

AIR QUALITY PERMIT

Issued To: Bitter Creek Pipelines, LLC
Squirrel Creek Battery
WBI Holdings, Inc.
P.O. Box 131
Glendive, MT 59330

Permit #3038-05
Administrative Amendment (AA) Request
Received: 8/29/07
Department's Decision on AA Issued: 9/13/07
Permit Final: 9/27/07
AFS Number: 003-0009

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 north of Montana State Highway 314 and east/northeast of Squirrel Creek, approximately 1 mile northwest of Decker, Montana. The legal description of the site location is the NW $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 30, Township 9 South, Range 40 East in Big Horn County, Montana. The facility is known as the Squirrel Creek Battery. A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

B. Current Permit Action

On August 29, 2007, the Department of Environmental Quality (Department) received comments from BCPL in reference to requirements contained in the Department's decision on Permit #3038-04. Specifically, the Department's decision on Permit #3038-04 required the use of air-to-fuel (AFR) controllers to reduce emissions from the permitted Waukesha F18GL and Caterpillar G3508LE lean-burn compressor engines, respectively. In direct contradiction to this requirement, the BACT determination contained in the Permit Analysis to Permit #3038-04 clearly indicated that AFR controllers do not constitute BACT for the subject engines in this case.

Because the comment was received after the public comment period and the Department had already issued their decision on Permit #3038-04, the affected conditions could not be modified prior to final issuance of Permit #3038-04. However, based on the record, it is clear that requiring an AFR controller for the affected engines does not constitute BACT in this case and that Department inclusion of such requirements constitutes an administrative error. Therefore, in accordance with the provisions contained in ARM 17.8.764, the current permit action administratively amends the permit to remove the requirement for AFR controllers from the affected engines.

SECTION II: Conditions and Limitations

A. Operating and Emission Limitations

1. BCPL shall not operate more than three natural gas compressor engines at any given time (ARM 17.8.749).
2. BCPL may operate one lean-burn Waukesha F18GL natural gas compressor engine with a maximum rated design capacity of 400-brake horsepower (bhp). This unit is identified as Unit #1 (ARM 17.8.749).

3. In addition to the compressor engine allowed under Section II.A.2, BCPL may operate two additional natural gas compressor engines with a maximum rated design capacity of 860-bhp per engine; however, only the following engines may be used to satisfy this requirement (ARM 17.8.749):

- Cummins GTA 855C256 (256-bhp, rich-burn);
- Caterpillar G3408TA (400-bhp, rich-burn);
- Waukesha F18GL (400-bhp, lean-burn);
- Caterpillar G3508LE (633-bhp, lean-burn)
- Waukesha 3524GSI (840-bhp, rich-burn); and
- Caterpillar 3512LE (860-bhp, lean-burn).

These units are identified as Unit #2 and Unit #3.

4. Each Caterpillar G3412LE and Caterpillar 3512LE lean-burn compressor engine identified in Section II.A.3 and operated at the BCPL facility shall be controlled with a catalytic oxidation unit and an AFR controller. Each Waukesha F18 GL lean-burn compressor engine identified in Section II.A.3 and operated at the BCPL facility shall be controlled with a catalytic oxidation unit. The pound per hour (lb/hr) emission limits for each engine shall be determined using the following equation and pollutant specific grams per horsepower-hour (g/bhp-hr) emission factors (ARM 17.8.752):

Equation

$$\text{Emission Limit (lb/hr)} = \text{Emission Factor (g/bhp-hr)} * \text{maximum rated design capacity of engine (bhp)} * 0.002205 \text{ lb/g}$$

Emission Factors

Oxides of Nitrogen (NO _x):	1.5 g/bhp-hr
Carbon Monoxide (CO):	0.5 g/bhp-hr
Volatile Organic Compounds (VOC):	1.0 g/bhp-hr

5. Each Caterpillar G3508LE lean-burn compressor engine identified in Section II.A.3 and operated at the BCPL facility shall be controlled with a catalytic oxidation unit. The lb/hr emission limit(s) for each engine shall be determined using the following equation and pollutant specific g/bhp-hr emission factors (ARM 17.8.752):

Equation

$$\text{Emission Limit (lb/hr)} = \text{Emission Factor (g/bhp-hr)} * \text{maximum-rated design capacity of engine (bhp)} * 0.002205 \text{ lb/g}$$

Emission Factors

NO _x :	2.0 g/bhp-hr
CO:	0.5 g/bhp-hr
VOC:	1.0 g/bhp-hr

6. Each rich-burn compressor engine identified in Section II.A.3 and operated at the BCPL facility shall be controlled with non-selective catalytic reduction (NSCR) and an AFR controller. The lb/hr emission limits for each engine shall be determined using the following equation and pollutant specific 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 (bhp) * 0.002205 lb/g

Emission Factors

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

7. 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 6 consecutive minutes (ARM 17.8.304).
8. 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 (PM) (ARM 17.8.308).
9. 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.3 (ARM 17.8.749).

B. Testing Requirements

1. Each natural gas compressor engine identified in Section II.A.3 shall be tested and compliance demonstrated with the NO_x and CO emission limits contained in Section II.A.4, Section II.A.5, and Section II.A.6, as applicable, within 180 days of initial start-up of each affected engine. After the initial source test, testing shall continue on an every 4-year basis or according to another testing/monitoring schedule as may be approved by the Department in writing (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).

D. Notification

1. BCPL shall provide the Department with written notification of the actual start-up date of each compressor engine identified in Section II.A.3 within 15 days after the actual start-up date(s) of the affected unit(s) (ARM 17.8.749).
2. BCPL shall provide the Department with written notification of the engine model for each compressor engine installed at the site for each compressor engine identified in Section II.A.3 within 15 days after the actual start-up date(s) of the engine(s) (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 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 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.
- 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
Bitter Creek Pipelines, LLC
Permit #3038-05

I. Introduction/Process Description

Bitter Creek Pipelines, LLC (BCPL) owns and operates a natural gas compressor station and associated equipment located north of Montana State Highway 314 and east/northeast of Squirrel Creek, approximately 1 mile northwest of Decker, Montana. The legal description of the site location is the NW¹/₄ of the NE¹/₄ of Section 30, Township 9 South, Range 40 East in Big Horn County, Montana. The facility is known as the Squirrel Creek Battery.

A. Permitted Equipment

BCPL is allowed to operate the following equipment at the Squirrel Creek Battery compressor station:

- Unit #1: A 400-brake horsepower (bhp) capacity Waukesha F18GL lean burn compressor engine; and
- Units #2 and #3: Any two of the following compressor engines:
 - Cummins GTA 855C256 (256-bhp, rich-burn);
 - Caterpillar G3408TA (400-bhp, rich-burn);
 - Waukesha F18GL (400-bhp, lean-burn);
 - Caterpillar G3508LE (633-bhp, lean-burn);
 - Waukesha 3524GSI (840-bhp, rich-burn); and
 - Caterpillar 3512LE (860-bhp, lean-burn).

B. Source Description

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

C. Permit History

On March 7, 1999, Redstone Gas Partners, L.L.C. (Redstone) was issued **Permit #3038-00** for the construction and operation of a natural gas compressor station and associated equipment (Squirrel Creek Battery). The Squirrel Creek Battery natural gas compressor station included two 380-hp Caterpillar natural gas compressor engines.

On April 5, 2001, Redstone submitted a request to transfer ownership of Permit #3038-00 from Redstone to BCPL. **Permit #3038-01** was issued to incorporate the change requested by Redstone and BCPL. On May 18, 2001, Permit #3038-01 replaced Permit #3038-00.

On September 5, 2003, the Department of Environmental Quality (Department) received a letter requesting a de minimis change at the Squirrel Creek Battery. BCPL requested to add a 400-horsepower (hp) Waukesha F18GL lean-burn compressor engine to the facility. The permit action incorporated the change into the permit according to the provisions of the Administrative Rules of Montana (ARM) 17.8.745(1). In addition, the permit format, language, and rule references were updated to reflect current Department permit format, language, and rule references. **Permit #3038-02** replaced Permit #3038-01.

On April 27, 2005, the Department received a letter requesting a de minimis change at the Squirrel Creek Battery. BCPL requested to add a 400-hp Waukesha F18GL lean-burn compressor engine to the facility in accordance with the provisions contained in ARM 17.8.745(1). In addition, the permit format, language, and rule references were updated to reflect current Department permit format, language, and rule references. **Permit #3038-03** replaced Permit #3038-02.

On July 23, 2007, the Department received a complete application for a permit modification from BCPL. Specifically, BCPL proposed the addition of two natural gas compressor engines with a maximum rated design capacity of up to 860-brake horsepower (bhp) per engine and the removal of two 380-bhp capacity Caterpillar natural gas compressor engines from permitted operations. Further, the permit action removed one of the two 400-bhp capacity Waukesha F18GL compressor engines previously added to the facility in accordance with ARM 17.8.745 (de minimis rule). In addition, BCPL requested that the conditions/limits applicable to the proposed engines be written in a de minimis friendly format to allow for operational flexibility. **Permit #3038-04** replaced Permit #3038-03.

D. Current Permit Action

On August 29, 2007, the Department received comments from BCPL in reference to requirements contained in the Department's decision on Permit #3038-04. Specifically, Sections II.A.4 and II.A.5 of the Department's decision on Permit #3038-04 required the use of air-to-fuel (AFR) controllers to reduce emissions from the permitted Waukesha F18GL and Caterpillar G3508LE lean-burn compressor engines, respectively. After issuance of the Department Decision on Permit #3038-04, BCPL notified the Department that AFR technology is not currently available for the subject engines. Further, and based on information submitted through the application process for Permit #3038-04, the Best Available Control Technology (BACT) analysis stated, in relevant part: "AFR controllers for 400-bhp range engines (the lean-burn Waukesha F18 GL and Caterpillar G3508LE proposed under permit action) are not currently available." Therefore, the BACT determination contained in the Permit Analysis to Permit #3038-04 dismissed the use of AFR controllers as BACT for the affected engines while the permit included conditions requiring the use of AFR controllers for the affected engines.

Because the comment was received after the public comment period and the Department had already issued their decision on Permit #3038-04, the affected conditions could not be modified prior to final issuance of Permit #3038-04. However, based on the record, it is clear that requiring an AFR controller for the affected engines does not constitute BACT for the affected engines in this case and that Department inclusion of such requirements constitutes an administrative error. Therefore, in accordance with the provisions contained in ARM 17.8.764, the current permit action administratively amends the permit to remove the requirement for AFR controllers from the affected engines. **Permit #3038-05** replaces Permit #3038-04.

E. Additional Information

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

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the 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).

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

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

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

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

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 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, 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 Part 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 Part 60.
8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. A major source of Hazardous Air Pollutants (HAPs), as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as applicable, including the following subparts:
 - Subpart HH – National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities.
 - Subpart HHH – National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities
 - Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines.

The BCPL 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 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:
 1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. The current permit action constitutes an administrative amendment and does not require an application or application fee.

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

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

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit 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 the potential to emit more than 25 tons per year of NO_x and CO; therefore, an air quality permit is required.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. BCPL submitted a complete permit application for the current permit action on July 23, 2007. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. The current permit action constitutes an administrative amendment and does not require public notice.
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 current permit action constitutes an administrative amendment and does not require a BACT determination.
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 17.8.762 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.
 11. 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).
 12. 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. The current permit action constitutes an administrative amendment.
 13. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.
- F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a 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).

- G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:
1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
 - a. PTE > 100 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 less than or equal to 10 microns (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 #3038-04 for BCPL, 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 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 the BCPL Squirrel Creek Battery is a minor source of emissions as defined under the major source Title V operating permit program.

III. BACT Determination

A BACT determination is required for each new or altered source of emissions. BCPL shall install on the new or altered source the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The current permit action constitutes an administrative amendment and does not require a BACT analysis and determination.

IV. Emission Inventory

Emission Inventory Table I: Engine Specific Emissions						
Engine	tons/year					
	PM ₁₀	NO _x	VOC	CO	SO _x	HCHO
Engine #1^a						
400-bhp Waukesha F18 GL	0.001	5.79	3.86	1.93	0.01	0.19
Engine #2 and Engine #3^b						
256-bhp Cummins GTA 855C256	0.09	2.47	2.47	4.94	0.01	0.15
400-bhp Caterpillar G3408TA	0.13	3.86	3.86	7.73	0.01	0.23
400-bhp Waukesha F18GL	0.001	5.79	3.86	1.93	0.01	0.19
633-bhp Caterpillar G3508LE	0.00	12.23	6.11	3.06	0.01	0.43
840-bhp Waukesha 3524GSI	0.27	8.11	8.11	16.23	0.02	0.41
860-bhp Caterpillar 3512LE	0.002	12.46	8.31	4.15	0.02	0.58
^a BCPL owns and operates one 400-bhp Waukesha F18GL lean-burn engine added to facility in accordance with the de minimis rule under ARM 17.8.745.						
^b Permit #3038-04 authorized the installation and operation of any combination of two of the listed engines.						

Emission Inventory Table II: Worst-Case Allowable Emissions						
Engine	Tons/year					
	PM ₁₀	NO _x	VOC	CO	SO _x	HCHO
400-bhp Waukesha F18GL ^a	0.001	5.79	3.86	1.93	0.01	0.19
840-bhp Waukesha 3524 GSI	0.27	8.11	8.11	16.23	0.02	0.41
860-bhp Caterpillar 3512LE	0.002	12.46	8.31	4.15	0.02	0.58
Total ^b	0.54	24.92	16.62	32.46	0.04	1.16

^a BCPL operates one 400-bhp Waukesha F18GL lean-burn engine added to facility in accordance with the de minimis rule under ARM 17.8.745.

^b Total emissions include emissions from the 400-bhp Waukesha F18GL lean-burn engine added to facility in accordance with the de minimis rule and the pollutant-specific worst-case emissions from any combination of two engines allowed under Section II.A.3 of Permit #3038-04.

ENGINE #1

400-bhp Waukesha F18GL Lean-Burn Compressor Engine

Brake Horsepower: 400 bhp
Hours of operation: 8,760 hr/yr
Fuel Consumption: 2.86 MMBtu/hr (Maximum Design)

PM₁₀ Emissions

Emission Factor: 7.71E-05 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00)
Calculations: 2.86 MMBtu/hr * 7.71E-05 lb/MMBtu = 0.00 lb/hr
0.00 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.001 ton/yr

NO_x Emissions

Emission factor: 1.50 gram/bhp-hour (BACT Determination)
Calculations: 1.50 gram/bhp-hour * 400 bhp * 0.002205 lbs/gram = 1.32 lb/hr
1.32 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 5.79 ton/yr

VOC Emissions

Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 400 bhp * 0.002205 lb/gram = 0.44 lb/hr
0.44 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 1.93 ton/yr

CO Emissions

Emission factor: 0.50 gram/bhp-hour (BACT Determination)
Calculations: 0.50 gram/bhp-hour * 400 bhp * 0.002205 lb/gram = 0.44 lb/hr
0.44 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 1.93 ton/yr

SO₂ Emission

Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00)
Calculations: 2.86 MMBtu/hr * 5.88E-04 lb/MMBtu = 0.00 lb/hr
0.00 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

HCHO Emissions

Emission factor: 0.05 gram/bhp-hour (Manufacturer's Information)
Calculations: 0.05 gram/bhp-hour * 400 bhp * 0.002205 lb/gram = 0.04 lb/hr
0.04 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.19 ton/yr

ENGINES #2 and #3

256-bhp CumminsGTA855C256 Rich-Burn Compressor Engine

Brake Horsepower: 256 bhp
Hours of operation: 8,760 hr/yr
Fuel Consumption: 2.15 MMBtu/hr (Maximum Design)

PM₁₀ Emissions

Emission Factor: 9.50E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Calculations: 2.15 MMBtu/hr * 9.50E-03 lb/MMBtu = 0.020 lb/hr
0.020 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.09 ton/yr

NO_x Emissions

Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 256 bhp * 0.002205 lbs/gram = 0.565 lb/hr
0.565 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 2.47 ton/yr

VOC Emissions

Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 256 bhp * 0.002205 lbs/gram = 0.565 lb/hr
0.565 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 2.47 ton/yr

CO Emissions

Emission factor: 2.00 gram/bhp-hour (BACT Determination)
Calculations: 2.00 gram/bhp-hour * 256 bhp * 0.002205 lb/gram = 1.13 lb/hr
1.13 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 4.94 ton/yr

SO₂ Emissions

Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Calculations: 2.15 MMBtu/hr * 5.88E-04 lb/MMBtu = 0.001 lb/hr
0.001 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.006 ton/yr

HCHO Emissions

Emission factor: 0.06 gram/bhp-hour (Similar Source Information)
Calculations: 0.06 gram/bhp-hour * 256 bhp * 0.002205 lb/gram = 0.03 lb/hr
0.03 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.15 ton/yr

400-bhp Caterpillar G3408TA Rich-Burn Compressor Engine

Brake Horsepower: 400 bhp
Hours of operation: 8,760 hr/yr
Fuel Consumption: 3.02 MMBtu/hr (Maximum Design)

PM₁₀ Emissions

Emission Factor: 9.50E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Calculations: 3.02 MMBtu/hr * 9.50E-03 lb/MMBtu = 0.029 lb/hr
0.029 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.13 ton/yr

NO_x Emissions

Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 400 bhp * 0.002205 lbs/gram = 0.882 lb/hr
0.882 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 3.86 ton/yr

VOC Emissions

Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 400 bhp * 0.002205 lb/gram = 0.882 lb/hr
0.882 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 3.86 ton/yr

CO Emissions

Emission factor: 2.00 gram/bhp-hour (BACT Determination)
Calculations: 2.00 gram/bhp-hour * 400 bhp * 0.002205 lb/gram = 1.76 lb/hr
1.76 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 7.73 ton/yr

SO₂ Emissions

Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Calculations: 3.01 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: 0.06 gram/bhp-hour (Manufacturer's Information)
Calculations: 0.06 gram/bhp-hour * 400 bhp * 0.002205 lb/gram = 0.05 lb/hr
0.05 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.23 ton/yr

400-bhp Waukesha F18GL Lean-Burn Compressor Engine

Brake Horsepower: 400 bhp
Hours of operation: 8,760 hr/yr
Fuel Consumption: 2.86 MMBtu/hr (Maximum Design)

PM₁₀ Emissions

Emission Factor: 7.71E-05 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00)
Calculations: 2.86 MMBtu/hr * 7.71E-05 lb/MMBtu = 0.00 lb/hr
0.00 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.001 ton/yr

NO_x Emissions

Emission factor: 1.50 gram/bhp-hour (BACT Determination)
Calculations: 1.50 gram/bhp-hour * 400 bhp * 0.002205 lbs/gram = 1.32 lb/hr
1.32 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 5.79 ton/yr

VOC Emissions

Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 400 bhp * 0.002205 lb/gram = 0.44 lb/hr
0.44 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 1.93 ton/yr

CO Emissions

Emission factor: 0.50 gram/bhp-hour (BACT Determination)
Calculations: 0.50 gram/bhp-hour * 400 bhp * 0.002205 lb/gram = 0.44 lb/hr
0.44 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 1.93 ton/yr

SO₂ Emission

Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00)
Calculations: 2.86 MMBtu/hr * 5.88E-04 lb/MMBtu = 0.00 lb/hr
0.00 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

HCHO Emissions

Emission factor: 0.05 gram/bhp-hour (Manufacturer's Information)
Calculations: 0.05 gram/bhp-hour * 400 bhp * 0.002205 lb/gram = 0.04 lb/hr
0.04 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.19 ton/yr

633-bhp Caterpillar G3508LE Lean-Burn Compressor Engine

Brake Horsepower: 633 bhp
Hours of operation: 8,760 hr/yr
Fuel Consumption: 4.83 MMBtu/hr (Maximum Design)

PM₁₀ Emissions

Emission Factor: 7.71E-05 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00)
Calculations: 4.83 MMBtu/hr * 7.71E-05 lb/MMBtu = 0.0004 lb/hr
0.0004 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.002 ton/yr

NO_x Emissions

Emission factor: 2.00 gram/bhp-hour (BACT Determination)
Calculations: 2.00 gram/bhp-hour * 633 bhp * 0.002205 lbs/gram = 2.79 lb/hr
2.79 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 12.23 ton/yr

VOC Emissions

Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 633 bhp * 0.002205 lb/gram = 1.40 lb/hr
1.40 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 6.11 ton/yr

CO Emissions

Emission factor: 0.50 gram/bhp-hour (BACT Determination)
Calculations: 0.50 gram/bhp-hour * 633 bhp * 0.002205 lb/gram = 0.70 lb/hr
0.70 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 3.06 ton/yr

SO₂ Emission

Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00)
Calculations: 4.83 MMBtu/hr * 5.88E-04 lb/MMBtu = 0.003 lb/hr
0.003 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

HCHO Emissions

Emission factor: 0.07 gram/bhp-hour (Manufacturer's Information)
Calculations: 0.07 gram/bhp-hour * 633 bhp * 0.002205 lb/gram = 0.10 lb/hr
0.10 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.43 ton/yr

840-bhp Waukesha 3524GSI Rich-Burn Compressor Engine

Brake Horsepower: 840 bhp
Hours of operation: 8,760 hr/yr
Fuel Consumption: 6.57 MMBtu/hr (Maximum Design)

PM₁₀ Emissions

Emission Factor: 9.50E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Calculations: 6.57 MMBtu/hr * 9.50E-03 lb/MMBtu = 0.06 lb/hr
0.06 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.27 ton/yr

NO_x Emissions

Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 840 bhp * 0.002205 lbs/gram = 1.85 lb/hr
1.85 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 8.11 ton/yr

VOC Emissions

Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 840 bhp * 0.002205 lb/gram = 1.85 lb/hr
1.85 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 8.11 ton/yr

CO Emissions

Emission factor: 2.00 gram/bhp-hour (BACT Determination)
Calculations: 2.00 gram/bhp-hour * 840 bhp * 0.002205 lb/gram = 3.70 lb/hr
3.70 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 16.23 ton/yr

SO₂ Emission

Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)
Calculations: 6.57 MMBtu/hr * 5.88E-04 lb/MMBtu = 0.004 lb/hr
0.004 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.02 ton/yr

HCHO Emissions

Emission factor: 0.05 gram/bhp-hour (Manufacturer's Information)
Calculations: 0.05 gram/bhp-hour * 840 bhp * 0.002205 lb/gram = 0.09 lb/hr
0.09 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.41 ton/yr

860-bhp Caterpillar G3512LE Lean-Burn Compressor Engine

Brake Horsepower: 860 bhp
Hours of operation: 8,760 hr/yr
Fuel Consumption: 6.42 MMBtu/hr (Maximum Design)

PM₁₀ Emissions

Emission Factor: 7.71E-05 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00)
Calculations: 6.42 MMBtu/hr * 7.71E-05 lb/MMBtu = 0.0005 lb/hr
0.0005 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.002 ton/yr

NO_x Emissions

Emission factor: 1.50 gram/bhp-hour (BACT Determination)
Calculations: 1.50 gram/bhp-hour * 860 bhp * 0.002205 lbs/gram = 2.84 lb/hr
2.84 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 12.46 ton/yr

VOC Emissions

Emission factor: 1.00 gram/bhp-hour (BACT Determination)
Calculations: 1.00 gram/bhp-hour * 860 bhp * 0.002205 lb/gram = 1.90 lb/hr
1.90 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 8.31 ton/yr

CO Emissions

Emission factor: 0.50 gram/bhp-hour (BACT Determination)
Calculations: 0.50 gram/bhp-hour * 860 bhp * 0.002205 lb/gram = 0.95 lb/hr
0.95 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 4.15 ton/yr

SO₂ Emission

Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-2, 7/00)
Calculations: 6.42 MMBtu/hr * 5.88E-04 lb/MMBtu = 0.004 lb/hr
0.004 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.02 ton/yr

HCHO Emissions

Emission factor: 0.07 gram/bhp-hour (Manufacturer's Information)
Calculations: 0.07 gram/bhp-hour * 860 bhp * 0.002205 lb/gram = 0.13 lb/hr
0.13 lb/hr * 8,760 hr/yr * 0.0005 ton/lb = 0.58 ton/yr

V. Existing Air Quality

The BCPL Squirrel Creek Battery is located north of Montana State Highway 314 and east/northeast of Squirrel Creek, approximately 1 mile northwest of Decker, Montana. The legal description of the site location is the NW¼ of the NE¼ of Section 30, Township 9 South, Range 40 East in Big Horn County, Montana. The air quality classification of Big Horn County is "Unclassifiable/Attainment" for all pollutants (40 CFR 81.327). The closest PSD Class I area is the Northern Cheyenne Indian Reservation (NCIR), which is located approximately 24 miles north of the facility.

VI. Ambient Air Impact Analysis

The current permit action is an administrative amendment and does not result in any change in emissions from the permitted BCPL facility. Therefore, the current permit action does not result in any additional air quality impacts to the area of operation. Based on previous modeling analyses conducted for the BCPL facility, the Department believes that the allowable emissions from the facility will not cause or contribute a violation of any ambient air quality standard or PSD increment.

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

The current permit action constitutes an administrative amendment and does not require an environmental assessment under the Montana Environmental Policy Act.

Permit Analysis Prepared By: M. Eric Merchant

Date: July 23, 2007