



May 19, 2015

Ruth Jensen
Northern Border Pipeline Company – Compressor Station #1
P.O. Box 542500
Omaha, NE 68154

Dear Ms. Jensen:

Montana Air Quality Permit #2979-04 is deemed final as of May 19, 2015, by the Department of Environmental Quality (Department). This permit is for a natural gas compressor station. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

A handwritten signature in black ink that reads "Julie A. Merkel".

Julie A. Merkel
Permitting Services Section Supervisor
Air Quality Bureau
(406) 444-3626

A handwritten signature in black ink that reads "Ed Warner".

Ed Warner
Lead Engineer – Permitting Services Section
Air Quality Bureau
(406) 444-2467

JM:EW
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #2979-04

Northern Border Pipeline Company – Compressor Station #1
P.O. Box 542500
Omaha, NE 68154

May 19, 2015



MONTANA AIR QUALITY PERMIT

Issued To: Northern Border Pipeline Company
Compressor Station No. 1
P.O. Box 542500
Omaha, NE 68154

MAQP: #2979-04
Administrative Amendment (AA) Request
Received: 4/09/2015
Department’s Decision on AA: 5/01/2015
Permit Final: 5/19/2015
AFS #:105-0003

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Northern Border Pipeline Company (NBPL), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

MAQP #2979-04 is issued to NBPL for the operation of a natural gas turbine and associated equipment located in the NE¼ of the SE¼ of Section 12, Township 33 North, Range 38 East in Valley County

B. Current Permit Action

On April 9, 2015, the Montana Department of Environmental Quality (Department) received an administrative amendment request from NBPL for a change to their scheduled emissions testing requirements because the turbine at Compressor Station No. 1 has been operating for relatively few hours per semiannual period. While emissions testing will still be on a semiannual schedule, NBPL may forego the test for a semiannual period if the turbine has operated for less than 500 hours during that semiannual period. A compliance test must still be completed at least once every 26 months, regardless of the number of hours that the turbine has been operating. No changes to emission limits or maximum potential emissions are proposed or authorized with this permit action.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. NBPL shall operate and properly maintain, for which it was designed, the dry low emissions (DLE) that is part of the turbine design. Emissions from this turbine shall not exceed the following limits (ARM 17.8.752):

Nitrogen oxides (NO_x)¹ 40 parts per million volumetric dry (ppm_{vd})
NO_x² 50.0 lb/hr
Volatile organic compounds (VOC) 3.00 lb/hr

¹ NO_x reported as NO₂.

² NO_x reported as NO₂.

2. NBPL shall not operate Source #01 for more than 750 hours per rolling 12-month time period while the DLE is not in operation. Emissions from this turbine during non-DLE operation shall not exceed the following limits (ARM 17.8.752):
 - NO_x² 78.0 lb/hr
 - VOC 3.00 lb/hr
3. CO emissions from Source #01 shall not exceed 460 lb/hr for Source #01 when the ambient temperature is below 20 degrees Fahrenheit (ARM 17.8.752).
4. CO emissions from Source #01 shall not exceed 56 lb/hr for Source #01 when ambient temperature is 20 degrees Fahrenheit or warmer (ARM 17.8.752).
5. NBPL shall limit the hours of operation, capacity, natural gas consumption, or other parameters (as approved by the Department) of the turbine such that the sum of the CO emissions does not exceed 162 tons per rolling 12-month time period. Any calculations used to establish CO emissions shall be approved by the Department (ARM 17.8.752).
6. Minimum stack height for Source #01 shall be 55 feet above ground level (ARM 17.8.752).
7. NBPL shall operate the 245-kilowatt (kW) emergency backup generator engine, only when commercially supplied electrical power is not available or during planned generator maintenance. NBPL may operate this emergency backup generator engine no more than 500 hours per calendar year and shall not operate the generator as part of routine operations (ARM 17.8.749).
8. NBPL shall utilize pipeline quality natural gas in the Cooper Rolls 40,350-hp (site de-rated to 39,335-hp) turbine, the 245-kW emergency backup generator, and the 1.706-million British thermal units per hour (MMBtu/hr) heating boiler (ARM 17.8.752).
9. NBPL shall operate all equipment to provide the maximum air pollution control for which it was designed (ARM 17.8.752).
10. NBPL shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6-consecutive minutes (ARM 17.8.304).
11. NBPL shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
12. NBPL shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.11 (ARM 17.8.749).

13. NBPL shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 Code of Federal Regulations (CFR) 60, Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable engine (ARM 17.8.340; 40 CFR 60, Subpart JJJJ; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Source #01 shall be tested for NO_x and CO to demonstrate compliance with the NO_x and CO emission limits contained in Sections II.A.1, II.A.2, II.A.3, and II.A.4 on a semiannual basis with a portable analyzer or according to another testing/monitoring schedule as may be approved by the Department. If Source #01 operates less than 500 hours during a semiannual period (January 1 to June 30 or July 1 to December 31), the semiannual test for that operating period may be waived. If Source #01 operates for less than 500 hours during all of the subsequent semiannual periods, at a minimum, a compliance test must be completed once every 2 years with no more than 26 months between tests (ARM 17.8.105 and ARM 17.8.749).
2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
3. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. NBPL shall supply the Department with annual production information for all emission points, as required by the Department, in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis, and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505). NBPL shall submit the following information annually to the Department by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

- a. Hours of operation of the emergency generator.
- b. Summary report listing the reasons why the emergency generator was operated.

- c. Hours of operation of Source #01 in non-DLE operation.
 - d. Summary report listing the reasons when and why Source #01 was operated with non-DLE operation.
2. NBPL shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).
3. All records compiled in accordance with this permit must be maintained by NBPL as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
4. NBPL shall document, by month, the hours that Source #01 is operated without the DLE. By the 25th day of each month, NBPL shall total the hours Source #01 is operated without the DLE during the previous 12 months to verify compliance with the limitation in Section II.A.2. A written report of the compliance verification shall be submitted along with annual emission inventory (ARM 17.8.749).
5. NBPL shall document, by month, CO emissions from Source #01. By the 25th day of each month, NBPL shall total the CO emissions from Source #01 during the previous 12 months to verify compliance with the limitation in Section II.A.5. A written report of the compliance verification shall be submitted along with annual emission inventory (ARM 17.8.749).

SECTION III: General Conditions

- A. Inspection – NBPL shall allow the Department’s representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if NBPL fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving NBPL of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).

- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The Department’s decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by NBPL may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

Montana Air Quality Permit (MAQP) Analysis
Northern Border Pipeline Company
Compressor Station No.1
MAQP #2979-04

I. Introduction/Process Description

A. Permitted Equipment

The Northern Border Pipeline Company (NBPL) facility consists of the following equipment:

- One 39,335-horsepower (hp) Cooper-Rolls natural gas fired turbine (Source #01);
- One 245-kilowatt (kW) emergency backup generator (Source #02); and
- One 1.67-million British thermal units per hour (MMBtu/hr) natural gas fired heater boiler (Source #04).

B. Source Description

The purpose of the NBPL Compressor Station No. 1 is to compress natural gas for transmission through a natural gas pipeline. The compression of the gas is accomplished with the turbine listed in Section I.A of the permit analysis. The facility is located in the NE¹/₄ of the SE¹/₄ of Section 12, Township 33 North, Range 38 East in Valley County.

C. Permit History

On December 23, 1996, NBPL submitted a complete permit application to construct and operate one 39,335-hp Cooper-Rolls natural gas turbine, one 300-kW emergency backup generator engine, one 1.706-MMBtu/hr heating boiler, and one 15-kW emergency backup generator engine. **Permit #2979-00** became final on March 30, 1997.

On May 13, 1998, NBPL requested that Permit #2979-00 be modified to accurately reflect the emergency generator engine size of 245-kW. Also, the monitoring requirement in Section II.B.2 was changed from “after issuance of Permit #2979-00” to “after initial startup of the facility.” **Permit #2979-01** became final on June 19, 1998. Permit #2979-01 replaced Permit #2979-00.

On April 16, 2004, the Department of Environmental Quality (Department) received a complete permit application from NBPL for changes to air quality Permit #2979-01. The changes included a modification to the original nitrogen oxide (NO_x) Best Available Control Technology (BACT) determination by the Department. NBPL Source #01 (39,335-hp natural gas turbine) is unable to operate the dry low NO_x combustion system (DLE), determined by the Department to be BACT, every hour and at all conditions for which the turbine operates. The modification allows NBPL to operate Source #01 up to 750 hours per year while the DLE is not in operation. Reasons for non-DLE operation include only start-up and shutdown, when operation is required during downstream maintenance requirements and operation

during low ambient temperatures at the site. New carbon monoxide (CO) emissions limits for Source #01 of 460 pounds per hour (lb/hr) when the ambient temperature is below 20 degrees Fahrenheit, 56 lb/hr when the ambient temperature is 20 degrees Fahrenheit or warmer, and 109.5 tons per rolling 12-month time period replaced the condition that limited the operation of Source #01 to running at 80% or greater load when the ambient temperature is below 5 degrees Fahrenheit. The 109.5 tons per year (TPY) CO limit is made enforceable by monitoring a combination of ambient and turbine parameters. Cooper-Rolls, the manufacturer of the turbine, tested the turbine under different operating scenarios to develop a correlation between the monitored parameters and CO emissions. The 15-kW emergency generator was removed from the facility. **Permit #2979-02** replaced Permit #2979-01.

On March 7, 2012, the Department received a complete application from NBPL to increase the rolling 12-month CO emission limit in MAQP #2979-02 for the natural gas compressor turbine (Source #01) to 162 TPY. The modification request did not represent a change in equipment or methods or operation, or a change in the BACT emission limits based on a lb/hr basis. All of the existing BACT pollution control systems remained in place. The previous rolling 12-month CO limit of 109.5 TPY was established as a good-faith estimate of projected reasonable worst-case annual CO emissions based on turbine manufacturer calculations and projected ambient temperatures. The updated 12-month rolling limit was based on historical emissions data gathered by the Continuous Calculated Emissions Monitoring System (CCEMS) that was put in place as a result of the previous permit action, average monthly temperatures, and projected average daily hp by month. This permit action modified the 12-month rolling CO emission limit and updated the rule references and permit language to current Department practices. **MAQP #2979-03** replaced MAQP #2979-02.

D. Current Permit Action

On April 9, 2015, the Department received an administrative amendment request from NBPL for a change to their scheduled emissions testing requirements because the turbine at Compressor Station No. 1 has been operating for relatively few hours per semiannual period. While emissions testing will still be on a semiannual schedule, NBPL may forego the test for a semiannual period if the turbine has operated for less than 500 hours during that semiannual period. A compliance test must still be completed at least once every 26 months, regardless of the number of hours that the turbine has been operating. No changes to emission limits or maximum potential emissions are proposed or authorized with this permit action. **MAQP #2979-04** replaces MAQP #2979-03.

E. Additional Information

Additional information, such as applicable rules and regulations, BACT/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

NBPL shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide

5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

NBPL must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, NBPL shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. (4) Commencing July 1, 1972, no person shall burn liquid or solid fuels containing sulfur in excess of 1 pound of sulfur per million Btu fired. (5) Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions. NBPL will burn natural gas in all fuel burning equipment, which will meet this limitation.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). NBPL is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts.
 - a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
 - b. 40 CFR 60, Subpart GG – Standards of Performance for Stationary Gas Turbines applies to all stationary gas turbines with a heat input at peak load equal to or greater than 10 MMBtu/hr, based on the lower heating value of the fuel fired. Source #01 has a maximum combustion rating greater than this threshold; therefore, this Subpart applies to the facility.
 - c. 40 CFR 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE). Owners and operators of stationary SI ICE that commence construction, modification, or reconstruction after June 12, 2006 are subject to this subpart. Based on the information submitted by NBPL, the SI ICE equipment to be used under MAQP #2979-03 is not currently subject to this subpart because it commenced construction prior to the applicability dates. However, future engine installations, modifications, or replacements may be subject to this subpart.

8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR 63, shall comply with the requirements of 40 CFR 63, as listed below:
 - a. 40 CFR 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities. Owners or operators of oil and natural gas production facilities, as defined and applied in 40 CFR Part 63, shall comply with the applicable provisions of 40 CFR Part 63, Subpart HH. In order for a natural gas production facility to be subject to 40 CFR Part 63, Subpart HH requirements, certain criteria must be met. First, the facility must be a major or minor source of Hazardous Air Pollutants (HAP). Emissions for major source determination purposes can be determined according to paragraphs (a)(1)(i) through (a)(1)(iii) of 40 CFR 63, Subpart HH. Second, a facility that is a major or minor source for HAPs must also either process, upgrade, or store hydrocarbon liquids prior to the point of custody transfer, or process, upgrade, or store hydrocarbon liquids prior to the point of custody transfer. Third, the facility must also contain an affected source as specified in paragraphs (b)(1) through (b)(2) of 40 CFR Part 63, Subpart HH. For area sources of HAPs, the affected sources are each triethylene glycol (TEG) dehydration unit. Finally, if the first three criteria are met, and the exemptions contained in paragraphs (e)(1) and (e)(2) of 40 CFR Part 63, Subpart HH do not apply, the facility is subject to the applicable provisions of 40 CFR Part 63, Subpart HH. Based on

the information submitted by NBPL, the facility is not subject to the provisions of 40 CFR Part 63, Subpart HH because the facility is a minor source of HAPs and does not contain a TEG dehydration unit.

- b. 40 CFR 63, Subpart HHH National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities. Owners or operators of natural gas transmission or storage facilities, as defined and applied in 40 CFR Part 63, shall comply with the standards and provisions of 40 CFR Part 63, Subpart HHH. In order for a natural gas transmission and storage facility to be subject to 40 CFR Part 63, Subpart HHH requirements, certain criteria must be met. First, the facility must transport or store natural gas prior to the gas entering the pipeline to a local distribution company or to a final end user if there is no local distribution company. In addition, the facility must be a major source of HAPs as determined using the maximum natural gas throughput as calculated in either paragraphs (a)(1) and (a)(2) or paragraphs (a)(2) and (a)(3) of 40 CFR Part 63, Subpart HHH. Second, a facility must contain an affected source (glycol dehydration unit) as defined in paragraph (b) of 40 CFR Part 63, Subpart HHH. Finally, if the first two criteria are met, and the exemptions contained in paragraph (f) of 40 CFR Part 63, Subpart HHH, do not apply, the facility is subject to the applicable provisions of 40 CFR Part 63, Subpart HHH. Based on the information submitted by NBPL, the facility is not subject to the provisions of 40 CFR 63, Subpart HHH because the facility is not a major source of HAPs.
- c. 40 CFR 63, Subpart YYYY – National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines. This Subpart applies to stationary combustion turbines located at major sources of HAP emissions. NBPL Compressor Station No. 1 is not a major source of HAP emissions; therefore, this Subpart does not apply.
- d. 40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). NBPL has an emergency RICE which is an affected source under this Subpart; therefore, NBPL must comply with the applicable sections of this Subpart.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:

- 1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. The current permit action is an administrative permit action; therefore, no permit application fee was required.

2. ARM 17.8.505 When Permit Required--Exclusions. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

- E. ARM 17.8, Subchapter 7 – Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:
 1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
 2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. NBPL has the PTE greater than 25 tons per year of NO_x and CO; therefore, an air quality permit is required.
 3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
 4. ARM 17.8.745 Montana Air Quality Permits—Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
 5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification or use of a source. NBPL submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. The current permit action is an administrative permit action; therefore, no public notice was required.
 6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule

also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving NBPL of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.
12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

15. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.
- F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a listed source and does not have the potential to emit more than 250 TPY of a criteria pollutant (excluding fugitive emissions). While continuous operation of the gas turbine at CO emission levels in compliance with lb/hr limits could theoretically exceed 250 TPY, the MAQP contains federally enforceable limits for CO on a 12-month rolling basis that prevent this from occurring.
- G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:
1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
 - a. PTE > 100 TPY of any pollutant;
 - b. PTE > 10 TPY of any one HAP, PTE > 25 TPY of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 TPY of particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) in a serious PM₁₀ nonattainment area.
 2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 require that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #2979-02 for NBPL, the following conclusions were made:
 - a. The facility's PTE is greater than 100 TPY of NO_x and CO.
 - b. The facility's PTE is less than 10 TPY for any one HAP and less than 25 TPY for all HAPs.

- c. This source is not located in a serious PM₁₀ nonattainment area.
- d. This facility is subject to a current NSPS: 40 CFR 60, Subpart A – General Conditions and 40 CFR 60, Subpart GG – Standards of Performance for Stationary Gas Turbines.
- e. This facility is subject to current National Emission Standards for Hazardous Air Pollutants: 40 CFR 63, Subpart A – General Conditions and 40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.
- f. This source is not a Title IV affected source, nor a solid waste combustion unit.
- g. This source is not an Environmental Protection Agency (EPA) designated Title V source.

Based on these facts, the Department determined that NBPL is subject to the Title V operating permit program. At the time of issuance of this permit, NBPL holds Title V Operating Permit #OP2979-12.

III. BACT Determination

A BACT determination is required for each new or modified source. NBPL shall install on the new or modified source the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized.

A BACT analysis was not required for the current permit action because the current permit action is considered an administrative permit action.

IV. Emission Inventory

		Tons/Year				
	Source	PM ₁₀	NO _x	CO	VOC	SO _x
#01	40,350-hp Turbine	19.32	229.50	162.00	13.14	8.76
#02	245-kW Emergency Generator	0.01	2.94	0.37	0.07	0.00
#03	Heating Boiler	0.09	0.75	0.16	0.04	0.00
Total		19.42	233.19	162.53	13.25	8.76

(SOURCE #01)

Cooper-Rolls 39,335-hp Turbine

Brake Horse Power: 39,335
 Hours of Operation: 8,760 hr/yr
 Max Fuel Combustion Rate: 7.038 MBtu/hp-hr and 315 MMBtu/hr
 Fuel Heating Value: 1,000 Btu/SCF or 0.0010 MMSCF/MMBtu (Natural Gas)

PM₁₀ Emissions

Emission Factor: 14.0 lb/MMscf {AFSEF PC-version 9/90, 2-02-002-01}
 Calculations: 14.0 lb/MMscf * 0.001 Mmscf/MMBtu * 315 MMBtu/hr=4.41 lbs/hr
 4.41 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 19.3 ton/yr

NO_x Emissions

Emission Factor: 50.0 lb/hr {Manufacturer's emission factor based on 40 ppmvd at 15 percent O₂, DLE in operation, BACT Determination}

Calculations: 50.0 lb/hr * 8010 hr/yr * 0.0005 ton/lb = 200.25 ton/yr

Emission Factor: 78.0 lb/hr {Company's emission factor, DLE in Non-operation, BACT Determination}

Calculations: 78.0 lb/hr * 750 hr/yr * 0.0005 ton/lb = 29.25 ton/yr

CO Emissions

Calculations: = 162.00 ton/yr {Permit limit based on historical CCEMS data, average monthly ambient temperatures, and projected average daily hp by month}

VOC Emissions

Emission Factor: 3.0 lb/hr {Manufacturer's emission factor BACT Determination}

Calculations: 3.0 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 13.1ton/hr

SO_x Emissions

Emission Factor: 2.0 lb/hr {Manufacturers emission factor at 60% load}

Calculations: 2.0 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 8.76 ton/hr

(SOURCE #02)

Emergency backup generator Engine (300 kW)

Horsepower: 402 hp

Max Fuel Combustion Rate: 3.46 MMBtu/hr

Hours of Operation: 500 hr/yr

Fuel Heating Value: 1,000 Btu/SCF or 0.0010 MMSCF/MMBtu (Natural Gas)

PM₁₀ Emissions

Emission Factor: 10.0 lb/MMSCF {AFSEF PC Version 9/90, 2-01-002-02}

Calculations: 10.0 lb/MMSCF * 0.001 MMSCF/MMBtu * 3.46 MMBtu/hr = 0.035 lb/hr
0.035 lb/hr * 500 hr/yr * 0.0005 ton/lb = 0.009 ton/yr

NO_x Emissions

Emission Factor: 3400.0 lb/MMSCF {AFSEF PC Version 9/90, 2-01-002-02}

Calculations: 3400.0 lb/MMSCF * 0.001 MMSCF/MMBtu * 3.46 MMBtu/hr = 11.76 lb/hr
11.76 lb/hr * 500 hr/yr * 0.0005 ton/lb = 2.94 ton/yr

CO Emissions

Emission Factor: 430.0 lb/MMSCF {AFSEF PC Version 9/90, 2-01-002-02}

Calculations: 430.0 lb/MMSCF * 0.001 MMSCF/MMBtu * 3.46 MMBtu/hr = 1.49 lb/hr
1.49 lb/hr * 500 hr/yr * 0.0005 ton/lb = 0.372 ton/yr

VOC Emissions

Emission Factor: 82.9 lb/MMSCF {AFSEF PC Version 9/90, 2-01-002-02}

Calculations: 82.9 lb/MMSCF * 0.001 MMSCF/MMBtu * 3.46 MMBtu/hr = 0.287 lb/hr
0.287 lb/hr * 500 hr/yr * 0.0005 ton/lb = 0.072 ton/yr

SO_x Emissions

Emission Factor: 0.60 lb/MMSCF {AFSEF PC Version 9/90, 2-01-002-02}

Calculations: 0.60 lb/MMSCF * 0.001 MMSCF/MMBtu * 3.46 MMBtu/hr = 0.002 lb/hr
0.002 lb/hr * 500 hr/yr * 0.0005 ton/lb = 0.001 ton/yr

(SOURCE #03)

Heating Boiler

Max Fuel Combustion Rate: 1.67 MMBtu/hr

Hours of Operation: 8760 hr/yr

PM₁₀ Emissions

Emission Factor: 0.012 lb/MMBtu {AP-42 Table 1.3-1,-2,-3}

Calculations: 0.012 lb/MMBtu * 1.67 MMBtu/hr = 0.020 lb/hr
0.020 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.090 ton/yr

NO_x Emissions

Emission Factor: 0.10 lb/MMBtu {AP-42 Table 1.3-1,-2,-3}
Calculations: 0.10 lb/MMBtu * 1.67 MMBtu/hr = 0.171 lb/hr
0.171 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.747 ton/yr

CO Emissions

Emission Factor: 0.0210 lb/MMBtu {AP-42 Table 1.3-1,-2,-3}
Calculations: 0.0210 lb/MMBtu * 1.67 MMBtu/hr = 0.036 lb/hr
0.036 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.157 ton/yr

VOC Emissions

Emission Factor: 0.0053lb/MMBtu {AP-42 Table 1.3-1,-2,-3}
Calculations: 0.0053 lb/MMBtu * 1.67 MMBtu/hr = 0.009 lb/hr
0.009 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.040 ton/yr

SO_x Emissions

Emission Factor: 0.0006lb/MMBtu {AP-42 Table 1.3-1,-2,-3}
Calculations: 0.0006 lb/MMBtu * 1.67 MMBtu/hr = 0.001 lb/hr
0.001 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.004 ton/yr

V. Existing Air Quality

NBPL is located in the NE¹/₄ of the SE¹/₄ of Section 12, Township 33 North, Range 38 East in Valley County. Valley County is unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants.

VI. Ambient Air Impact Analysis

The current permit action is an administrative permit action with no changes to allowable emissions; therefore, no ambient air impact analysis was performed. The Department believes that it will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?

YES	NO	
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Takings or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

VIII. Environmental Assessment

This permit action will not result in an increase of emissions from the facility and is considered an administrative action; therefore, an Environmental Assessment is not required.

Analysis Prepared By: Ed Warner

Date: April 30, 2015