- 001	9.4	9.4	0.4	192.0	4.6	0	80.7	NA
- 002	0	0	0	0.3	0.007	0	0.04	NA
- 003	05.3	15.3	7.1	201	13	0	98	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 7/10/97 from Ruth Jensen.

Table 2. Facility(TF) and Permit Classification

Classification (put x in appropriate box)	Major/Affected Source	*Synthetic Minor	*Minor
PSD (list pollutant)			x
NAAR (list pollutant)			x
Part 70 Permit Program	NO_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.

1.5 Insignificant Activities

The facility has fuel-burning equipment which are considered insignificant activities. Applicability of federal and state regulations is not affected by the existence of these units - the facility is major with or without these units, and when Operating Scenario #2 is implemented, the facility will be nonmajor for PSD and major for Part 70 with or without these units. Total uncontrolled NO_x emissions from insignificant activities are less than 2 tons per year.

1.6 Fugitive Emissions

Fugitive dust emissions at the facility from traffic are insignificant.

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.

EU, GRP, or SV #	Applicable Regulations	Comments:
EU 001	NO_x less than or equal to 0.00323 lb/hp-hr and operation of turbine not to exceed 151,500,000 hp-hrs per year	Limit taken to avoid major source classification for 40 CFR Section 52.21. No limits will be required for EU 003, the new turbine.
EU 002	Minn. R. 7011.2300	Previous permit limited the generator to 120 hours of operation.
SV001, 002, 003	Minn. R. 7011.2300	Standards of Performance for Internal Combustion Engines • Applies to reciprocating engines, emergency generator and stationary gas turbine • SO_x limit does not apply as the facility is located outside the MSP AQ Control Region and heat input is less than 250 MMBtu
EU001, 003 SV 001, 003	40 CFR Section 60.13(i) to comply with 40 CFR pt. 60, subp.GG Minn. R. 7011.2350	National Standards of Performance for Stationary Gas Turbines and enabling Minn. Standards of Performance for Stationary Gas Turbines. NO_x testing and fuel sulfur monitoring • Monitoring of fuel nitrogen content is required according to custom fuel-monitoring schedule per 60.334(b) per criteria discussed in EPA memo dated 8/14/87. EPA has approved use of this custom-fuel monitoring schedule for pipeline-quality natural gas in this industry. (see CD-01 forms and attached memo) • Permittee has authorization to use a gas chromatograph to measure fuel sulfur content. Use of a gas chromoatograph for pipeline-quality natural gas has been previously approved by EPA in this industry (see attached memo) • Turbine contains a low-NO_x burner • Permittee has chosen to comply with 60.333(b) sulfur limit of 0.8% by weight vs. complying with 60.333(a)

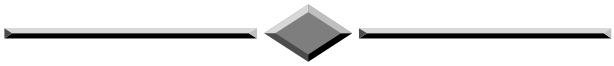
3. Technical Information

STACK/VENT I.D.: 001
EMISSION UNIT: 001 - Existing Turbine

Comments: Permittee used emission factors for natural-gas fired turbines from AIRS.

Transition between EU 001 and EU 003:

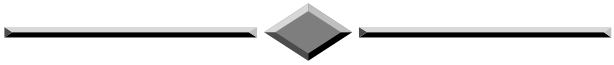
It is expected that EU 001 will be taken off line about October of 1997. Construction of the new turbine will take 6-8 weeks. As the new turbine will be taking the place of the existing turbine (utilizing some of the metal casings and compressor), nothing will be operating at the facility during this transition time. The 2 turbines could never operate simultaneously.



STACK/VENT I.D.: 001
EMISSION UNIT: 001 - Existing Turbine

Comment: The Permittee has requested to reduce the hp-hr limit from their existing permit to 151,500,000 hp-hr/year. This will allow them to remove the limit from the emergency generator, while remaining a nonmajor source for PSD.

151,500,000 hp-hr/yr x 0.00323 lb NOx/hp-hr x 1 ton/2000 bl = 244.67 tpy NOx.



4. Conclusion

Based on the information provided by Northern Border Pipeline, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 09100043-001 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)	Bonnie J. Nelson, P.E.
EC forms and supporting documents	Marshall Cole
Memos	Stuart Arkley