AIR QUALITY PERMIT

Issued To:	Devon Energy Corporation Havre Pipeline Company, LLC Hill County #3 Compressor Station P.O. Box 2606 Clear Creek Road Havre, MT 59501	Permit: #2924-04 Application Complete: 07/02/04 Preliminary Determination Issued: 08/03/04 Department's Decision Issued: 08/19/04 Permit Final: 09/04/04 AFS #: 041-0005

An air quality permit, with conditions, is hereby granted to Devon Energy Corporation - Havre Pipeline Company, LLC (HPC), 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

HPC owns and operates a natural gas compressor station located in the SE¼ of the SE¼ of Section 15, Township 30 North, Range 15 East, in Hill County, Montana. The facility is known as the Hill County #3 Compressor Station (also known as the Boyce-Nystrom Compressor Station). A complete list of the permitted equipment is contained in Section I.A of the Permit Analysis.

B. Current Permit Action

On July 2, 2004, the Department of Environmental Quality (Department) received a complete Montana Air Quality Permit Application, from HPC, for the modification of Permit #2924-03. Specifically, HPC requested the following: 1) To add a 625-Horsepower (Hp) Caterpillar Compressor Engine; 2) To remove a 1,478-Hp Waukesha Compressor Engine; and 3) To make emission offsets from the compressor engines a federally enforceable condition to enable HPC to replace engines at the facility according to the provisions of ARM 17.8.745. In addition, HPC is now a subsidiary of Devon Energy Corporation, rather than Ocean Energy, Inc. The current permit action incorporates HPC's requests and the name change into the permit.

SECTION II. Conditions and Limitations

A. Emission Limitations

1. HPC shall not operate more than two compressor engines at any given time (ARM 17.8.749).

2. The maximum rated design capacity of compressor engine #01 shall not exceed 1,478-Hp (ARM 17.8.749).

3. Compressor engine #01 shall be a rich-burn engine fitted with a non-selective catalytic reduction (NSCR) unit and an electronic air-to-fuel ratio (AFR) controller. Emissions from compressor engine #01 shall not exceed the pound per hour (lb/hr) emission limits as calculated using the following equation and the pollutant specific gram per brake horsepower-hour (g/bhp-hr) emission factors (ARM 17.8.752).

Emission Limit Equation:

lb/hr = emission factor (g/bhp-hr) * maximum rated design capacity of engine (bhp) * 0.002205 lb/g

Emission Factors:

Oxides of Nitrogen (NO_x):	2.0 g/bhp-hr
Carbon Monoxide (CO):	3.0 g/bhp-hr
Volatile Organic Compounds (VOC):	1.0 g/bhp-hr

4. The maximum rated design capacity of compressor engine #02 shall not exceed 625-Hp (ARM 17.8.749).

5. Compressor engine #02 shall be a rich-burn engine fitted with an NSCR unit and an electronic AFR controller. Emissions from compressor engine #02 shall not exceed the lb/hr emission limits as calculated using the following equation and the pollutant specific g/bhp-hr emission factors (ARM 17.8.752).

Emission Limit Equation:

lb/hr = emission factor (g/bhp-hr) * maximum rated design capacity of engine (bhp) * 0.002205 lb/g

Emission Factors:

NO_x:	1.0 g/bhp-hr
CO:	1.0 g/bhp-hr
VOC:	1.0 g/bhp-hr

6. HPC shall operate all equipment to provide the maximum air pollution control for which it was designed (ARM 17.8.752).

7. HPC 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).

8. HPC 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).

9. HPC 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.8 (ARM 17.8.749).

B. Testing Requirements

1. HPC shall test compressor engine #01 for NO_x and CO, concurrently, to demonstrate compliance with the NO_x and CO emission limits as calculated in Section II.A.3. The testing shall occur on an every-4-year basis or according to another testing/monitoring

schedule as may be approved by the Department (ARM 17.8.105 and ARM 17.8.749). As of the date of Permit #2924-04, the last test was performed on March 29, 2001.

2. Compressor engine #02 shall be initially tested for NO_x and CO, concurrently, to demonstrate compliance with the emission limits as calculated in Section II.A.5. The initial source testing shall be conducted within 180 days of the initial start up date of the compressor engine. After the initial source test, additional testing shall continue on an every-4-year basis or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105 and ARM 17.8.749).

3. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

4. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. HPC 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).

2. HPC 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 HPC 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).

D. Notification

1. HPC shall provide the Department with written notification of the actual installation date of compressor engine #02 within 30 days after the actual installation date.

2. HPC shall provide the Department with written notification of the actual start-up date of compressor engine #02 within 15 days after the actual start-up date.

SECTION III: General Conditions

A. Inspection – HPC 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 HPC fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving HPC 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 of 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, as amended by the 1991 Legislature, failure to pay the annual operation fee by HPC may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

Permit Analysis
Devon Energy Corporation
Havre Pipeline Company, LLC
Hill County #3 Compressor Station
Permit #2924-04

I. Introduction/Process Description

Devon Energy Corporation - Havre Pipeline Company, LLC (HPC) owns and operates the Hill County #3 Compressor Station. The facility is located in the SE ¼ of the SE ¼ of Section 15, Township 30 North, Range 15 East, in Hill County, Montana. The facility is located approximately 14 miles southwest of Havre, Montana on three fenced, rural acres.

A. Permitted Equipment

The facility consists of the following equipment:

- (1) 1,478-Horsepower (Hp) Waukesha L7042 GSI natural gas compressor engine (compressor engine #01);
- (1) 625-Hp Caterpillar G398 TA natural gas compressor engine (compressor engine #02);
- (2) 500-gallon fixed-roof tanks (for oily water);
- (4) 500-gallon storage tanks (for antifreeze and lube oil);
- (1) PESCO TEG Dehydrating Unit (reboiler and still vent); and
- Scrubbers, headers, meters and other insignificant emitting units.

B. Source Description

The Hill County #3 Compressor Station gathers, compresses, and dehydrates nearby field gas. The compressor engines are used to gather and compress the gas and the dehydration unit removes moisture from the gas prior to transmission through the pipeline.

C. Permit History

On March 13, 1996, the Department of Environmental Quality (Department) received a complete Montana Air Quality Permit Application from HPC requesting the installation and operation of the Boyce-Nystrom facility. **Permit #2924-00** was issued final on June 19, 1996.

On June 3, 1999, the Department received notification that UMC Petroleum Corp had merged with Ocean Energy, Inc. The permit ownership was changed to reflect that the Havre Pipeline Co., LLC, Boyce-Nystrom Compressor Station (Hill County #3 Compressor Station) would operate as a subsidiary of Ocean Energy, Inc. The rule references were also updated. On June 27, 1999, **Permit #2924-01** replaced Permit 2924-00.

In 1999, the U.S. Environmental Protection Agency (EPA) informed the Department that any condition in an Air Quality Preconstruction Permit would be considered a federally enforceable condition. However, there are certain state rules that were never intended to be federally enforceable. The Department notified all facilities holding preconstruction permits that they could request deletion of those conditions based on the Administrative Rules of Montana (ARM) 17.8.717 and ARM 17.8.315. Removing either of these conditions did not relieve the facility from complying with the rule upon which the permit condition was based. Removal only ensured that enforcement of that condition remained solely with the Department. The

permit action removed the condition based on ARM 17.8.315 from HPC's permit. On April 13, 2000, **Permit** #**2924-02** replaced permit 2924-01.

On September 28, 2000, the Department received a permit modification request from HPC. HPC requested that the Department update the permit with a complete list of on-site equipment. During a company conducted permit audit, it was discovered that a PESCO TEG Dehydration Unit had not been listed as a contributing source of emissions. The dehydration unit was installed in November of 1997, as a de minimis source prior to de minimis notification requirements. Because emissions from the PESCO TEG dehydrating unit were less than the de minimis threshold of 15 tons per year, the PESCO TEG Dehydration Unit was added to the permit according to the provisions of ARM 17.8.705(1)(r). On February 14, 2001, **Permit #2924-03** replaced Permit #2924-02.

D. Current Permit Action

On May 27, 2004, the Department received a Montana Air Quality Permit Application, from HPC, for the modification of Permit #2924-03. The application was deemed complete on July 2, 2004, upon HPC's submittal of a revised Montana Air Quality Permit Application, which included additional information that was requested by the Department. Specifically, HPC requested the following: 1) To add a 625- Hp Caterpillar Compressor Engine; 2) To remove a 1,478-Hp Waukesha Compressor Engine; and 3) To make emission offsets from the compressor engines a federally enforceable condition in the permit to enable HPC to potentially replace engines at the facility according to the provisions of ARM 17.8.745. The current permit action incorporates HPC's requests into the permit. The current permit action incorporates HPC's requests and the name change into the permit. **Permit #2924-04** replaces Permit #2924-03.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (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 ARMs 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).

   HPC shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, 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 PM_{10}

HPC 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 (PM). (2) Under this rule, HPC shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne PM.

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, PM 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 PM 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 British thermal units (MMBtu) 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. HPC will utilize pipeline quality natural gas in its 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). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR 60.

   The Hill County #3 Compressor Station is not an NSPS affected source because it does not meet the definition of a natural gas processing plant as defined in 40 CFR 60, Subpart KKK. In addition, 40 CFR 60, Subpart LLL is not applicable to the Hill County #3 Compressor Station because the facility does not utilize a sweetening unit to process sour gas.

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:

   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 source of hazardous air pollutants (HAP) as determined according to paragraphs (a)(1)(i) through (a)(1)(iii) of 40 CFR 63, Subpart HH. Second, a facility that is determined to be major for HAPs must also either process, upgrade, or store hydrocarbon liquids prior to the point of custody transfer, or process, upgrade, or store natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user. Third, the facility must also contain an affected source as specified in paragraphs (b)(1) through (b)(4) of 40 CFR Part 63, Subpart HH. 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 HPC, the Hill County #3 facility is not subject to the provisions of 40 CFR Part 63, Subpart HH because the facility is not a major source of HAPs.

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. Second, 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. Third, 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 three 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 HPC, the Hill County #3 facility is not subject to the provisions of 40 CFR 63, Subpart HHH because the facility is not a major source of HAPs.

40 CFR 63, Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines. Owners or operators of facilities that utilize reciprocating internal combustion engines and that are a major source of HAPs, as defined and applied in 40 CFR Part 63, shall comply with the standards and provisions of 40 CFR Part 63, Subpart ZZZZ. In order for a facility that utilizes a reciprocating internal combustion engine to be subject to 40 CFR Part 63, Subpart ZZZZ requirements, certain criteria must be met. The reciprocating internal combustion engines must have a maximum rated design capacity greater than 500-Hp and the facility must be a major source of HAPs. Based on the information submitted by HPC, the Hill County #3 facility is not subject to the provisions of 40 CFR 63, Subpart ZZZZ because although the facility utilizes two reciprocating internal combustion engines with a maximum rated design capacity greater than 500-Hp, the facility is not a major source of HAPs.

D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:

1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.402 Requirements. HPC must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed height of the new or altered stack for HPC is below the allowable 65-meter GEP stack height.

E. 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. HPC submitted the appropriate permit application fee for the current permit action.

2. ARM 17.8.505 Air Quality Operation Fees. 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.

F. 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 alteration to construct, alter or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. The Hill County #3 Compressor Station has a PTE greater than 25 tons per year of oxides of nitrogen (NO_x) and Carbon Monoxide (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, alteration or use of a source. HPC 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. HPC submitted an affidavit of publication of public notice for the May 24, 2004, issue of the *Havre Daily News*, a newspaper of general circulation in the town of Havre, in Hill County, as proof of compliance with the public notice requirements.

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 HPC 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 17.8.762 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 altered 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.

12. 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).

13. 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.

14. 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.

G. 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 major stationary source since this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

H. 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 tons per year of any pollutant;

   b. PTE > 10 tons per year of any one HAP, PTE > 25 tons per year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

   c. PTE > 70 tons per year of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #2924-04 for HPC, the following conclusions were made.

   a. The facility's PTE is less than 100 tons per year for any pollutant.

   b. The facility's PTE is less than 10 tons per year for any one HAP and less than 25 tons per year for all HAPs.

   c. This source is not located in a serious PM_{10} nonattainment area.

   d. This facility is not subject to any current NSPS.

   e. This facility is not subject to any current NESHAP standards.

   f. This source is not a Title IV affected source, nor a solid waste combustion unit.

   g. This source is not an EPA designated Title V source.

   Based on these facts, the Department determined that the Hill County #3 Compressor Station will be a minor source of emissions as defined under Title V.

III. BACT Determination

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

A BACT analysis was submitted by HPC in Permit Application #2924-04, addressing the available methods of controlling emissions from the 625-Hp Caterpillar Compressor Engine. The Department reviewed these methods, as well as previous BACT determinations in order to make the following BACT determinations.

A. NO_x BACT

As part of the NO_x BACT analyses, the following control technologies were reviewed:

- Lean burn engine with a selective catalytic reduction (SCR) unit and an air-to-fuel ratio (AFR) controller;
- Lean burn engine with an SCR unit;
- Lean burn engine with a non selective catalytic reduction (NSCR) unit and AFR controller;
- Lean burn engine with an NSCR unit;
- Lean burn engine with an AFR controller;
- Lean burn engine with no additional controls;
- Prestratisfied charge combustion (PCC) (i.e. lean burn retrofit) with an SCR unit and an AFR controller;
- PCC with an SCR unit;
- PCC with an NSCR unit and an AFR controller;
- PCC with an NSCR unit;
- PCC with an AFR controller;
- PCC with no additional controls
- Rich burn engine with an SCR unit and an AFR controller;
- Rich burn engine with an SCR unit;
- Rich burn engine with an NSCR unit and an AFR controller;
- Rich burn engine with an NSCR unit;
- Rich burn engine with an AFR controller;
- Rich burn engine with no additional controls;
- Crossover engine with an SCR unit;
- Crossover engine with an NSCR unit;
- Crossover engine with no additional controls;

SCR applied to rich burn engines is technically infeasible because the oxygen concentration from rich burn engines is not high enough for an SCR to operate properly. Conversely, NSCR on lean burn and PCC engines is technically infeasible because the engine must burn a rich fuel mixture for the NSCR to operate properly.

Technically feasible control options, in order of the highest control efficiency to the lowest control efficiency, include the following control options contained in Table 1:

Table 1 – Technically Feasible Control Options

Control Technology	% Control	NO_x Emission Rate (g/Hp-hr)	NO_x Emission Rate (ton/yr)
Lean Burn Engine with SCR and AFR	97	0.3	1.81
Lean Burn Engine with SCR	97	0.3	1.81
Rich Burn Engine with NSCR and AFR	89	1.0	6.04
Rich Burn Engine with NSCR	89	1.0	6.04
Crossover Engine with SCR	89	1.0	6.04
Lean Burn Engine with AFR	84	1.5	9.05
Lean Burn Engine with No Additional Control	84	1.5	9.05
Crossover Engine with No Additional Controls	79	2.0	12.07
Crossover Engine with NSCR	79	2.0	12.07
Rich Burn Engine with AFR	0	9.4	56.74
Rich Burn Engine with No Additional Controls	0	9.4	56.74

The control methods listed in Table 1 are widely used; these control options cannot be ruled out based on environmental or energy impacts with the exception of engines utilizing an SCR unit. Additional adverse environmental impacts could occur with an SCR unit operating at variable loads as required by a typical compressor engine. SCR units are typically installed on process units that have a constant or low variability in load fluctuation. When engine load changes, excess ammonia (ammonia slip) may pass through the system and out the stack or not enough ammonia will be injected. Therefore, given that any differences in energy impacts would be minmimal because the engines would have approximately the same maximum rated design capacity, the following types of engines were eliminated from further BACT consideration due to the additional environmental impacts associated with SCR units operating on units that typically operate at variable loads and because SCR units have not been determined to be BACT on compressor engines sized approximately the same as the proposed engine: lean burn engine with SCR and AFR; lean burn engine with SCR; and crossover engine with SCR.

HPC is proposing to use an existing HPC fleet Caterpillar G398 TALE crossover engine retrofitted to a rich burn engine equipped with an NSCR unit and an AFR controller. Table 2 shows the cost per ton of NO_X reduction achieved for the proposed engine. The capital cost of purchasing a new crossover engine is considered zero because HPC already owns the proposed engine. The capital costs of purchasing a new lean burn engine and a rich burn retrofit were provided by HPC.

Table 2 – Cost Effectiveness

Control Technology	Total Annual Cost	Resulting NO_X Emissions (tpy)	Cost Effectiveness ($/ton)
Rich Burn Engine with NSCR and AFR (proposed retrofit)	$71,677	6.04	$1,414

The use of the existing crossover engine retrofitted to a rich burn engine with an NSCR unit and an AFR controller is the highest ranking control alternative that was not eliminated from further consideration due to being technically infeasible or due to the additional environmental impacts. Further, the cost effectiveness for the proposal is approximately $1,400 per ton, which the Department believes is within industry norms. The Department agrees that the proposed emission limit of 1.0 grams per brake horsepower-hr (g/bhp-hr) using an NSCR unit and an AFR controller to control NO_X emissions from the proposed crossover engine retrofitted to a rich burn engine utilizing NSCR and AFR is BACT. A rich burn engine equipped with NSCR and AFR control is frequently used in the natural gas compression industry and the BACT determination is consistent with other recently permitted similar sources.

B. CO BACT

As part of the CO BACT analyses, the following control technologies were reviewed:

- Lean burn engine with a catalytic oxidation unit and an AFR controller;
- Lean burn engine with a catalytic oxidation unit;
- Lean burn engine with an NSCR unit and an AFR controller;
- Lean burn engine with an NSCR unit;
- Lean burn engine with an AFR controller;
- Lean burn engine with no additional controls;
- PCC engine with a catalytic oxidation unit and an AFR controller;
- PCC engine with a catalytic oxidation unit;
- PCC with an NSCR unit and an AFR controller;
- PCC with an NSCR unit;
- PCC engine with an AFR controller;
- PCC engine with no additional controls;
- Rich burn engine with a catalytic oxidation unit and an AFR controller;
- Rich burn engine with a catalytic oxidation unit;
- Rich burn engine with an NSCR unit and an AFR controller;
- Rich burn engine with an NSCR unit;
- Rich burn engine with an AFR controller;
- Rich burn engine with no additional controls;
- Crossover engine with an oxidation catalyst;
- Crossover engine with an NSCR unit; and
- Crossover engine with no additional controls.

Catalytic oxidation applied to a rich burn is technically infeasible because the oxygen concentration from a rich burn engine is not high enough for a catalytic oxidation unit to operate properly. An NSCR unit applied to a lean burn engine or a PCC engine is also technically infeasible because the NSCR unit needs a rich fuel-to-air ratio to operate properly.

Technically feasible control options, in order of the highest control efficiency to the lowest control efficiency, include:

Table 3 - Technically Feasible Control Options

Control Technology	% Control	NO_x Emission Rate (g/Hp-hr)	NO_x Emission Rate (ton/yr)
Lean Burn Engine with Catalytic Oxidizer and AFR	94.9	0.5	3.02
Lean Burn Engine with Catalytic Oxidizer	94.9	0.5	3.02
Rich Burn Engine with NSCR and AFR	89.9	1.0	6.04
Rich Burn Engine with NSCR	89.9	1.0	6.04
Crossover Engine with Catalytic Oxidizer	84.8	1.5	9.05
Lean Burn Engine with AFR	72.7	2.7	16.30
Lean Burn Engine with No Additional Controls	72.7	2.7	16.30
Crossover Engine with NSCR	69.7	3.0	18.11
Crossover Engine with No Additional Controls	69.7	3.0	18.11
Rich Burn Engine with AFR	0	9.9	59.76
Rich Burn Engine with No Additional Controls	0	9.9	59.76

The control methods listed above are widely used; these control options cannot be ruled out based on environmental or energy impacts. Lean burn engines do emit relatively higher HAP (formaldehyde) emissions than rich burn engines. Lean burn engines cannot be eliminated based on higher formaldehyde emissions, but the higher formaldehyde emissions can affect the BACT determination.

HPC is proposing to use an existing HPC fleet Caterpillar G398 TALE crossover engine retrofitted to a rich burn engine equipped with an NSCR unit and an AFR controller. Table 4 shows the cost per ton of CO reduction achieved for the various control options. The capital cost of purchasing a new crossover engine is considered zero. The capital costs of purchasing a lean burn engine and rich burn retrofit were provided by HPC.

Table 4 – Cost Effectiveness

Control Technology	Total Annual Cost	Resulting CO Emissions (tpy)	Cost Effectiveness ($/ton)
Lean Burn Engine with Catalytic Oxidizer and AFR	$97,374	3.02	$1,717
Lean Burn Engine with Catalytic Oxidizer	$97,374	3.02	$1,717
Rich Burn Engine with NSCR and AFR	$71,677	6.04	$1,335
Rich Burn Engine with NSCR	$71,677	6.04	$1,335
Crossover Engine with Catalytic Oxidizer	$60,588	9.05	$1,197
Lean Burn Engine with AFR	$96,258	16.30	$2,218
Lean Burn Engine with No Additional Controls	$96,258	16.30	$2,218
Crossover Engine with NSCR	$57,998	18.1	$1,394
Crossover Engine with No Additional Controls	$56,419	18.1	$1,356
Rich Burn Engine with AFR	$70,098	59.7	----
Rich Burn Engine with No Additional Controls	$70,098	59.7	----

The cost effectiveness of a lean burn engine with a catalytic oxidizer and AFR controller, as well as the cost effectiveness of a lean burn engine with a catalytic oxidizer, is approximately $1,717 per ton of CO removed, which could be considered within industry norm. Table 5 examines the incremental cost per ton of CO removed between a lean burn engine with a catalytic oxidizer, a lean burn engine with a catalytic oxidizer, and the proposed crossover engine retrofitted to a rich burn engine with an NSCR unit and an AFR controller.

Table 5 – Incremental Cost Effectiveness

Control Technology	Total Annual Cost	Resulting CO Emissions (tpy)	Incremental Cost Effectiveness ($/ton)
Lean Burn Engine with Catalytic Oxidizer and AFR	$97,374	3.02	$8,508
Lean Burn Engine with Catalytic Oxidizer	$97,374	3.02	$8,508
Rich Burn Engine with NSCR and AFR	$71,677	6.04	----

While the cost effectiveness of a lean burn engine with a catalytic oxidizer and AFR controller, as well as the cost effectiveness of a lean burn engine with a catalytic oxidizer, is approximately $1,700 per ton of CO removed, which could be considered within industry norm. Table 5 demonstrates that the incremental cost per ton of CO removed by utilizing either of the lean burn engine options is well above industry norms. Therefore, the use of the existing crossover engine retrofitted to a rich burn engine with an NSCR unit and an AFR controller is the most cost-effective method to control CO emissions. Purchasing either of the top controls, a lean burn engine equipped with an oxidation catalyst and an AFR controller or a lean burn engine equipped with an oxidation catalyst would cost approximately an additional $8,500 per additional ton of CO removed beyond the proposed engine. The Department agrees that the next best control option, the crossover engine retrofitted to a rich burn engine with an NSCR unit and an AFR controller, with an emission limit of 1.0 g/bhp-hr is BACT. A rich burn engine equipped with an NSCR unit and an AFR controller is frequently used in the natural gas compression industry and the BACT determination is consistent with other recently permitted similar sources.

C. Volatile Organic Compounds (VOC) BACT

HPC proposed the use of an NSCR unit and an AFR controller to meet a pound per hour (lb/hr) limit equivalent to 1.0 g/hp-hr. The Department determined that no additional controls and burning pipeline quality natural gas to meet lb/hr emission limit equivalent to 1.0 g/hp-hr constitute BACT for the proposed compressor engine.

D. PM_{10} and Sulfur Dioxide (SO_2) BACT

The Department is not aware of any BACT determinations that have required controls for PM_{10} or SO_2 emissions from natural gas fired compressor engines. HPC proposed no additional controls and burning pipeline quality natural gas as BACT for PM_{10} and SO_2 emissions from the proposed compressor engine. Due to the relatively small amount of PM_{10} and SO_2 emissions from the proposed engine and the cost of adding additional control, any add-on controls would be cost prohibitive. Therefore, the Department concurred with HPC's BACT proposal and determined that no additional controls and burning pipeline quality natural gas will constitute BACT for PM_{10} and SO_2 emissions from the compressor engine.

The control options selected have controls and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

	Ton/year				
Source	**PM_{10}**	**NO_x**	**CO**	**VOC**	**SO_x**
1,478-Hp Waukesha Compressor Engine	0.48	28.56	42.84	14.28	0.04
625-Hp Caterpillar Compressor Engine	0.02	6.04	6.04	6.04	0.00
0.5 MMBtu/hr PESCO TEG Glycol Dehydrator Reboiler	0.02	0.22	0.18	0.01	0.00
TEG PESCO Dehydrator Still Vent	0.00	0.00	0.00	4.69	0.00
Miscellaneous Fugitive VOC Sources	0.00	0.00	0.00	3.02	0.00
Total	**0.52**	**34.82**	**49.06**	**28.04**	**0.04**

1,478-Hp Compressor Engine

Brake Horsepower: 1478 bhp
Hours of operation: 8760 hr/yr

PM_{10} Emissions
Emission Factor: 9.50E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Fuel Consumption: 11.53 MMBtu/hr (Maximum Design)
Calculations: 11.53 MMBtu/hr * 9.50E-03 lb/MMBtu = 0.11 lb/hr
0.11 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.48 ton/yr

NO_x Emissions
Emission factor: 2.00 gram/bhp-hour (BACT Determination)
Calculations: 2.00 gram/bhp-hour * 1478 bhp * 0.002205 lb/gram = 6.52 lb/hr
6.52 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 28.56 ton/yr

CO Emissions
Emission factor: 3.00 gram/bhp-hour (BACT Determination)
Calculations: 3.00 gram/bhp-hour * 1478 bhp * 0.002205 lb/gram = 9.78 lb/hr
9.78 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 42.84 ton/yr

VOC Emissions
Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 1478 bhp * 0.002205 lb/gram = 3.26 lb/hr
3.26 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 14.28 ton/yr

SO_2 Emission
Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Fuel Consumption: 11.53 MMBtu/hr (Maximum Design)
Calculations: 11.53 MMBtu/hr * 5.88E-04 lb/MMBtu = 0.01 lb/hr
0.01 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.04 ton/yr

625-Hp Compressor Engine

Brake Horsepower: 625 bhp
Hours of operation: 8760 hr/yr

PM_{10} Emissions
Emission Factor: 9.50E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Fuel Consumption: 0.50 MMBtu/hr (Maximum Design)
Calculations: 0.50 MMBtu/hr * 9.50E-03 lb/MMBtu = 0.005 lb/hr
0.005 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.02 ton/yr

NO_x Emissions
Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 625 bhp * 0.002205 lb/gram = 1.38 lb/hr
1.38 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 6.04 ton/yr

CO Emissions
Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 625 bhp * 0.002205 lb/gram = 1.38 lb/hr
1.38 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 6.04 ton/yr

VOC Emissions
Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 625 bhp * 0.002205 lb/gram = 1.38 lb/hr
1.38 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 6.04 ton/yr

SO_2 Emission
Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Fuel Consumption: 0.05 MMBtu/hr (Maximum Design)
Calculations: 0.05 MMBtu/hr * 5.88E-04 lb/MMBtu = 0.000003 lb/hr
0.00003 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.00 ton/yr

TEG PESCO Glycol Dehydrator Reboiler (0.5 MMBtu/hr)

Boiler Heat Output: 0.5 MMBtu/hr
Hours of Operation: 8760 hr/yr
Fuel Heating Value: 0.001 MMscf/MMBtu
Fuel Consumption: 0.5 MMBtu/hr * 0.001 MMscf/MMBtu * 8760 hr/yr = 4.38 MMscf/yr

PM_{10} Emissions (All PM is assumed to be less than 1um)

Emission Factor: 7.6 lb/MMscf (AP-42 Chapter 1, Table 1.4-2, 03/98)
Calculations: 7.6 lb/MMscf * 4.38 MMscf/yr * 0.0005 ton/lb = 0.02 ton/yr

NO_x Emissions
Emission Factor: 100 lb/MMscf (AP-42 Chapter 1, Table 1.4-2, 03/98)
Calculations: 100 lb/MMscf * 4.38 MMscf/yr * 0.0005 ton/lb = 0.22 ton/yr

CO Emissions
Emission Factor: 84 lb/MMscf (AP-42 Chapter 1, Table 1.4-2, 03/98)
Calculations: 84 lb/MMscf * 4.38 MMscf/yr * 0.0005 ton/lb = 0.18 ton/yr

VOC Emissions
Emission Factor: 5.5 lb/MMscf (AP-42 Chapter 1, Table 1.4-2, 03/98)
Calculations: 5.5 lb/MMscf * 4.38 MMscf/yr * 0.0005 ton/lb = 0.01 ton/yr

SO_x Emissions
Emission Factor: 0.6 lb/MMscf (AP-42 Chapter 1, Table 1.4-2, 03/98)
Calculations: 0.6 lb/MMscf * 4.38 MMscf/yr * 0.0005 ton/lb = 0.00 ton/yr

TEG PESCO Dehydrator Still Vent

VOC Emissions
Emission Factor: 1.07 lb/hr (GRI-GLYcalc, EPA approved emission estimation program)
Calculations: 1.07 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 4.69 ton/yr

Hazardous Air Pollutant Emissions
Emission Factor: 0.50 lb/hr (GRI-GLYcalc, EPA approved emission estimation program)
Calculations: 0.50 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 2.19 ton/yr

Miscellaneous Fugitive VOC Sources

VOC Emissions
Emission Factor: 0.69 lb/hr (Permit Application #2924-00)
Calculations: 0.69 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 3.02 ton/yr

Hazardous Air Pollutant Emissions
Emission Factor: 0.06lb/hr (Permit Application #2924-00)
Calculations: 0.06 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.26 ton/yr

V. Existing Air Quality

The facility is located in the SE ¼ of the SE ¼ of Section 15, Township 30 North, Range 15 East, in Hill County, Montana. The air quality of this area is classified as either better than National Standards or unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for criteria pollutants.

VI. Ambient Air Impact Analysis

The current permit action replaces a 1,478-Hp compressor engine with a 625-Hp compressor engine, which results in a decrease in all criteria pollutants. The facility's PTE VOC increases by approximately 2.5 tons per year. The Department determined that the impact from this permitting action will be minor. The Department believes the facility will still 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 a private property taking and damaging assessment and determined there are no taking or damaging implications.

VIII. Environmental Assessment

An Environmental Assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Devon Energy Corporation
Havre Pipeline Company, LLC
Hill County #3 Compressor Station
P.O. Box 2602
Clear Creek Road
Havre, MT 59501

Air Quality Permit Number: 2924-04

Preliminary Determination Issued: August 3, 2004
Department Decision Issued: August 19, 2004
Permit Final: September 4, 2004

1. *Legal Description of Site*: The Hill County #3 Compressor Station is located approximately 14 miles southwest of Havre, Montana on three fenced, rural acres. The legal description of the location is the SE ¼ of the SE ¼ of Section 15, Township 30 North, Range 15 East in Hill County, Montana.

2. *Description of Project*: HPC proposed the replacement of a previously permitted 1,478-Hp Waukesha Compressor Engine with a 625-Hp Caterpillar G398 TA Compressor Engine.

3. *Objectives of Project*: Since initial permitting of the Hill County #2 compressor station, HPC's plans, objectives, and engine requirements at the compressor station location have changed, thereby allowing for the installation and operation of a smaller unit for normal operations. The current permit action would facilitate these needs.

4. *Alternatives Considered*: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the Air Quality Preconstruction Permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because HPC demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. *A Listing of Mitigation, Stipulations, and Other Controls*: A list of enforceable conditions, including a BACT analysis, would be included in Permit #2924-04.

6. *Regulatory Effects on Private Property*: The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions would be reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and would not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			√			Yes
B	Water Quality, Quantity, and Distribution			√			Yes
C	Geology and Soil Quality, Stability and Moisture			√			Yes
D	Vegetation Cover, Quantity, and Quality			√			Yes
E	Aesthetics				√		Yes
F	Air Quality			√			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			√			Yes
H	Demands on Environmental Resource of Water, Air and Energy			√			Yes
I	Historical and Archaeological Sites				√		Yes
J	Cumulative and Secondary Impacts			√			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

Minor impacts to terrestrial and aquatic life and habitats would be expected from the proposed project because deer, antelope, coyotes, geese, ducks, and other terrestrials would potentially use the area around the facility and because the facility would be a source of air pollutants. The facility would emit air pollutants and corresponding deposition of pollutants would occur; however, as described in Section 7.F. of this EA, the Department determined that any impacts from deposition would be minor. The potential impacts from the proposed project would result in less impact to terrestrials and aquatic life and habitats because the facility would generate fewer emissions after implementing the proposed project. Overall, any impacts to terrestrial and aquatic life and habitats would be minor.

B. Water Quality, Quantity, and Distribution

Minor impacts would be expected on water quality, quantity, and distribution from the proposed project because the facility would be a source of air pollutants. No direct discharges into surface water would occur from operating the facility. However, minor amounts of water may be required to control fugitive dust emissions from the access roads and the general facility property. In addition, the facility would emit air pollutants and corresponding deposition of pollutants would occur. However, as described in Section 7.F. of this EA, the Department determined that any impacts from deposition would be minor. The potential impacts from the proposed project would result in less impact to water quality, quantity, and distribution because the facility would generate fewer emissions after implementing the proposed project.

C. Geology and Soil Quality, Stability, and Moisture

Minor impacts would occur on the geology and soil quality, stability, and moisture from the proposed project because deposition of pollutants would occur. However, as described in Section 7.F of this EA, the Department determined that any impacts from deposition would be minor. The potential impacts from the proposed project would result in less impacts to the geology and soil quality, stability, and moisture because the facility would generate fewer emissions after implementing the proposed project. Overall, any impacts to the geology and soil quality, stability, and moisture would be minor.

D. Vegetation Cover, Quantity, and Quality

Minor impacts would occur to vegetation cover, quantity, and quality because the facility would be a source of air pollutants and corresponding deposition of pollutants would occur. However, as described in Section 7.F of this EA, the Department determined that any impacts from deposition would be minor. The potential impacts from the proposed project would result in less impacts to the vegetation cover, quantity, and quality because the proposed project would generate fewer emissions after implementing the proposed project. Overall, any impacts to vegetation cover, quantity, and quality would be minor.

E. Aesthetics

The proposed project would not result in any impact to the aesthetic nature of the area because the proposed project would not change the current industrial use of the area or the appearance of the facility. HPC would be replacing an existing internal combustion compressor engine located within an existing building with a new internal combustion compressor engine to be located within the same existing building.

F. Air Quality

The air quality of the area would realize minor impacts from the proposed project because the facility would continue to emit the following air pollutants: PM_{10}; NO_x; CO; VOCs, including HAPs; and SO_x. The Department determined that any impacts from emissions would be minor due to the relatively small amount of pollutants that would be emitted. The potential impacts on air quality from the proposed project would decrease because the facility would generate fewer emissions after implementing the proposed project. Also, air emissions from the facility would be minimized by limitations and conditions that would be included in Permit #2924-04. Conditions would include, but would not be limited to, BACT emission limits and opacity limitations on the proposed engine and/or the general facility. The emission limits established as BACT for NO_x, CO, and VOCs for the proposed project would be lower than the allowable emissions under the existing permit, which would result in lower allowable emission rates. Although emissions from the facility would be less after implementing the proposed project, deposition of pollutants would continue to occur. However, the Department determined that any air quality impacts from deposition of pollutants would be minor due to dispersion characteristics of pollutants (stack height, stack temperature, etc.), the atmosphere (wind speed, wind direction, ambient temperature, etc.), and conditions that would be placed in Permit #2924-04. The Department believes that the emissions resulting from the proposed project would be well dispersed, resulting in lower deposition impacts to the affected area.

In addition, the Department believes that the existing facility is in compliance with all applicable air quality standards, as permitted under the existing permit. Therefore, since controlled potential emissions from the proposed project would be lower than the current emissions and because the facility emissions would be well dispersed, the Department determined that the proposed project would maintain compliance with all applicable ambient air quality standards. Therefore, any impacts to air quality from the proposed project would be minor and less than currently exist.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The proposed project includes the installation and operation of equipment that would result in air pollutant emissions. However, as discussed in Section 7.F of this EA, the proposed project would result in less potential emissions from the facility. Since the proposed project would result in a reduction in pollutant emissions, the Department determined that any impacts to any existing unique endangered, fragile, or limited environmental resource due to the deposition of air pollutants would be minor and less than current impacts under the existing permit.

H. Demands on Environmental Resource of Water, Air, and Energy

The proposed project would have minor impacts on the demands for the environmental resources of air and water because the facility would be a source of air pollutants. Deposition of pollutants would occur as a result of operating the facility; however, as explained in Section 7.F of this EA, the Department determined that any impacts from deposition would be minor.

The proposed project would have minor impacts on the demand for the environmental resource of energy because power would be required at the site. However, the impact on the demand for the environmental resource of energy would be minor because the current permit action would replace an existing compressor engine with a smaller, less energy consuming engine. Overall, the impacts for the demands on the environmental resources of water, air, and energy would be minor.

I. Historical and Archaeological Sites

The proposed project would not result in any impact to any existing historical and archaeological sites in the proposed project area because the proposed new equipment would operate within an existing industrial area and the proposed project would not require any additional construction. According to previous correspondence from the Montana State Historic Preservation Office, there is low likelihood of any disturbance to any known archaeological or historic site, given previous industrial disturbance within a given area. Therefore, the Department determined that the proposed project would not impact any existing historical or archaeological site.

J. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from the proposed project on the physical and biological resources of the human environment in the immediate area would be minor because the predominant use of the surrounding area would not change and because any cumulative and secondary impacts from the proposed project would be less than currently exist. In addition, the proposed project would result in lower air pollutant emissions due to newly established and lower BACT limits for the proposed engine and the inherently lower emissions resulting from the replacement of a larger engine with a smaller engine. Therefore, because the proposed project would result in fewer emissions, the potential impacts from air pollutant emissions after

implementing the proposed project would result in less cumulative and secondary impacts to the area. Overall, the proposed replacement of the existing engine with a new smaller engine would maintain the operating status quo for the facility and the area at large; therefore, no additional cumulative or secondary impacts would be expected as a result of implementing the proposed project. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #2924-04.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				√		Yes
B	Cultural Uniqueness and Diversity				√		Yes
C	Local and State Tax Base and Tax Revenue				√		Yes
D	Agricultural or Industrial Production				√		Yes
E	Human Health			√			Yes
F	Access to and Quality of Recreational and Wilderness Activities				√		Yes
G	Quantity and Distribution of Employment			√			Yes
H	Distribution of Population			√			Yes
I	Demands for Government Services			√			Yes
J	Industrial and Commercial Activity			√			Yes
K	Locally Adopted Environmental Plans and Goals				√		Yes
L	Cumulative and Secondary Impacts			√			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECENOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

B. Cultural Uniqueness and Diversity

The proposed project would not impact the social structures and mores or the cultural uniqueness and diversity of the proposed area of operation because the project would involve replacing equipment at the permitted facility to facilitate operations similar to existing operations at the HPC facility. The predominant use of the surrounding area would not change as a result of the proposed project and the impacts would be reduced from the current operating status.

C. Local and State Tax Base and Tax Revenue

The proposed project would not impact the local and state tax base and tax revenue because the project would only slightly change current operations at the facility. There would not be any impacts to the area because the proposed project would not change typical operations at the facility. Further, the proposed project would not require any new construction and only a limited number of existing employees/operators and likely no new employees would be required for normal operations of the proposed equipment.

D. Agricultural or Industrial Production

The proposed project would not result in any impacts to agricultural production or land use because the proposed project would operate within the existing HPC site and no additional construction or land disturbance would be required to accommodate the project. Further, the nature of the project would not result in additional industrial production because the proposed project simply replaces a natural gas compressor engine with a smaller compressor engine. Overall, the proposed project would not result in any impacts to agricultural or industrial production at HPC or the surrounding area.

E. Human Health

The FCAA, which was last amended in 1990, requires the EPA to set NAAQS for pollutants considered harmful to public health and the environment. The FCAA established two types of NAAQS, Primary and Secondary. Primary Standards are limits set to protect public health, including, but not limited to, the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary Standards are limits set to protect public welfare, including, but not limited to, protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

Permit #2924-04 would include conditions and limitations that would require compliance with all applicable national and state air quality standards, including the federal primary and secondary standards. The Department believes that the existing HPC operations maintain compliance with applicable ambient air quality standards; therefore, because the proposed project would result in a decrease in potential emissions, the Department determined that the project would maintain compliance with the NAAQS/Montana Ambient Air Quality Standards (MAAQS). Any impact to human health would be minor because the potential impacts from the facility after implementing the proposed project would result in less impact to human health than currently exist from the facility.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would not impact any access to or quality of any recreation or wilderness activities in the area because the proposed project would operate within the existing HPC site.

G. Quantity and Distribution of Employment

H. Distribution of Population

The implementation of the proposed project would require the use of existing HPC personnel for operations and would likely not require any new employees. Therefore, the proposed project would have little or no impact on the quantity and distribution of employment and population in the area.

I. Demands for Government Services

Government services would be required for acquiring the appropriate permits from government agencies. In addition, the permitted source of emissions would be subject to periodic inspections by government personnel. Demands for government services would be minor and consistent with current demands.

J. Industrial and Commercial Activity

The proposed project would result in only minor impacts on local industrial and commercial activity because the proposed project would replace existing activity at the HPC facility and would take place within the existing HPC site. Further, the proposed project would require only a small amount of new construction and would not result in additional industrial production.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans or goals in the immediate area that would be affected by the proposed project. The state standards would be protective of the proposed project area.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from the proposed project on the economic and social resources of the human environment in the immediate area would be minor due to the fact that the predominant use of the surrounding area would not change as a result of implementing the proposed project. Further, the proposed project would maintain similar operations to the existing site operations, thereby not requiring new employment or additional employment or immigration to the area. Overall, the proposed project would maintain the operating status quo for the facility and the area at large; therefore, no additional cumulative or secondary impacts would be expected as a result of implementing the proposed project. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #2924-04.

Recommendation: No EIS is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permit action is for the replacement of existing equipment at the HPC facility. Permit #2924-04 would include conditions and limitations to ensure the facility would operate in compliance with all applicable rules and regulations. In addition, as detailed in the above EA there are no significant impacts associated with the proposed project.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Dave Aguirre
Date: July 26, 2004