

AIR QUALITY PERMIT

Issued To: Bitter Creek Pipelines, LLC
CX-14 Battery
P.O. Box 131
Glendive, MT 59330

Permit: #3141-03
Application Complete: 08/21/06
Preliminary Determination Issued: 09/20/06
Department's Decision Issued: 10/06/06
Permit Final: 10/24/06
AFS #: 003-0017

An air quality permit, with conditions, is hereby granted to Bitter Creek Pipelines, LLC (BCPL), 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

BCPL owns and operates a natural gas compressor station and associated equipment located approximately 3 ½ miles northwest of Decker, Montana. The legal description of the site location is the SW¼ of Section 14, Township 9 South, Range 39 East, Big Horn County, Montana. The facility is known as the CX-14 Battery. A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

B. Current Permit Action

On August 21, 2006, BCPL submitted a complete application to the Department of Environmental Quality (Department) for a modification of permit #3141-02. The application requested the Department to modify the permit to include 256-horsepower (hp) Cummins GTA 855C256 and 200-hp Caterpillar G3306TA natural gas-fired compressor engines as engines that may be used at the CX-14 Battery. In addition, BCPL requested the permit be written to allow any combination of three compressor engines (existing and proposed) to be operated at the site.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. BCPL shall not operate more than three compressor engines at any one time at the CX-14 Battery. Engines that may be operated at the facility include the following: Waukesha F18 GL (400-hp); Cummins GTA 855C256 (256-hp); and Caterpillar G3306 TA (200-hp) (ARM 17.8.749).
2. Emissions from each Waukesha F18 GL natural gas compressor engine shall not exceed the following (ARM 17.8.752):

Oxides of Nitrogen (NO _x):	1.76 pounds per hour (lb/hr)
Carbon Monoxide (CO):	2.65 lb/hr
Volatile Organic Compounds (VOC):	0.88 lb/hr
3. Emissions from each Caterpillar G3306 TA natural gas compressor engine and each Cummins GTA 855C256 natural gas compressor engine shall be controlled with the use of a non-selective catalytic reduction (NSCR) unit and an air-to-fuel ratio (AFR)

controller. The lb/hr emission limits for the engines shall be determined using the following equation and pollutant specific gram per brake horsepower-hour (g/bhp-hr) emission factors (ARM 17.8.752):

Equation

Emission Limit (lb/hr) = Emission Factor (g/bhp-hr) * maximum rated design capacity of engine (hp) * 0.002205 pounds per gram (lb/g)

Emission Factors

NO_x: 1.0 g/bhp-hr
CO: 2.0 g/bhp-hr
VOC: 1.0 g/bhp-hr

4. BCPL 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 six consecutive minutes (ARM 17.8.304).
5. BCPL 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).
6. BCPL 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.5 (ARM 17.8.749).

B. Testing Requirements

1. Each Caterpillar G3306 TA, each Cummins GTA 855C256, and each Waukesha F18 GL natural gas compressor engine shall be tested and compliance demonstrated with the NO_x and CO emission limits contained in Section II.A.2 and II.A.3 of the permit, within 180 days of initial start-up of each engine. 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 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. BCPL 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. BCPL 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 BCPL 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).

SECTION III: General Conditions

- A. Inspection – BCPL 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 BCPL fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving BCPL 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 therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department’s decision on the application is final 16 days after the Department’s decision is made.
- 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 BCPL may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

Permit Analysis
Bitter Creek Pipelines, LLC
Permit #3141-03

I. Introduction/Process Description

Bitter Creek Pipelines, LLC (BCPL) owns and operates a natural gas compressor station and associated equipment located in the SW¼ of Section 14, Township 9 South, Range 39 East, in Big Horn County, Montana. The facility is known as the CX-14 Battery.

A. Permitted Equipment

The facility is allowed to operate any three engine combination of the following engines:

- Waukesha F18 GL (400-horsepower (hp));
- Cummins GTA 855C256 (256-hp); and
- Caterpillar G3306 TA (200-hp).

B. Source Description

Natural gas is gathered in the field (wells) and transferred, via flowlines, to the meterhouse, where it is again transferred to the compressor stations. From the compressor stations the gas is metered and sent to a central treating and compression facility.

C. Permit History

On January 8, 2001, Redstone Gas Partners, L.L.C., (Redstone) was issued **Permit #3141-00** for a compressor station and associated equipment. The facility was known as the CX-14 Battery and included three Waukesha F18 GL (400-hp) natural gas compressor engines. Permit #3141-00 became final and effective on February 24, 2001.

On April 5, 2001, Redstone submitted a request to transfer ownership of Permit #3141-00 from Redstone to BCPL. This permit action reflected the change requested by Redstone and BCPL. On May 18, 2001, **Permit #3141-01** replaced Permit #3141-00.

On April 27, 2005, the Department of Environmental Quality (Department) received a letter from BCPL requesting to modify Permit #3141-01 to include de minimis-friendly language for the natural gas compressor engines. This permit action incorporated BCPL's request into the permit and updated the permit to reflect updated permit language and rule references. On June 30, 2005, **Permit #3141-02** replaced Permit #3141-01.

D. Current Permit Action

On August 7, 2006, BCPL submitted a complete application to the Department for a modification of permit #3141-02. The application requested the Department to modify the permit to include 256-hp Cummins GTA 855C256 and 200-hp Caterpillar G3306TA natural gas-fired compressor engines as engines that may be used at the CX-14 Battery. In addition, BCPL requested the permit be written to allow any combination of 3 compressor engines (existing and proposed) to be operated at the site. **Permit #3141-03** replaces Permit #3141-02.

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 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).

BCPL 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 four 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

BCPL 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 six 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, BCPL 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. BCPL burns natural gas in the compressor engines, which meets 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.
8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. A major Hazardous Air Pollutant (HAP) source, as defined and applied in 40 CFR 63, shall comply with the requirements of 40 CFR 63, as applicable, including the following subparts:

- 40 CFR 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities.
- 40 CFR 63, Subpart HHH National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities.
- 40 CFR 63, Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines.

Based on the information submitted by BCPL, the facility is not subject to the provisions of 40 CFR Part 63, because 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. BCPL 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 BCPL 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. BCPL 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. BCPL has a PTE greater than 25 tons per year of oxides of nitrogen (NO_x), carbon monoxide (CO), and Volatile Organic Compounds (VOC); 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. BCPL 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. BCPL submitted an affidavit of publication of public notice for the August 10, 2006, issue of *The Billings Gazette*, a newspaper of general circulation in the City of Billings in Yellowstone 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 BCPL 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 one 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/year of any pollutant;
 - b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 tons/year 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 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 #3141-03 for BCPL, the following conclusions were made:

- a. The facility's PTE is less than 100 tons/year for any pollutant.
- b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.
- c. This source is not located in a serious PM₁₀ 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 BCPL's CX-14 Battery 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. BCPL 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 BCPL in permit application #3141-03, addressing some available methods of controlling emissions from the proposed engines. The Department reviewed these methods, as well as previous BACT determinations, in order to make the following BACT determinations.

Compressor Engine BACT

1. 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 an AFR controller,
- 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 no additional controls,
- 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 an SCR and an AFR controller,
- Rich-burn engine with an SCR, and
- Rich-burn 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 unit to operate properly. NSCR on lean-burn engines is technically infeasible because the engine must burn a rich fuel mixture for the NSCR to properly operate. Adverse environmental impacts could occur with an SCR unit operating on lean-burn engines 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. SCR units are technically infeasible because of the potential adverse environmental impacts from the typical load fluctuations that are required for compressor engines. SCR units have not been installed on lean-burn compressor engines in Montana.

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

200-hp Range Engines

Control Technology	% Control	NO _x Emission Rate (g/bhp-hr)
Lean-burn engine with AFR	95.0	1.0
Lean-Burn without Control	95.0	1.0
Rich-Burn engine with NSCR and AFR or NSCR only	90.0	2.0
Rich-Burn without Control or with only AFR	--	20.0

The control methods listed above are widely used; these control options cannot be eliminated solely 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. However, BCPL is not aware of any available lean-burn engines in the horsepower range (200-hp) required for their current operating scenario; therefore, lean-burn engines with AFR and lean-burn engines with no additional control were eliminated from further consideration.

The table below shows the cost per ton of NO_x reduction achieved for the remaining control options.

200-hp Range Engine Cost Effectiveness

Control Technology	Total Annual Cost (\$)	Resulting NO _x Emissions (tpy)	Cost Effectiveness (\$/ton)
Baseline Emissions			
Rich-Burn Engine without Control or with only AFR	--	38.7 - 49.5	--
Controlled Emissions			
Rich-Burn Engine with NSCR and AFR or NSCR only	34,360 – 39,324	1.9 – 2.5	934 - 837

200hp - 934 = 34,360 / (38.7-1.9)

256 hp - 837 = 39,324 / (49.5-2.5)

A rich-burn engine with NSCR and AFR (or NSCR only) and a rich-burn engine with AFR are the only remaining control options. The cost effectiveness table above demonstrates that a rich burn engine with NSCR and AFR is cost effective to control NO_x emissions from both of the proposed engines (200-hp and 256-hp). The Department determined that operating rich-burn engines with NSCR and AFR is the appropriate BACT determination because rich-burn engines with NSCR and AFR are frequently used in the natural gas compression industry and the BACT

determination is consistent with other recently permitted similar sources. Therefore, for the proposed engines, the Department determined that lb/hr emission limits equivalent to 1.0 g/bhp-hr using a 200-hp Caterpillar 3306 TA or a Cummins GTA 855C256 natural gas compressor engine equipped with an NSCR unit and an AFR controller is BACT.

2. 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 AFR controller,
- Lean-burn engine with an NSCR unit and AFR controller,
- Lean-burn engine with an NSCR unit,
- Lean-burn engine with no additional controls,
- 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 a catalytic oxidation unit and an AFR controller,
- Rich-burn engine with a catalytic oxidation unit, and
- Rich-burn engine with no additional controls.

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

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

200-hp Range Engines

Control Technology	% Control	CO Emission Rate (g/bhp-hr)
Lean-Burn with Catalytic Oxidizer and AFR or Catalytic Oxidizer only	97.5	0.5
Rich-Burn with NSCR and AFR or NSCR only	90.0	2.0
Lean-Burn with AFR or without Control	85.0	3.0
Rich-Burn without Control or with only AFR	--	20.0

The control methods listed above are widely used; these control options cannot be eliminated solely based on environmental or energy impacts. Lean-burn engines do emit relatively higher HAP (formaldehyde) emissions than rich-burn engines. However, lean-burn engines cannot be eliminated based on higher formaldehyde emissions, but the higher formaldehyde emissions can affect the BACT determination. However, BCPL is not aware of any available lean-burn engines in the horsepower range (200-hp) required for their current operating scenario; therefore, the remaining lean-burn engine options were eliminated from further consideration.

The following tables show the cost per ton of CO reduction achieved for the various control options.

200-hp Engine Range Cost Effectiveness

Control Technology	Total Annual Cost (\$)	Resulting CO Emissions (tpy)	Cost Effectiveness (\$/ton)
Baseline Emissions			
Rich-burn Engine without Control or with only AFR	--	38.7 – 49.5	--
Controlled Emissions			
Rich-burn Engine with NSCR and AFR or NSCR only	34,360 – 39,324	3.9 – 4.9	988 - 882

200-hp – 988 = 34,360 / (38.7 – 3.9)

256-hp – 882 = 39,324 / (49.5 – 4.9)

A rich-burn engine with NSCR and AFR (or NSCR only) and a rich-burn engine with AFR are the only remaining control options. The cost effectiveness table above demonstrates that a rich-burn engine with NSCR and AFR is cost effective to control CO emissions from both of the proposed engines (200-hp and 256-hp). The Department determined that operating rich-burn engines with NSCR and AFR is the appropriate BACT determination because rich-burn engines with NSCR and AFR are frequently used in the natural gas compression industry and the BACT determination is consistent with other recently permitted similar sources. Therefore, for the proposed engines, the Department determined that lb/hr emission limits equivalent to 2.0 g/bhp-hr using a 200-hp Caterpillar 3306 TA or a Cummins GTA 855C256 natural gas compressor engine equipped with an NSCR unit and an AFR controller is BACT.

3. VOC BACT

A 4-stroke rich-burn engine equipped with an NSCR unit and an AFR controller, with a lb/hr emission limit equivalent to 1.0 gr/bhp-hr, is equal to other recently permitted similar sources. Therefore, the Department determined that no additional controls, burning pipeline-quality natural gas, and meeting a lb/hr emission limit equivalent to 1.0 g/hp-hr, constitutes BACT for the proposed compressor engines.

4. PM₁₀/Sulfur Dioxide (SO₂) BACT

The Department is not aware of any BACT determinations that have required controls for PM₁₀ or SO₂ emissions from natural gas fired compressor engines. BCPL proposed no additional controls and burning pipeline-quality natural gas as BACT for PM₁₀ and SO₂ emissions from the proposed compressor engines. Due to the relatively small amount of PM₁₀ and SO₂ emissions from the proposed engines and the cost of adding additional control, any add-on controls would be cost prohibitive. Therefore, the Department concurred with BCPL's BACT proposal and determined that no additional controls and burning pipeline-quality natural gas will constitute BACT for PM₁₀ and SO₂ emissions from the compressor engines.

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

Engine - PTE

Source	Tons/year					
	PM ₁₀	NO _x	VOC	CO	SO _x	HCHO
400-hp Waukesha Compressor Engine	0.00	7.71	3.85	11.61	0.01	0.18
256-hp Cummins GTA 855C256 Compressor Engine	0.09	2.47	2.50	4.95	0.01	0.09
200-hp Caterpillar G3306 TA Compressor Engine	0.09	1.93	1.93	3.85	0.01	0.13

Facility Worst Case, 3 Engine Scenario - PTE

Source	Tons/year					
	PM ₁₀	NO _x	VOC	CO	SO _x	HCHO
400-hp Waukesha Compressor Engine	0.00	7.71	3.85	11.61	0.01	0.18
400-hp Waukesha Compressor Engine	0.00	7.71	3.85	11.61	0.01	0.18
400-hp Waukesha Compressor Engine	0.00	7.71	3.85	11.61	0.01	0.18
Total	0.00	23.13	11.55	34.83	0.03	0.54

400-hp Waukesha Compressor Engine

Brake Horsepower: 400 hp
Hours of operation: 8,760 hr/yr

PM₁₀ Emissions

Emission Factor: 7.71E-05 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00)
Fuel Consumption: 3.40 MMBtu/hr (Manufacturer's Data)
Calculations: 3.40 MMBtu/hr * 7.71E-05 lb/MMBtu = 0.0003 lb/hr
0.0003 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.001 ton/yr

NO_x Emissions

Emission factor: 2.00 gram/hp-hour (BACT Determination)
Calculations: 2.00 gram/hp-hour * 400 hp * 0.002205 lbs/gram = 1.76 lb/hr
1.76 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 7.71 ton/yr

VOC Emissions

Emission factor: 1.00 gram/hp-hour (BACT Determination)
Calculations: 1.00 gram/hp-hour * 400 hp * 0.002205 lb/gram = 0.88 lb/hr
0.88 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 3.85 ton/yr

CO Emissions

Emission factor: 3.00 gram/hp-hour (BACT Determination)
Calculations: 3.00 gram/hp-hour * 400 hp * 0.002205 lb/gram = 2.65 lb/hr
2.65 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 11.61 ton/yr

SO_x Emission

Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00)
Fuel Consumption: 3.40 MMBtu/hr (Manufacturer's Data)
Calculations: 3.40 MMBtu/hr * 5.88E-04 lb/MMBtu = 0.002 lb/hr
0.002 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

HCHO Emissions

Emission factor: 0.05 gram/hp-hour (Manufacturer's Data)
Calculations: 0.05 gram/hp-hour * 400 hp * 0.002205 lb/gram = 0.04 lb/hr
0.05 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.18 ton/yr

256-hp Cummins Compressor Engine

Brake Horsepower: 256 hp
Hours of operation: 8,760 hr/yr

PM₁₀ Emissions

Emission Factor: 9.50E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Fuel Consumption: 2.15 MMBtu/hr (Manufacturer's Data)
Calculations: 2.15 MMBtu/hr * 9.50E-03 lb/MMBtu = 0.02 lb/hr
0.02 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.09 ton/yr

NO_x Emissions

Emission factor: 1.00 gram/hp-hour (BACT Determination)
Calculations: 1.00 gram/hp-hour * 256 hp * 0.002205 lbs/gram = 0.57 lb/hr
0.57 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 2.50 ton/yr

VOC Emissions

Emission factor: 1.00 gram/hp-hour (BACT Determination)
Calculations: $1.00 \text{ gram/hp-hour} * 256 \text{ hp} * 0.002205 \text{ lb/gram} = 0.57 \text{ lb/hr}$
 $0.57 \text{ lb/hr} * 8,760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 2.50 \text{ ton/yr}$

CO Emissions

Emission factor: 2.00 gram/hp-hour (BACT Determination)
Calculations: $2.00 \text{ gram/hp-hour} * 256 \text{ hp} * 0.002205 \text{ lb/gram} = 1.13 \text{ lb/hr}$
 $1.13 \text{ lb/hr} * 8,760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 4.95 \text{ ton/yr}$

SO_x Emission

Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Fuel Consumption: 2.15 MMBtu/hr (Manufacturer's Data)
Calculations: $2.15 \text{ MMBtu/hr} * 5.88\text{E-}04 \text{ lb/MMBtu} = 0.001 \text{ lb/hr}$
 $0.001 \text{ lb/hr} * 8,760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/yr}$

HCHO Emissions

Emission factor: 0.03 gram/hp-hour (Manufacturer's Data)
Calculations: $0.03 \text{ gram/hp-hour} * 256 \text{ hp} * 0.002205 \text{ lb/gram} = 0.02 \text{ lb/hr}$
 $0.02 \text{ lb/hr} * 8,760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.09 \text{ ton/yr}$

200-hp Caterpillar Compressor Engine

Brake Horsepower: 200 hp
Hours of operation: 8,760 hr/yr

PM₁₀ Emissions

Emission Factor: 9.50E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Fuel Consumption: 1.56 MMBtu/hr (Manufacturer's Data)
Calculations: $1.56 \text{ MMBtu/hr} * 9.50\text{E-}03 \text{ lb/MMBtu} = 0.02 \text{ lb/hr}$
 $0.02 \text{ lb/hr} * 8,760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.09 \text{ ton/yr}$

NO_x Emissions

Emission factor: 1.00 gram/hp-hour (BACT Determination)
Calculations: $1.00 \text{ gram/hp-hour} * 200 \text{ hp} * 0.002205 \text{ lbs/gram} = 0.44 \text{ lb/hr}$
 $0.44 \text{ lb/hr} * 8,760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 1.93 \text{ ton/yr}$

VOC Emissions

Emission factor: 1.00 gram/hp-hour (BACT Determination)
Calculations: $1.00 \text{ gram/hp-hour} * 200 \text{ hp} * 0.002205 \text{ lbs/gram} = 0.44 \text{ lb/hr}$
 $0.44 \text{ lb/hr} * 8,760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 1.93 \text{ ton/yr}$

CO Emissions

Emission factor: 2.00 gram/hp-hour (BACT Determination)
Calculations: $2.00 \text{ gram/hp-hour} * 200 \text{ hp} * 0.002205 \text{ lb/gram} = 0.88 \text{ lb/hr}$
 $0.88 \text{ lb/hr} * 8,760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 3.85 \text{ ton/yr}$

SO_x Emission

Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Fuel Consumption: 1.56 MMBtu/hr (Manufacturer's Data)
Calculations: $1.56 \text{ MMBtu/hr} * 5.88\text{E-}04 \text{ lb/MMBtu} = 0.0009 \text{ lb/hr}$
 $0.0009 \text{ lb/hr} * 8,760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/yr}$

HCHO Emissions

Emission factor: 0.06 gram/hp-hour (Manufacturer's Data)
Calculations: $0.06 \text{ gram/hp-hour} * 200 \text{ hp} * 0.002205 \text{ lb/gram} = 0.03 \text{ lb/hr}$
 $0.03 \text{ lb/hr} * 8,760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.13 \text{ ton/yr}$

V. Existing Air Quality

The surrounding area is listed as attainment/unclassified for the National Ambient Air Quality Standards (NAAQS).

VI. Ambient Air Impact Analysis

The current permit action simply allows additional, smaller natural gas compressor engines to be used at the facility and does not increase emissions from the facility; therefore, The Department believes 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 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: Bitter Creek Pipelines, LLC
CX-14 Battery
P.O. Box 131
Glendive, MT 59330

Air Quality Permit Number: 3141-03

Preliminary Determination Issued: September 20, 2006

Department Decision Issued: October 6, 2006

Permit Final: October 24, 2006

1. *Legal Description of Site:* The CX-14 Battery natural gas compressor station is located approximately 3 ½ miles northwest of Decker, Montana. The legal description of the site location is the SW¼ of Section 14, Township 9 South, Range 39 East, Big Horn County, Montana.
2. *Description of Project:* The proposed project would allow BCPL the flexibility to use 256- hp Cummins GTA 855C256 and 200-hp Caterpillar G3306TA natural gas-fired compressor engines at the CX-14 Battery without increasing the total number of engines that could be operated at any given time.
3. *Objectives of Project:* The objectives of the proposed project would be to give BCPL additional flexibility in operating parameters so that BCPL could easily change the capacity of the facility to meet the ever changing demand of the gas field.
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 Montana Air Quality Permit to the proposed facility. However, the Department does not consider the “no-action” alternative to be appropriate because BCPL 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 #3141-03.
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 are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do 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				X		Yes
B	Water Quality, Quantity, and Distribution				X		Yes
C	Geology and Soil Quality, Stability and Moisture				X		Yes
D	Vegetation Cover, Quantity, and Quality				X		Yes
E	Aesthetics				X		Yes
F	Air Quality				X		Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources				X		Yes
H	Demands on Environmental Resource of Water, Air and Energy				X		Yes
I	Historical and Archaeological Sites				X		Yes
J	Cumulative and Secondary Impacts				X		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

No impacts would be expected on terrestrial and aquatic life and habitats from the proposed project because the proposed project would not increase emissions above the previously permitted emission levels and any impacts would already have been realized. Deer, antelope, coyotes, geese, ducks, and other terrestrials would potentially continue to use the area around the facility, but no impacts would be expected from deposition of pollutants because the proposed project would only allow BCPL to lower the facility's emissions. In addition, no land disturbance would be expected because the proposed project would allow BCPL the flexibility to use additional engine models without increasing the total number of engines that can be operated. Therefore, construction of new buildings or concrete pads would not be expected because any new engine would replace an existing engine. Overall, no impacts, other than impacts that have already been realized, would be expected on terrestrial and aquatic life and habitats as a result of the proposed project.

B. Water Quality, Quantity and Distribution

No impacts would be expected on water quality, quantity, and distribution from the proposed project because the proposed project would not increase emissions above the previously permitted emission levels and any impacts would already have been realized. The facility would continue to have no direct discharges into surface water and minor amounts of water may continue to be required to control fugitive dust emissions from the access roads and the general facility property. However, no additional water would be required for the proposed project. In addition, the facility would continue to emit air pollutants and corresponding deposition of pollutants would continue to occur, but the proposed project would only allow BCPL to lower the facility's emissions.

Further, water quality, quantity, and distribution would not be impacted from building construction because constructing new buildings or concrete pads would not be expected because typically any new engine would replace an existing engine. Therefore, no impacts to water quality, quantity, and distribution would be expected from facility construction. Overall, no impacts, other than impacts that have already been realized, would be expected on water quality, quantity, and distribution as a result of the proposed project.

C. Geology and Soil Quality, Stability and Moisture

No impacts would be expected on the geology and soil quality, stability, and moisture from the proposed project because construction of new buildings or concrete pads would not be required. The facility is an existing facility which requested the ability to replace larger capacity engines with smaller capacity engines when natural gas field conditions warrant such a change. In addition, no discharges, other than existing “worst-case” air emissions, would occur at the facility. Therefore, no impacts, other than preexisting impacts, would be expected on the geology and soil quality, stability and moisture.

Further, deposition of pollutants would continue to occur (as described in Section 7.F. of this EA); however, the Department determined that there would be no impacts resulting from the deposition of pollutants from the proposed project because the proposed project would not increase emissions from the facility. Overall, no impacts, other than previously realized impacts, would occur on the geology and soil quality, stability, and moisture as a result of the proposed project.

D. Vegetation Cover, Quantity, and Quality

No impacts would occur on vegetation cover, quantity, and quality because no construction would be required to implement the proposed project. Constructing new buildings or concrete pads would not be expected because the facility is an existing facility and any new engine would replace an existing engine.

In addition, no discharges, other than existing “worst case” air emissions would occur at the facility. Therefore, no impacts, other than impacts that have already been realized, would occur on the vegetation cover, quantity, and quality.

The facility would continue to be a source of air pollutants and corresponding deposition of pollutants would continue to occur (as described in Section 7.F. of this EA). However, the Department determined that there would be no impacts resulting from the deposition of pollutants from the proposed project because the proposed project would not increase emissions from the facility. Overall, no impacts, other than preexisting impacts, would occur on the vegetation cover, quantity, and quality.

E. Aesthetics

No impacts would be expected on the aesthetic values of the area because the facility is an existing facility and any aesthetics impacts would already have occurred. New buildings or concrete pads would not be expected to be constructed to house the engines because any new engine would simply replace an existing engine.

The facility would also continue to create noise in the area. However, no additional auditory aesthetic impacts would be expected from the proposed project because the number of compressor engines permitted to be operated would not increase. Overall, no aesthetic impacts would be expected.

F. Air Quality

The air quality of the area would not be impacted from the proposed project because the facility is an existing facility and the proposed project would only allow BCPL to lower the facility's emissions by replacing larger capacity engines with smaller capacity engines when natural gas field conditions warrant such a change. Air emissions from the facility would continue to be minimized by limitations and conditions that would be included in Permit #3141-03.

Conditions would include, but would not be limited to, BACT emission limits and opacity limitations on the proposed engines and the general facility.

Deposition of pollutants would continue to occur as a result of operating the facility, but the proposed project would not have any impacts from deposition of pollutants because the proposed project would only allow BCPL to lower the facility's emissions by replacing larger capacity engines with smaller capacity engines and any impacts would already have been realized. The Department believes that controlled emissions from the source would not cause or contribute to a violation of any ambient air quality standard. Overall, no impacts to air quality, other than previously existing impacts, would be expected from the proposed project.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS) as part of reviewing Permit Application #3141-00. The NRIS search identified *Lomatium Nuttallii* (Nuttall Desert-Parsley), *Astragalus Barrii* (Barr's Milkvetch), and *Trionyx Spiniferus* (Spiny Softshell) as a species of special concern located within the proposed project area. In this case, the project area was defined by the section, township, and range of the proposed location with an additional 1-mile buffer zone. Due to the fact the construction would not be required for the proposed project and because the proposed project would not increase emissions from the facility, the Department determined that it would be unlikely that the proposed project would impact any species of special concern.

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

The proposed project would not impact the demand for the environmental resource of air, because the facility is an existing facility and the proposed project would only allow BCPL to lower the facility's emissions. The Demand for the environmental resource of water would not be impacted because the facility is an existing facility and no additional water demands would result from the proposed project. Deposition of pollutants would continue to occur as a result of operating the facility (as described in Section 7.F. of this EA); however, the Department determined that the proposed project would not have impacts from deposition of pollutants because the proposed project would not increase emissions from the facility and any impacts from deposition would have already been realized.

The proposed project would not be expected to have impacts on the demand for the environmental resource of energy because the facility is an existing facility and the proposed project would only give BCPL the ability to replace larger capacity engines with smaller capacity engines when natural gas field conditions warrant such a change. Overall, the proposed project would not impact, beyond already existing impacts, demands on the environmental resources of water, air, and energy.

I. Historical and Archaeological Sites

In an effort to identify any historical and archaeological sites near the proposed project area, the Department contacted the Montana Historical Society, State Historic Preservation Office (SHPO) as part of reviewing Permit Application #3141-00. According to SHPO records, there were 12 sites of historical, cultural, or archaeological significance found within Section 14, Township 9 South, Range 39 East, in Big Horn County, Montana. Due to the existence of the 12 known historical, cultural, or archaeological sites in the area, and because the project would require new construction, the Department recommended that the owner/operator conduct a cultural resource inventory prior to any initial ground disturbance to ensure that none of the previously-mentioned known historical, cultural, or archaeological sites would be affected. However, neither the Department nor SHPO has the authority to require BCPL to conduct a cultural resource inventory.

For the proposed project, the Department determined that due to the previous disturbance in the area (the area is an active natural gas field and the facility is an existing facility) and because the proposed project would not increase emissions from the facility, that the proposed project would not impact any cultural or historic sites.

J. Cumulative and Secondary Impacts

Overall, there would be no cumulative or secondary impacts on the physical and biological aspects of the human environment in the immediate area because the facility is an existing facility and any cumulative or secondary impacts would already have been realized. In addition, no new construction or emissions would result as a result of the proposed project. The Department believes that this facility could be expected to continue to operate in compliance with all applicable rules and regulations as would be outlined in Permit #3141-03.

Additional facilities (compressor stations, gas plants, etc.) could locate in the area to withdraw additional natural gas from the nearby area and/or to separate the components of natural gas. However, any future facility would be required to apply for and receive the appropriate permits from the appropriate regulating authority. Environmental impacts from any future facilities would be assessed through the appropriate permitting process.

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				X		Yes
B	Cultural Uniqueness and Diversity				X		Yes
C	Local and State Tax Base and Tax Revenue				X		Yes
D	Agricultural or Industrial Production				X		Yes
E	Human Health				X		Yes
F	Access to and Quality of Recreational and Wilderness Activities				X		Yes
G	Quantity and Distribution of Employment				X		Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity				X		Yes
K	Locally Adopted Environmental Plans and Goals				X		Yes
L	Cumulative and Secondary Impacts				X		Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC 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 above social and economic resources in the area because the proposed project would take place at an existing facility and would not increase emission from the facility. Further, the proposed project would not necessitate new employees for normal operations and would not result in any immigration of new people to the area for employment purposes; thereby, having no impact on the above social and economic resources of the area.

- 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 no new employees would be expected as a result of the proposed project. Further, the proposed project would not require new construction. Therefore, no impacts would be expected on the tax base/revenue in the area.

- D. Agricultural or Industrial Production

The land at the proposed location is an existing natural gas compressor station. The land surrounding the site is rural agricultural grazing land. However, because the proposed project would not increase emissions from the facility, no impacts, other than previously realized impacts, would be expected on agricultural production. The proposed project would not impact industrial production because the proposed project would take place at an existing facility. The proposed project would simply allow BCPL to replace larger capacity engines with smaller capacity engines when natural gas field conditions warrant such a change. In addition, because the facility is an existing facility that has requested operational flexibility that would not increase emissions, the proposed project would likely not result in additional industrial sources.

Additional facilities (compressor stations, gas plants, etc.) could locate in the area to withdraw additional natural gas from the nearby area and/or to separate the components of natural gas. However, any future facility would be required to apply for and receive the appropriate permits from the appropriate regulating authority. Environmental impacts from any future facilities would be assessed through the appropriate permitting process. The Department is not aware of plans for any additional facilities at this time. Overall, any impacts to agricultural or industrial production of the area would be minor.

E. Human Health

The proposed project would not impact human health. Deposition of pollutants would continue to occur (as described in Section 7.F. of this EA); however, the proposed project would not increase emissions from the facility. The Department determined that the proposed project would comply with all applicable air quality rules, regulations, and standards. These rules, regulations, and standards are designed to be protective of human health.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would not impact access to recreational and wilderness activities because the facility is an existing natural gas compressor station and new construction would not be required to implement the proposed project. In addition, the proposed project would not impact the quality of recreational and wilderness activities in the area because the facility, while requesting the ability to utilize additional engine models at the site, would not be increasing the number of engines that can be operated at the site at any given time. Therefore, any visible or auditory impacts would remain the same as those that currently exist. Overall, no additional impacts would be expected on the access and quality of recreational and wilderness activities in the area.

G. Quantity and Distribution of Employment

H. Distribution of Population

The proposed project would not impact the employment and population because the project would not require new permanent employees for normal operations. Therefore, no new immigration would occur in the area as a result of the proposed project. In addition, no temporary construction-related positions would be expected from this project. Overall, no impacts to the above social and economic resources in the area would be expected.

I. Demands for Government Services

There would be minor impacts on the demands for government services because additional time would be required by government agencies to issue the appropriate permits for the facility and to assure compliance with applicable rules, standards, and conditions that would be contained in those permits. Vehicle traffic due to the proposed project may be intermittently increased during engine change-outs; however, overall vehicle traffic would effectively remain the same as currently exists. Overall, any demands for government services to regulate the facility or activities associated with the facility would be minor because the facility is an existing facility and the proposed project would not increase the capacity of the facility.

J. Industrial and Commercial Activity

No impacts would be expected on the local industrial and commercial activity because the proposed project would take place at an existing facility and the proposed project would not increase the capacity of the facility. Therefore, the proposed project would not represent an increase in the industrial and commercial activity in the area.

Additional facilities (compressor stations, gas plants, etc.) could locate in the area to withdraw additional natural gas from the nearby area and/or to separate the components of natural gas. However, any future facility would be required to apply for and receive the appropriate permits from the appropriate regulating authority. Environmental impacts from any future facilities would be assessed through the appropriate permitting process. Overall, any impacts to the local industrial and commercial activity of the area would be minor.

K. Locally Adopted Environmental Plans and Goals

The Department is unaware of any locally adopted environmental plans or goals. The permit would ensure compliance with state standards and goals. The state standards would protect the proposed site and the environment surrounding the site.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would not impact the economic and social aspects of the human environment in the immediate area. Because the proposed project would take place at an existing facility, would not increase emissions, and would not require new construction or employees, the industrial production, employment, and tax revenue (etc.) of the area would not be impacted. In addition, the Department believes that this facility could be expected to continue to operate in compliance with all applicable rules and regulations as would be outlined in Permit #3141-03.

Additional facilities (compressor stations, gas plants, etc.) could locate in the area to withdraw additional natural gas from the nearby area and/or to separate the components of natural gas. However, any future facility would be required to apply for and receive the appropriate permits from the appropriate regulating authority. Environmental impacts from any future facilities would be assessed through the appropriate permitting process.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is to provide BCPL the operational flexibility to use additional engine models without increasing the total number of engines that can be operated. Permit #3141-03 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

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: August 16, 2006