Air Quality Permit

Issued To: Montana LLC
40 East Broadway
Butte, MT 59701

Permit #2428-07
Application Complete: 10/24/01
Preliminary Determination Issued: 11/30/01
Department Decision Issued: 03/14/02
Permit Final:
AFS# 035-0004

An air quality permit, with conditions, is hereby granted to the Montana Power LLC (Montana Power - Main Line #1), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.701, *et seq*., as amended, for the following:

Section I: Permitted Facilities

A. Plant Location

The Montana Power - Main Line #1 natural gas compressor station is located approximately 4.5 miles southeast of Cut Bank in the S½ of Section 22, Township 33 North, Range 5 West in Glacier County, Montana. A listing of the permitted equipment is contained in Section I.A. of the permit analysis.

B. Current Permit Action

On August 10, 2001, the Department of Environmental Quality (Department) received a request from Montana Power - Main Line #1 to alter Preconstruction Permit #2428-06 for the addition of a 2,370-Hp Caterpillar Compressor Engine. On October 24, 2001, the application was deemed complete upon submittal of additional information by Montana Power - Main Line #1. The current permit action adds the new compressor engine to the permit. The current permit action does not trigger the New Source Review (NSR) program because the potential emissions from the current permit action are less than the NSR threshold level of 250 tons per year. However, the next permit action at this facility with potential emissions above Prevention of Significant Deterioration (PSD) significant levels may trigger the NSR program.

Section II: Limitations and Conditions

A. Operational Requirements

1. Emissions from the 2,370-Hp Caterpillar lean burn compressor engine shall not exceed the following (ARM 17.8.715):

NO_x	10.45 lb/hr
CO	15.68 lb/hr
VOC	5.23 lb/hr

2. Emissions from each of the three 660-Hp Ingersoll-Rand compressor engines shall not exceed the following (ARM 17.8.715):

NO_x	2.91 lb/hr
CO	4.37 lb/hr
VOC	1.09 lb/hr

3. Emissions from each of the four 1100-Hp Cooper-Superior compressor engines shall not exceed the following (ARM 17.8.715):

NO_x	4.85 lb/hr
CO	7.28 lb/hr
VOC	1.82 lb/hr

4. Emissions from each of the two 2000-Hp Cooper-Superior Lean Burn Compressor Engines shall not exceed the following (ARM 17.8.715):

NO_x	6.61 lb/hr
CO	7.05 lb/hr
VOC	2.65 lb/hr

5. The combined total hours of operation of the three 660-Hp Ingersoll-Rand compressor engines shall be limited to a maximum of 24,495 hours during any rolling 12-month period (ARM 17.8.710).

6. The total hours of operation of the auxiliary generator shall be limited to a maximum of 720 hours during any rolling 12-month period (ARM 17.8.710).

7. Montana Power - Main Line #1 shall operate and maintain catalytic $DeNO_x$ silencers on the three 660-Hp Ingersoll-Rand compressor engines.

8. Montana Power - Main Line #1 shall not cause or authorize emissions to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

9. Montana Power - Main Line #1 shall treat all unpaved portions of the access roads, parking lots, and general plant area with fresh water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.8 (ARM 17.8.710).

10. Montana Power - Main Line #1 shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR Part 60.630, Subpart KKK, as it applies to equipment leaks of VOC from onshore natural gas processing plants.

11. Montana Power - Main Line #1 shall not incinerate any material other than oil soaked rags, oil adsorbents, and filters in the Smart Ash Burner (ARM 17.8.710).

B. Emission Testing Requirements

1. All compliance source tests shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

2. Montana Power - Main Line #1 shall test the 2,370-Hp Caterpillar compressor engine for NO_x and CO, concurrently, to demonstrate compliance with the NO_x and CO emission limits contained in Section II.A.1 within 180 days of initial start up of the engine.

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

C. Reporting Requirements

1. Montana Power - Main Line #1 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 Section I.A. of 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 and shall be in the units required by the Department. This information may be used for calculating operation fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. By the 25th of each month, Montana Power - Main Line #1 shall total the hours of operation for each of the three 660-Hp Ingersoll-Rand compressor engines during the previous 12-months to verify compliance with the limitation in Section II.A.5. A written report of the compliance verification shall be submitted to the Department annually. The report for the previous calendar year shall be submitted no later than March 1 and may be submitted along with the annual emission inventory (ARM 17.8.710).

3. By the 25th of each month, Montana Power - Main Line #1 shall total the hours of operation of the auxiliary generator during the previous 12-months to verify compliance with the limitation in Section II.A.6. A written report of the compliance verification shall be submitted to the Department annually. The report for the previous calendar year shall be submitted no later than March 1 and may be submitted along with the annual emission inventory (ARM 17.8.710).

4. Montana Power - Main Line #1 shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.705(1)(r) 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 17.8.705(1)(r)(iv) (ARM 17.8.705).

5. All records compiled in accordance with this permit must be maintained by Montana Power - Main Line #1 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 17.8.710).

D. Notification

1. Montana Power - Main Line #1 shall provide the Department with written notification of commencement of construction of the 2,370-Hp Caterpillar compressor engine within 30 days after commencement of construction.

2. Montana Power - Main Line #1 shall provide the Department with written notification of the actual start-up date of the 2,370-Hp Caterpillar compressor engine within 15 days of actual start-up.

3. Montana Power - Main Line #1 shall provide the Department with written notification of the year of manufacture of the 2,370-Hp Caterpillar compressor engine within 30 days after commencement of construction.

E. Applicant Accepted Conditions Applicable to All Activities of Montana Power- Mainline #1 Described in the Record of Decision for the March 14, 2002, Silver Bow Generation Project and Associated Pipeline Construction Activities

Montana Power- Mainline #1 has agreed to implement several mitigation measures, as described in the Record of Decision for the CES Silver Bow Generation Project and the measures as imposed at the project sponsors' request pursuant to §75-1-201(5)(b), MCA. These mitigation measures are enforceable conditions this permit and shall remain in the permit for the lifetime of the facility.

1. Apiary Sites: Prior to building of the gas pipeline, Montana Power - Mainline #1 shall coordinate between construction activities and the beehive operators. It may be possible to relocate hives within the same apiary site; causing the hive to be situated in an area farther away from construction activities. Beekeepers typically rotate bees between apiary sites. Ideally, hives must be relocated to another registered apiary site during the period of pipeline construction.

2. Superfund Sites: Montana Power - Mainline #1 shall coordinate with ARCO to include pipeline construction in the ARCO long-term Management Plan for wildlife conservation at the Warm Springs Pond Superfund Site.

3. Topsoil Salvage: Pipeline construction activities resulting in soil excavation must salvage the uppermost topsoil horizon(s) and stockpile the materials for reclamation coversoil after regrading. At a minimum, topsoil salvage depth must include all horizons dominated by organic material or containing an accumulation of organic matter to a depth of 12 inches.

4. Multiple Horizon Soil Salvage: For agricultural lands, soil and salvage operations must include multiple horizons (i.e. topsoil and subsoil) salvaged separately and replaced sequentially to help mitigate the potential loss of soil productively.

5. Soil Compaction Minimization: All salvaged coversoil must be respread over the regraded trench using tracked equipment to minimize soil compaction.

6. 100-year Flood Plain: Temporary access roads must be located, to the maximum degree, on soils outside the 100-year floodplain.

7. Reseeding: Montana Power - Mainline #1 shall include in the Weed Control Plan the provisions that all disturbed areas will be reseeded with site-adapted seed mixtures and adequate seed rates of pure live seed in the first appropriate season (Spring or Fall) after construction and at the landowners' discretion. Areas disturbed by the Project that supported native vegetation will be revegetated with native species.

8. Temporary Cover of Disturbed Areas: Montana Power - Mainline #1 shall reseed in the same year for all construction completed by August 31, or at landowners' discretion.

9. Minimize Vegetation Cleanup: Existing vegetation may only be cleared from areas scheduled for immediate construction work and only for the width needed for active construction activities.

10. Revegetation Reclamation: Montana Power - Mainline #1 must monitor revegetated areas and implement remedial revegetation if necessary until reclamation is successful.

11. Botanical Surveys: Montana Power - Mainline #1 shall perform pre-construction botanical surveys (weed inventory) of staging yards, contractor yards, and other associated facilities and mitigate if noxious weeds are not controlled in reclaimed areas.

12. Special-Status Plants: Montana Power - Mainline #1 shall use narrowed right-of-way or, where possible, minor reroutes to minimize or avoid impacts to special-status plant

populations.

13. Montana Power - Mainline #1 and Contractor Compliance: Montana Power - Mainline #1 shall ensure contractors adhere to all mitigation measures. Montana Power - Mainline #1 will provide an environmental inspector during pipeline construction.

14. Pollution Prevention: All vehicles and equipment utilized during pipeline construction shall be clean, in good repair, and without leaks or oil, gasoline, diesel, or other materials which would contaminate stream water quality. The contractor or Montana Power - Mainline #1 shall conduct daily equipment inspection for leaking oil and fuel.

15. Big Game Avoidance: Montana Power - Mainline #1 shall consult with FWP to develop timing restrictions to avoid constructing in big game winter range during critical periods.

Section III. General Conditions

A. Inspection - Montana Power - Main Line #1 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 all the terms, conditions, and matters stated herein shall be deemed accepted if Montana Power - Main Line #1 fails to appeal as indicated below.

C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving any permittee of the responsibility for complying with any applicable federal or Montana statute, rule or standard except as specifically provided in ARM 17.8.701, *et seq.* (ARM 17.8.717).

D. Enforcement - Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, *et seq.*, Montana Code Annotated (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 Department's decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the Department's decision until the conclusion of the hearing and issuance of a final decision by the Board.

F. Permit Inspection - As required by ARM 17.8.716, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.

G. Permit Fees - Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, the continuing validity of this permit is conditional upon the payment by the permittee of an annual operation fee, as required by that Section and rules adopted thereunder by the Board.

Permit Analysis
Montana Power Company
Main Line #1 Compressor Station
Permit #2428-07

I. Introduction/Process Description

The Montana Power Company-Mainline #1 (Montana Power - Main Line #1) applied for a permit modification for their compressor station and associated equipment, located in the S½ of Section 22, Township 33 North, Range 5 West in Glacier County near Cut Bank, Montana.

A. Permitted Equipment and Facilities

This facility consists of the following equipment:

1. One 2,370-Hp Caterpillar compressor engine (to be installed in 2003)

2. Three 660-Hp Ingersoll-Rand compressor engines (installed pre-1968) with catalytic converters on the engine exhaust (to be installed by July 31, 1992).

3. Four 1100-Hp Cooper-Superior compressor engines, model number 8GTLB (installed 1989).

4. Two 2000-Hp Cooper-Superior compressor engines, model number 12SGTB (Installed 1998).

5. Flare with igniter and monitor for emergency purposes (igniter and monitor to be installed by July 31, 1992).

6. One Smart Ash Burner, model number 100.

7. Building and process heaters including:

   a. Process gas plant heater
   b. Compressor heater #1
   c. Fuel gas heater
   d. Dehydrator reboiler
   e. Superior compressor building heater

B. Source Description

Montana Power - Main Line #1 provides pressure to the natural gas transmission system, which distributes it to markets in western Montana. In addition, the facility separates water, propane, butane, and gasoline from the incoming field gas before compressing it into the pipeline system. The primary equipment at the facility consists of one 2,370-Hp Caterpillar compressor engine to be installed in 2003, three 660-Hp Ingersoll-Rand compressor engines installed prior to 1968, four 1100-Hp Cooper-Superior compressor engines installed in 1989, two 2000-Hp Cooper-Superior compressor engines installed in 1998, a process heater for gas plant #1, a compressor building heater #1, a fuel gas heater, and a glycol dehydrator reboiler. In 1992, Montana Power - Main Line #1 also installed $DeNO_x$ catalytic converters to the three 660-Hp Ingersoll-Rand compressor engines.

C. Permit History

On March 23, 1988, Permit **#2428** was approved for Montana Power - Main Line #1 to operate six natural gas compressor engines at the Cut Bank liquid plant. On December 21, 1990, Permit #2428 was altered for the facility to undergo a Prevention of Significant Deterioration (PSD) review. Permit **#2428A** replaced Permit #2428.

On July 18, 1991, Montana Power - Main Line #1 received an alteration to Permit #2428A. The alteration allowed Montana Power - Main Line #1 to add three 1100-Hp compressor engines to the facility. Offsets for control of existing emissions were calculated as part of the permit alteration. Permit **#2428B** replaced Permit #2428A.

In November 1991, Montana Power - Main Line #1 applied for a permit modification to delete the three 1100-Hp compressor engines previously proposed and extend the time frame for installing the catalytic converters on the 660-Hp Ingersoll-Rand compressor engines. Permit **#2428-03** replaced Permit #2428B.

On February 22, 1998, Montana Power - Main Line #1 received a modification to Permit #2428-03. Montana Power - Main Line #1 requested that the total hours of operation of the three 660-Hp Ingersoll-Rand compressor engines be limited to 24,495 hours per year and that emissions from minor combustion sources be added to the emission inventory. Montana Power also requested that the auxiliary electrical generator powered by a diesel-fired engine be limited to 720 hours of operation per year. The limitations on the compressor engines and the auxiliary generator ensured that the facility's Potential to Emit (PTE) would remain below 250 tons/year of any pollutant so that Montana Power - Main Line #1 would not be defined as a major source under the New Source Review (NSR) program. Permit **#2428-04** replaced Permit #2428-03.

On April 3, 1998, Montana Power - Main Line #1 received an alteration to Permit #2428-04 to remove two existing 1100-Hp Cooper-Superior compressor engines and replace them with two 2000-Hp Cooper-Superior engines. Montana Power - Main Line #1 also requested that the Smart Ash Burner, used to incinerate oily rags, be included in the permit alteration. The Montana Power - Main Line #1 facility is not a major source because it is not listed and does not have the potential to emit more than 250 tons per year (excluding fugitive emissions) of any air pollutant. The permit alteration revised the emission limitation units from g/BHp-hr to lb/hr. The hourly emission limitation allowed for operational flexibility. Permit **#2428-05** replaced Permit #2428-04.

On February 15, 2001, Montana Power - Main Line #1 received a modification for Peconstruction Permit #2428-05 to remove testing requirements for the following equipment:

- Unit #022-1 – 660-Hp Ingersoll-Rand compressor engine
- Unit #022-2 – 660-Hp Ingersoll-Rand compressor engine
- Unit #022-3 – 660-Hp Ingersoll-Rand compressor engine
- Unit #022-4 - 1,100-Hp Cooper Superior compressor engine
- Unit #022-5 - 2,000-Hp Cooper Superior compressor engine
- Unit #022-6 - 1,100-Hp Cooper Superior compressor engine
- Unit #022-7 - 1,100-Hp Cooper Superior compressor engine
- Unit #022-8 - 2,000-Hp Cooper Superior compressor engine
- Unit #022-9 - 1,100-Hp Cooper Superior compressor engine

Since Montana Power-Mainline #1 had a final Title V Permit (#OP2428-00) that required a minimum of semi-annual emission testing for the above described compressor engines, testing requirements of every 4 years were removed from Peconstruction Permit #2428-05. Emission limitations for the compressor engines as provided in Section II.A of the permit remained applicable. Permit **#2428-06** replaced Permit #2428-05.

D. Current Permit Action

On August 10, 2001, the Department of Environmental Quality (Department) received a request from Montana Power - Main Line #1 to alter preconstruction Permit #2428-06 for the addition of a 2,370-Hp Caterpillar Compressor Engine. On October 24, 2001, the application was deemed complete upon submittal of additional information by Montana Power - Main Line #1.

The current permit action adds the new compressor engine to the permit. The current permit action does not trigger the NSR program because the potential emissions from the current permit action are less than the NSR threshold level of 250 tons per year. However, the next permit action at this facility with potential emissions above PSD significant levels may trigger the NSR program. Permit **#2428-07** replaces Permit #2428-06.

E. MEPA Mitigation Changes

Through the MEPA process the applicant proposed mitigation measures. The Department has incorporated a portion of those mitigation measures in this permitting action. The conditions pertaining to the mitigation measures are included in Section II.E of the permit and are intended to remain in the permit for the lifetime of the facility.

F. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT) determination, air quality impacts, and environmental assessments, is included in the permit 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 the location of any applicable rule or regulation and provide copies where appropriate.

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

1. 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.

   For the new 2,370-Hp Caterpillar compressor engine, an initial compliance source test is required within 180 days of the actual start-up date of the engine. Further testing shall continue, as required by the most recent version of Montana Power - Main Line #1's Title V Permit (OP2428).

2. 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).

   Montana Power - Main Line #1 shall comply with all 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.

3. 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.

4. 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 in 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 that a public nuisance is created.

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

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

Montana Power - Main Line #1 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 to an outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes, and 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 20 % for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate. (2) Under this rule, Montana Power - Main Line #1 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 section 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 section.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This section requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set fourth in this section.

5. ARM 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Further, no person shall cause or authorize to be discharged into the outdoor atmosphere, from any incinerator emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes.

6. ARM 17.8.340 New Source Performance Standards. The owner or operator of any stationary source or modification, as defined and applied in 40 CFR Part 60, shall comply

with the standards and provisions of 40 CFR Part 60. Subpart KKK, Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants, is applicable to this facility.

7. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The owner or operator of any affected source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63.

   40 CFR 63, Subpart HH National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities. Owners or operators of oil and natural gas production facilities, as defined and applied in 40 CFR Part 63, shall comply with the standards and provisions of 40 CFR Part 63, Subpart HH. Based on information submitted to the Department, which included a complete Hazardous Air Pollutant (HAP) emission inventory, the Montana Power – Main Line #1 gas plant is not a National Emission Standards for Hazardous Air Pollutants (NESHAP) affected source because the gas plant does not meet the definition of a major source of HAPs as defined in 40 CFR Part 63, Subpart HH.

   40 CFR 63, Subpart HHH National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities. Owners or operators of natural gas transmission or storage facilities, as defined and applied in 40 CFR Part 63, shall comply with the standards and provisions of 40 CFR Part 63, Subpart HHH. The Montana Power – Main Line #1 compressor station is not a NESHAP affected source because the compressor station does not have a dehydration unit. In addition, based on information submitted to the Department, which included a complete HAP emission inventory, the compressor station does not meet the definition of a major source of HAPs as defined in 40 CFR Part 63, Subpart HHH.

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. Montana Power - Main Line #1 shall 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. Montana Power - Main Line #1 submitted the proper application fee required 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. This 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 pro-rate 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 17.8.704 General Procedures for Air Quality Preconstruction Permitting. An air quality preconstruction permit shall contain requirements and conditions applicable to

both construction and subsequent use.

2. ARM 17.8.705 When Permit Required--Exclusions. This rule requires a facility to obtain an air quality permit or permit alteration if they construct, alter, or use an air contaminant source that has the potential to emit more than 25 tons per year of any pollutant. Montana Power - Main Line #1 has the potential to emit more than 25 tons per year of NO_x, CO, and VOC; therefore, a permit is required for this facility.

3. ARM 17.8.706 New or Altered Sources and Stacks--Permit Application Requirements. This rule requires that an application for an air quality permit be submitted for a new or altered source or stack. Montana Power - Main Line #1 submitted an application for the current permit action.

4. ARM 17.8.707 Waivers. ARM 17.8.706 requires the permit application to be submitted 180 days before construction begins. This section allows the Department to waive this time limit. The Department hereby waives this limit.

5. ARM 17.8.710 Conditions for Issuance of Permit. This rule requires that the source demonstrate compliance with applicable rules and standards before a permit can be issued. Also, a permit may be issued with such conditions as are necessary to assure compliance with all applicable rules and standards. Montana Power - Main Line #1 has demonstrated compliance with all applicable rules and standards as required for permit issuance.

6. ARM 17.8.715 Emission Control Requirements. Montana Power - Main Line #1 is required to install on a new or altered source the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is contained in Section III of this permit analysis.

7. ARM 17.8.716 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.

8. 17.8.717 Compliance with Other Statutes and Rules. This rule states that nothing in the permit shall be construed as relieving Montana Power - Main Line #1 of the responsibility for complying with any applicable federal or Montana statute, rule or standard, except as specifically provided in ARM 17.8.701, *et seq*.

9. ARM 17.8.720 Public Review of Permit Applications. This rule requires that Montana Power - Main Line #1 notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Montana Power - Main Line #1 submitted an affidavit of publication of public notice for the August 16, 2001, issue of the *Great Falls Tribune*.

10. ARM 17.8.731 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, that in no event may be less than 1 year after the permit is issued.

11. ARM 17.8.733 Modification of Permit. An air quality permit may be modified 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 in emissions because of those changed conditions. A source may not increase its emissions beyond those found in its permit unless the source applies for and

receives another permit.

12. ARM 17.8.734 Transfer of Permit. This section 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 Federal Clean Air Act (FCAA) that it would emit, except as this subchapter would otherwise allow.

The emissions from this permit action are less than 250 tons per year; therefore, the facility was not subject to the NSR program for this permit action. However, the next permit action at this facility with potential emissions above PSD significant levels may trigger the NSR program.

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 stationary source having:

a. PTE greater than 100 tons/year of any pollutant;

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

c. Sources with the PTE greater than 70 tons/year of PM-10 in a serious PM-10 nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (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 #2428-07 for Montana Power - Main Line #1, the following conclusions were made.

a. The facility's PTE is greater than 100 tons/year for NO_x ,CO, and VOC;

b. This source is not located in a serious PM-10 nonattainment area;

c. This facility is subject to current NSPS;

d. This facility is not subject to a current NESHAP standard;

e. This source is not a Title IV affected source nor a solid waste combustion unit; and

f. This source is a "major source" as designated by Title V.

Based on these conclusions, the Department determined that Montana Power - Main Line #1 is a "major source" of emissions as defined under Title V. The final Title V Operating Permit #OP2428-00 for this facility was issued by the Department on March 11, 2000. The Department will modify the Title V permit to reflect the addition of the

2,370-Hp compressor engine.

H. MCA 75-2-103, Definitions, provides in part as follows:

1. "Incinerator" means any single or multiple-chambered combustion device that burns combustible material, alone or with a supplemental fuel or catalytic combustion assistance, primarily for the purpose of removal, destruction, disposal, or volume reduction of all or any portion of the input material.

2. "Solid waste" means all putrescible and nonputrescible solid, semisolid, liquid, or gaseous wastes including but not limited to...air pollution control facilities...

I. MCA 75-2-215, Solid or hazardous waste incineration - additional permit requirements:

1. MCA 75-2-215 requires air quality permits for all new commercial solid waste incinerators. Montana Power - Main Line #1 has incorporated the Smart Ash Burner into their air quality permit.

2. MCA 75-2-215 requires the applicant to provide, to the Department's satisfaction, a characterization and estimate of emissions and ambient concentrations of air pollutants, including HAP's, from the incineration of solid waste. The Department determined that the information submitted in application #2428-05 fulfilled this requirement for the Smart Ash Burner.

3. MCA 75-2-215 requires that the Department reach a determination that the projected emissions and ambient concentrations constitute a negligible risk to public health, safety and welfare. Bison Engineering, Inc. (Bison) submitted a health risk assessment on behalf of Montana Power - Main Line #1 for the Smart Ash Burner. Based on the results of the emission inventory, modeling, and the health risk assessment submitted by Bison, the Department determined that Montana Power - Main Line #1's Smart Ash Burner complied with this requirement.

4. MCA 75-2-215 requires the application of pollution control equipment or procedures that meet or exceed BACT. The Department determined that the Smart Ash Burner constituted BACT, with no additional "add-on" technology.

III. BACT Determination

A BACT determination is required for each new or altered source. Montana Power - Main Line #1 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. A BACT analysis has been reviewed by the Department addressing some of the available methods for controlling NO_x, CO and VOC emissions from the 2,370-hp Caterpillar compressor engine. The Department reviewed previous BACT determinations for compressor engines before making the following BACT determination.

A. Non-Selective Catalytic Reduction (NSCR) Unit

An NSCR unit controls NO_x emissions by using the CO and the residual hydrocarbons in the exhaust of a rich-burn engine as a reducing agent for NO_x. Without the catalyst, in the presence of oxygen, the hydrocarbons will be oxidized instead of reacting with NO_x. As the excess hydrocarbon and NO_x pass over a honeycomb or monolithic catalyst (usually a combination of noble metals such as platinum, palladium, and/or rhodium), the reactants are reduced to N_2, H_2O, and CO_2. The noble metal catalyst usually operates between 800° F and 1,200° F; therefore, the unit would normally be mounted near the engine exhaust to maintain a high enough temperature

to allow the various reactions to occur. In order to achieve maximum performance, 80% to 90% reduction of NO_x concentration, and the engine needs to burn a rich fuel mixture – causing the engine to operate less efficiently. The Department determined that an NSCR unit will not constitute BACT in this case.

B. NSCR unit with an Air/Fuel Ratio (AFR) Controller.

In order to provide for the most effective use of the above catalyst, it is necessary to install an electronic AFR controller. This device maintains the proper air/fuel ratio that will optimize the degree of reducing agents in order to provide maximum emission reduction while minimizing agents that can poison the catalyst.

NSCR/AFR control equipment typically constitutes BACT for many compressor engines. This technology effectively reduces NO_x and CO emissions and is an economically and environmentally feasible option. However, the Department determined that an NSCR unit with an AFR controller will not constitute BACT in this case.

C. Lean-Burn Engine.

The lean-burn engine uses a precombustion chamber to enclose a rich mixture of air and fuel -- the mixture is then ignited in this chamber. The resulting ignition front then fires into the larger main cylinder that contains a much leaner fuel mixture. Staging the combustion and burning a leaner fuel mixture results in lowering of peak flame temperatures. Lower combustion temperature assures lower NO_x concentration in the exhaust gas stream; however, excess air in the fuel/air mixture can result in increased CO emissions.

The NO_x and CO emissions from a lean-burn engine can be stabilized by installing an electronic AFR controller. This device maintains the proper air/fuel ratio that will optimize the performance of the lean burn engine. A lean-burn engine with an AFR controller achieves approximately the same reduction in emissions as a rich-burn engine fitted with a NSCR unit and an AFR controller. The lean-burn engine has a higher initial cost than a rich-burn engine with an NSCR unit; however, since there is no add-on equipment, the lean-burn option requires far less maintenance than an NSCR unit. The Department determined that a lean burn engine will constitute BACT in this case.

D. NO_x Control at the Crossover Point using an Air/Fuel Ratio Controller.

In this process, the proper AFR is obtained by adjusting the engine to operate at the crossover point, where NO_x and CO emissions are equal. At the crossover point, the engine operates neither too lean nor too rich. Excess hydrocarbon in a rich fuel mixture causes incomplete combustion; thus lowers the exhaust temperature to a point where concentration of NO_x decreases, but the concentration of CO increases. Combustion of a lean fuel mixture occurs at higher temperatures, accompanied by higher concentration of NO_x, but CO concentration decreases. Operating at the crossover point assures both NO_x and CO emissions at reasonable levels for lower power engines.

It is possible to consistently operate an engine at the crossover point by installing an electronic AFR controller that senses the oxygen concentration in the exhaust. An engine can operate manually at the crossover point; however, the engine must be tuned frequently to account for operational changes such as varying engine load, operating temperature, fuel gas quality, etc. The Department determined that installation and operation of an electronic AFR controller will not constitute BACT in this case.

E. No Additional Controls.

This practice has no energy or economic impacts on Montana Power - Main Line #1. This option would have negative impacts on air quality; therefore, the Department determined that "no additional control" does not constitute BACT in this case.

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

IV. Emission Inventory

Source	Equipment Description	Emissions in (tons/year)				
		PM-10	NO_x	CO	VOC	SO_x
#1	660-Hp Ingersoll-Rand Compressor Engine	0.23	11.88	17.82	4.46	0.01
#2	660-Hp Ingersoll-Rand Compressor Engine	0.23	11.88	17.82	4.46	0.01
#3	660-Hp Ingersoll-Rand Compressor Engine	0.23	11.88	17.82	4.46	0.01
#4	1100-Hp Cooper-Superior Compressor Engine	0.35	21.25	31.87	7.97	0.04
#5	2000-Hp Cooper-Superior Compressor Engine	0.63	28.97	30.91	11.59	0.04
#6	1100-Hp Cooper-Superior Compressor Engine	0.35	21.25	31.87	7.97	0.04
#7	1100-Hp Cooper-Superior Compressor Engine	0.35	21.25	31.87	7.97	0.04
#8	2000-Hp Cooper-Superior Compressor Engine	0.63	28.97	30.91	11.59	0.04
#9	1100-Hp Cooper-Superior Compressor Engine	0.35	21.25	31.87	7.97	0.04
#10	Process Gas Plant Heater (Volcano)	0.22	1.84	0.39	0.20	0.01
#11	All Building Heaters. Total Capacity not to exceed 8 MMBtu/hr	0.42	3.50	0.74	0.39	0.02
#12	Glycol Dehydrator Unit	---	---	---	17.98	---
#13	Fuel Gas Heater	0.01	0.06	0.03	0.01	0.00
#14	Auxiliary Generator	0.43	5.97	1.29	0.48	0.40
#15	Emergency Shutdown Flare	0.00	0.01	0.00	0.00	0.00
#16	Propane Truck Venting	---	---	---	2.55	---
#17	Process Valves, Non-NSPS	---	---	---	0.04	---
#18	Process Valves, NSPS	---	---	---	0.04	---
#19	Gas Blow Down	---	---	---	0.73	---
#20	Road Dust	19.22	---	---	---	---
#21	Natural Gasoline Storage Tank Vent	---	---	---	5.17	---
#22	Smart Ash Burner – 100	0.03	0.33	0.04	0.00	0.97
#23	2370-Hp Caterpillar Compressor Engine	0.90	45.78	68.67	22.89	0.05
Total		24.58	236.07	313.92	118.92	1.72

(SOURCE #01)
660-Hp Ingersoll-Rand Compressor Engine
Brake Horsepower: 660 BHp
Hours of Operation: 8,165 hr/yr
Max Fuel Combustion Rate: 0.0085 MMBtu/BHp-hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 10.00 lb/MMScf (2-02-002-02, AFSSCC page 32)
Calculations: 10.00 lb/MMScf * 0.001 MMScf/MMBtu * 0.0085 MMBtu/BHp-hr * 660 BHp = 0.06 lb/hr
0.06 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 0.23 ton/yr

NO_x Emissions
Emission Factor: 2.00 gram/BHp-hr (Manufacturers Design)
Calculations: 2.00 gram/BHp-hr * 660 BHp * 0.002205 lb/gram = 2.91 lb/hr
2.91 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 11.88 ton/yr

CO Emissions
Emission Factor: 3.00 gram/BHp-hr (Manufacturers Design)

Calculations: 3.00 gram/BHp-hr * 660 BHp * 0.002205 lb/gram = 4.37 lb/hr
4.37 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 17.82 ton/yr

VOC Emissions
Emission Factor: 0.75 gram/BHp-hr (Manufacturers Design)
Calculations: 0.75 gram/BHp-hr * 660 BHp * 0.002205 lb/gram = 1.09 lb/hr
1.09 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 4.46 ton/yr

SO_x Emissions
Emission Factor: 0.002 gram/BHp-hr (Airs 2-02-002-02, 3/90)
Calculations: 0.002 gram/BHp-hr * 660 BHp * 0.002205 lb/gram = 0.00 lb/hr
0.003 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

(SOURCE #02)
660-Hp Ingersoll-Rand Compressor Engine
Brake Horsepower: 660 BHp
Hours of Operation: 8,165 hr/yr
Max Fuel Combustion Rate: 0.0085 MMBtu/BHp-hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 10.00 lb/MMScf (2-02-002-02, AFSSCC page 32)
Calculations: 10.00 lb/MMScf * 0.001 MMScf/MMBtu * 0.0085 MMBtu/BHp-hr * 660 BHp = 0.06 lb/hr
0.06 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 0.23 ton/yr

NO_x Emissions
Emission Factor: 2.00 gram/BHp-hr (Manufacturers Design)
Calculations: 2.00 gram/BHp-hr * 660 BHp * 0.002205 lb/gram = 2.91 lb/hr
2.91 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 11.88 ton/yr

CO Emissions
Emission Factor: 3.00 gram/BHp-hr (Manufacturers Design)
Calculations: 3.00 gram/BHp-hr * 660 BHp * 0.002205 lb/gram = 4.37 lb/hr
4.37 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 17.82 ton/yr

VOC Emissions
Emission Factor: 0.75 grams/BHp-hr (Manufacturers Design)
Calculations: 0.75 grams/BHp-hr * 660 BHp * 0.002205 lb/gram = 1.09 lb/hr
1.09 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 4.46 ton/yr

SO_x Emissions
Emission Factor: 0.002 gram/BHp-hr (Airs 2-02-002-02, 3/90)
Calculations: 0.002 gram/BHp-hr * 660 BHp * 0.002205 lb/gram = 0.003 lb/hr
0.003 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

(SOURCE #03)
660 Hp Ingersoll-Rand Compressor Engine
Brake Horsepower: 660 BHp
Hours of Operation: 8,165 hr/yr
Max Fuel Combustion Rate: 0.0085 MMBtu/BHp-hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 10.00 lb/MMScf (2-02-002-02, AFSSCC page 32)
Calculations: 10.00 lb/MMScf * 0.001 MMScf/MMBtu * 0.0085 MMBtu/BHp-hr * 660 BHp = 0.06 lb/hr
0.06 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 0.23 ton/yr

NO_x Emissions
Emission Factor: 2.00 gram/BHp-hr (Manufacturers Design)
Calculations: 2.00 gram/BHp-hr * 660 BHp * 0.002205 lb/gram = 2.91 lb/hr
2.91 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 11.88 ton/yr

CO Emissions
Emission Factor: 3.00 gram/BHp-hr (Manufacturers Design)
Calculations: 3.00 gram/BHp-hr * 660 BHp * 0.002205 lb/gram = 4.37 lb/hr
4.37 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 17.82 ton/yr

VOC Emissions

Emission Factor: 0.75 gram/BHp-hr (Manufacturers Design)
Calculations: 0.75 gram/BHp-hr * 660 BHp * 0.002205 lb/gram = 1.09 lb/hr
1.09 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 4.46 ton/yr

SO_x Emissions
Emission Factor: 0.002 gram/BHp-hr (Airs 2-02-002-02, 3/90)
Calculations: 0.002 gram/BHp-hr * 660 BHp * 0.002205 lb/gram = 0.00 lb/hr
0.003 lb/hr * 8165 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

(SOURCE #04)
1100-Hp Cooper-Superior Compressor Engine
Brake Horsepower: 1,100 BHp
Hours of Operation: 8,760 hr/yr
Max Fuel Combustion Rate: 0.0072 MMBtu/BHp-hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 10.00 lb/MMScf (2-02-002-02, AFSSCC page 32)
Calculations: 10.00 lb/MMScf * 0.001 MMScf/MMBtu * 0.0072 MMBtu/BHp-hr * 1100 BHp = 0.08 lb/hr
0.08 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.35 ton/yr

NO_x Emissions
Emission Factor: 2.00 gram/BHp-hr (Manufacturers Design)
Calculations: 2.00 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 4.85 lb/hr
4.85 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 21.25 ton/yr

CO Emissions
Emission Factor: 3.00 gram/BHp-hr (Manufacturers Design)
Calculations: 3.00 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 7.28 lb/hr
7.28 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 31.87 ton/yr

VOC Emissions
Emission Factor: 0.75 gram/BHp-hr (Manufacturers Design)
Calculations: 0.75 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 1.82 lb/hr
1.82 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 7.97 ton/yr

SO_x Emissions
Emission Factor: 0.004 gram/BHp-hr (Airs 2-02-002-02, 3/90)
Calculations: 0.004 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 0.01 lb/hr
0.010 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.04 ton/yr

(SOURCE #05)
2000-Hp Cooper-Superior Compressor Engine
Brake Horsepower: 2,000 BHp
Hours of Operation: 8,760 hr/yr
Max Fuel Combustion Rate: 0.00715 MMBtu/BHp-hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 10.00 lb/MMScf (Airs 2-02-002-02, 3/90)
Calculations: 10.00 lb/MMScf * 0.001 MMScf/MMBtu * 0.00715 MMBtu/BHp-hr * 2000 BHp = 0.14 lb/hr
0.14 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.63 ton/yr

NO_x Emissions
Emission Factor: 1.50 gram/BHp-hr (Manufacture)
Calculations: 1.50 gram/BHp-hr * 2000 BHp * 0.002205 lb/gram = 6.62 lb/hr
6.62 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 28.97 ton/yr

CO Emissions
Emission Factor: 1.60 gram/BHp-hr (Manufacture)
Calculations: 1.60 gram/BHp-hr * 2000 BHp * 0.002205 lb/gram = 7.06 lb/hr
7.06 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 30.91 ton/yr

VOC Emissions
Emission Factor: 0.60 gram/BHp-hr (Manufacture)
Calculations: 0.60 gramBHp-hr * 2000 BHp * 0.002205 lb/gram = 2.65 lb/hr
2.65 lb/hr * 8760 hr/yr * 0.0005 tons/lb = 11.59 ton/yr

SO_x Emissions

Emission Factor: 0.60 lb/MMScf (Airs 2-02-002-02, 3/90)
Calculations: 0.60 lb/MMScf * 2000 BHp * 0.0010 MMScf/MMBtu * 0.00715 MMBtu/BHp-hr = 0.01 lb/hr
0.01 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.04 ton/yr

(SOURCE #06)

1100-Hp Cooper-Superior Compressor Engine

Brake Horsepower: 2000 BHp
Hours of Operation: 8,760 hr/yr
Max Fuel Combustion Rate: 0.00715 MMBtu/BHp-hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 10.00 lb/MMScf (Airs 2-02-002-02, 3/90)
Calculations: 10.00 lb/MMScf * 0.001 MMScf/MMBtu * 0.0072 MMBtu/BHp-hr * 1100 BHp = 0.08 lb/hr
0.08 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.35 ton/yr

NO_x Emissions
Emission Factor: 2.00 gram/BHp-hr (Manufacture)
Calculations: 2.00 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 4.85 lb/hr
4.85 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 21.25 ton/yr

CO Emissions
Emission Factor: 3.00 gram/BHp-hr (Manufacture)
Calculations: 3.00 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 7.28 lb/hr
7.28 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 31.87 ton/yr

VOC Emissions
Emission Factor: 0.75 gram/BHp-hr (Manufacture)
Calculations: 0.75 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 1.82 lb/hr
1.82 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 7.97 ton/yr

SO_x Emissions
Emission Factor: 0.004 gram/BHp-hr (Airs 2-02-002-02, 3/90)
Calculations: 0.004 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 0.01 lb/hr
0.01 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.04 ton/yr

(SOURCE #07)

1100-Hp Cooper-Superior Compressor Engine

Brake Horsepower: 1,100 BHp
Hours of Operation: 8,760 hr/yr
Max Fuel Combustion Rate: 0.0072 MMBtu/BHp-hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 10.00 lb/MMScf (2-02-002-02, AFSSCC page 32)
Calculations: 10.0 lb/MMScf * 0.001 MMScf/MMBtu * 0.0072 MMBtu/BHp-hr * 1100 BHp = 0.08 lb/hr
0.08 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.35 ton/yr

NO_x Emissions
Emission Factor: 2.00 gram/BHp-hr (Manufacturers Design)
Calculations: 2.00 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 4.85 lb/hr
4.85 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 21.25 ton/yr

CO Emissions
Emission Factor: 3.00 gram/BHp-hr (Manufacturers Design)
Calculations: 3.00 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 7.28 lb/hr
7.28 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 31.87 ton/yr

VOC Emissions
Emission Factor: 0.75 gram/BHp-hr (Manufacturers Design)
Calculations: 0.75 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 1.82 lb/hr
1.82 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 7.97 ton/yr

SO_x Emissions
Emission Factor: 0.004 gram/BHp-hr (Airs 2-02-002-02, 3/90)
Calculations: 0.004 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 0.01 lb/hr
0.010 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.04 ton/yr

(SOURCE #08)

2000-Hp Cooper-Superior Compressor Engine

Brake Horsepower: 2,000 BHp
Hours of Operation: 8,760 hr/yr
Max Fuel Combustion Rate: 0.00715 MMBtu/BHp-hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 10.00 lb/MMScf (Airs 2-02-002-02, 3/90)
Calculations: 10.00 lb/MMScf * 0.001 MMScf/MMBtu * 0.00715 MMBtu/BHp-hr * 2000 BHp = 0.14 lb/hr
0.14 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.63 ton/yr

NO_x Emissions
Emission Factor: 1.50 gram/BHp-hr (Manufacture)
Calculations: 1.50 gram/BHp-hr * 2000 BHp * 0.002205 lb/gram = 6.62 lb/hr
6.62 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 28.97 ton/yr

CO Emissions
Emission Factor: 1.60 gram/BHp-hr (Manufacture)
Calculations: 1.60 gram/BHp-hr * 2000 BHp * 0.002205 lb/gram = 7.06 lb/hr
7.06 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 30.91 ton/yr

VOC Emissions
Emission Factor: 0.60 gram/BHp-hr (Manufacture)
Calculations: 0.60 gram/BHp-hr * 2000 BHp * 0.002205 lb/gram = 2.65 lb/hr
2.65 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 11.59 ton/yr

SO_x Emissions
Emission Factor: 0.60 lb/MMScf (Airs 2-02-002-02, 3/90)
Calculations: 0.60 lb/MMScf * 2000 BHp * 0.0010 MMScf/MMBtu * 0.00715 MMBtu/BHp-hr = 0.01 lb/hr
0.01 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.04 ton/yr

(SOURCE #09)

1100-Hp Cooper-Superior Compressor Engine

Brake Horsepower: 1,100 BHp
Hours of Operation: 8,760 hr/yr
Max Fuel Combustion Rate: 0.0072 MMBtu/BHp-hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 10.00 lb/MMScf (2-02-002-02, AFSSCC page 32)
Calculations: 10.00 lb/MMScf * 0.001 MMScf/MMBtu * 0.0072 MMBtu/BHp-hr * 1100 BHp = 0.08 lb/hr
0.08 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.35 ton/yr

NO_x Emissions
Emission Factor: 2.00 gram/BHp-hr (Manufacturers Design)
Calculations: 2.00 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 4.85 lb/hr
4.85 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 21.25 ton/yr

CO Emissions
Emission Factor: 3.00 gram/BHp-hr (Manufacturers Design)
Calculations: 3.00 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 7.28 lb/hr
7.28 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 31.87 ton/yr

VOC Emissions
Emission Factor: 0.75 gram/BHp-hr (Manufacturers Design)
Calculations: 0.75 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 1.82 lb/hr
1.82 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 7.97 ton/yr

SO_x Emissions
Emission Factor: 0.004 gram/BHp-hr (Airs 2-02-002-02, 3/90)
Calculations: 0.004 gram/BHp-hr * 1100 BHp * 0.002205 lb/gram = 0.01 lb/hr
0.010 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.04 ton/yr

(SOURCE #10)

Process Gas Plant Heater (Volcano)

Hours of Operation: 8,760 hr/yr
Max Fuel Combustion Rate: 4.2000 MMBtu/hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 12.00 lb/MMScf (AP-42, Table 1.4-1)
Calculations: 12.0 lb/MMScf * 0.001 MMScf/MMBtu * 4.2000 MMBtu/hr = 0.05 lb/hr
0.05 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.22 ton/yr

NO_x Emissions
Emission Factor: 100.00 lb/MMScf (AP-42, Table 1.4-2)
Calculations: 100.00 lb/MMScf * 0.001 MMScf/MMBtu * 4.2 MMBtu/hr = 0.42 lb/hr
0.lb/hr * 8760 hr/yr * 0.0005 ton/lb = 1.84 ton/yr

CO Emissions
Emission Factor: 21.00 lb/MMScf (AP-42, Table 1.4-2)
Calculations: 21.00 lb/MMScf * 4.2 MMBtu/hr * 0.001 MMScf/MMBtu = 0.09 lb/hr
0.09 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.39 ton/yr

VOC Emissions
Emission Factor: 11.00 lb/MMScf (AP-42, Table 1.4-3)
Calculations: 11.00 lb/MMScf * 4.2 MMBtu/hr * 0.001 MMScf/MMBtu = 0.05 lb/hr
0.05 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.20 ton/yr

SO_x Emissions
Emission Factor: 0.600 lb/MMScf (AP-42, Table 1.4-2)
Calculations: 0.600 lb/MMScf * 4.2 MMBtu/hr * 0.001 MMScf/MMBtu = 0.003 lb/hr
0.003 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

(SOURCE #11)
All Building Heaters
Total Capacity not to Exceed 8.00 MMBtu/hr
Hours of Operation: 8,760 hr/yr
Max Fuel Combustion Rate: 8.0000 MMBtu/hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 12.00 lb/MMScf (AP-42, Table 1.4-1)
Calculations: 12.00 lb/MMScf * 0.001 MMScf/MMBtu * 8.0000 MMBtu/hr = 0.10 lb/hr
0.10 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.42 ton/yr

NO_x Emissions
Emission Factor: 100.00 lb/MMScf (AP-42, Table 1.4-2)
Calculations: 100.00 lb/MMScf * 0.001 MMScf/MMBtu * 8.0 MMBtu/hr = 0.80 lb/hr
0.80 lb/hr * 8760 hr/yr * 0.0005 ton/lb =3.50 tonyr

CO Emissions
Emission Factor: 21.00 lb/MMScf (AP-42, Table 1.4-2)
Calculations: 21.00 lb/MMScf * 8.0 MMBtu/hr * 0.001 MMScf/MMBtu = 0.17 lb/hr
0.17 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.74 ton/yr

VOC Emissions
Emission Factor: 11.00lb/MMScf (AP-42, Table 1.4-3)
Calculations: 11.00 lb/MMScf * 8.0 MMBtu/hr * 0.001 MMScf/MMBtu = 0.09 lb/hr
0.09 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.39 ton/yr

SO_x Emissions
Emission Factor: 0.600 lb/MMScf (AP-42, Table 1.4-2)
Calculations: 0.600 lb/MMScf * 8.0 MMBtu/hr * 0.001 MMScf/MMBtu = 0.00 lb/hr
0.005 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.02 ton/yr

(SOURCE #12)
Glycol Dehydrator Unit

VOC emissions determined using GRI_GLYCalc program - From Title V Application
VOC Emissions
4.11 lb/hr or 17.98 tons/year

(SOURCE #13)
Fuel Gas Heater

Hours of Operation: 8,760 hr/yr
Max Fuel Combustion Rate: 0.1500 MMBtu/hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 11.20 lb/MMScf (AP-42, Table 1.4-1)
Calculations: 11.20 lb/MMScf * 0.001 MMScf/MMBtu * 0.1500 MMBtu/hr = 0.0017 lb/hr
0.0017 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

NO_x Emissions
Emission Factor: 94.00 lb/MMScf (AP-42, Table 1.4-2)
Calculations: 94.00 lb/MMScf * 0.001 MMScf/MMBtu * 0.2 MMBtu/hr = 0.01 lb/hr
0.01 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.06 ton/yr

CO Emissions
Emission Factor: 40.00 lb/MMScf (AP-42, Table 1.4-2)
Calculations: 40.00 lb/MMScf * 0.2 MMBtu/hr * 0.001 MMScf/MMBtu = 0.01 lb/hr
0.01 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.03 ton/yr

VOC Emissions
Emission Factor: 11.00 lb/MMScf (AP-42, Table 1.4-3)
Calculations: 11.00 lb/MMScf * 0.2 MMBtu/hr * 0.001 MMScf/MMBtu = 0.00 lb/hr
0.00 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

SO_x Emissions
Emission Factor: 0.600 lb/MMScf (AP-42, Table 1.4-2)
Calculations: 0.600 lb/MMScf * 0.2 MMBtu/hr * 0.001 MMScf/MMBtu = 0.0001 lb
0.0001 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0005 ton/yr

(SOURCE #14)
Auxiliary Generator (diesel)
Hours of Operation: 720 hr/yr
Size: 4.06 g/kw-hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu
Nameplate Capacity: 400 kw

PM-10 Emissions
Emission Factor: 1.34 g/kw-hr (AP-42, Table 3.3-1)
Calculations: 1.34 g/kw-hr * 400 kw * 1 lb/453.59 g = 1.18 lb/hr
1.18 lb/hr * 720 hr/yr * 0.0005 ton/lb = 0.43 ton/yr

NO_x Emissions
Emission Factor: 18.80 g/kw-hr (AP-42, Table 3.3-1)
Calculations: 18.80 g/kw-hr * 400 kw * 1 lb/453.59 g = 16.58 lb/hr
16.58 lb/hr * 720 hr/yr * 0.0005 ton/lb = 5.97 ton/yr

CO Emissions
Emission Factor: 4.06 g/kw-hr (AP-42, Table 3.3-1)
Calculations: 4.06 g/kw-hr * 400 kw * 1 lb/453.59 g = 3.58 lb/hr
3.58 lb/hr * 720 hr/yr * 0.0005 ton/lb = 1.29 ton/yr

VOC Emissions
Emission Factor: 1.50 g/kw-hr (AP-42, Table 3.3-1)
Calculations: 1.50 g/kw-hr * 400 kw * 1 lb/453.59 g = 1.32 lb/hr
1.32 lb/hr * 720 hr/yr * 0.0005 ton/lb = 0.48 ton/yr

SO_x Emissions
Emission Factor: 1.25g/kw-hr (AP-42, Table 3.3-1)
Calculations: 1.25 g/kw-hr * 400 kw * 1 lb/453.59 g = 1.10 lb/hr
1.10 lb/hr * 720 hr/yr * 0.0005 ton/lb = 0.40 ton/yr

(SOURCE #15)
Emergency Shutdown Flare
Hours of Operation: 8,760 hr/yr
Fuel Consumption 8.508e-06 MMScf/hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 13.70 lb/MMScf (AP-42, Table 1.4-1)
Calculations: 13.70 lb/MMScf * 0.000008508 MMScf/hr = 0.00012 lb/hr
0.00012 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0005 ton/yr

NO_x Emissions
Emission Factor: 140.00 lb/MMScf (AP-42, Table 1.4-2)
Calculations: 140.00 lb/MMScf * 0.000008508 MMScf/hr = 0.00119 lb/hr
0.00119 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0052 ton/yr

CO Emissions
Emission Factor: 35.00 lb/MMScf (AP-42, Table 1.4-2)
Calculations: 35.00 lb/MMScf * 0.000008508 MMScf/hr = 0.00030 lb/hr
0.00030 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0013 ton/yr

VOC Emissions
Emission Factor: 5.80 lb/MMScf (AP-42, Table 1.4-3)
Calculations: 5.80 lb/MMScf * 0.000008508 MMScf/hr = 0.00005 lb/hr
0.00005 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0002 ton/yr

SO_x Emissions
Emission Factor: 0.60 lb/MMScf (AP-42, Table 1.4-2)
Calculations: 0.60 lb/MMScf * 0.000008508 MMScf/hr = 0.00001 lb/hr
0.00001 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.00002 ton/yr

(SOURCE #16)
Propane Truck Venting

VOC Emissions
(From Title V Application)
0.5811 lb/hr or 2.55 tons/yr

(SOURCE #17)
Process Valves, Non-NSPS
Prod. Rate 20.00 MMCF/day

VOC Emissions
Emission Factor: 0.01 lb VOC/MMCF (From Title V Application)
Calculations: 0.01 lb VOC/MMCF * 20.0 MMCF/day * 1 day/24 hr = 0.0083 lb/hr
0.0083 lb/hr * 365 days/year * 0.0005 ton/lb *24 hr/day = 0.04 ton/yr

(SOURCE #18)
Process Valves, NSPS
Prod. Rate 20.00 MMCF/day

VOC Emissions
Emission Factor: 0.01 lb VOC/MMCF (From Title V Application)
Calculations: 0.01 lb VOC/MMCF * 20.0 MMCF/day * 1day/24hr = 0.0083 lb/hr
0.0083 lb/hr * 365 days/year * 0.0005 ton/lb * 24 hr/day = 0.04 ton/yr

(SOURCE #19)
Gas Blow Down
Prod. Rate 200,000.0 cf/yr

VOC Emissions (From Title V Application)
Emission Factor: 0.0073 lb VOC/cf
Calculations: 0.0073 lb VOC/cf * 200000.0 cf/yr * 1 yr/365 days * 1 day/24 hr = 0.16 lb/hr
0.16 lb/hr * 365 days/year * 0.0005 ton/lb *24 hr/day = 0.73 ton/yr

(SOURCE #20)
Road Dust
Vehicle miles traveled: 78 VMT/day (Estimated - Unpaved travel listed on Title V Application.)
Control Efficiency is 0.5 (50%)

TSP Emissions:
Emission: 6.00 lb/VMT (TSP Emission Factor (Rated Load Capacity <50 tons))
Calculations: 6.00 lb/VMT * 78 VMT/day * 1 day/24 hr * 0.5 = 9.75 lb/hr
9.75 lb/hr * 0.0005 ton/lb * 365 day/yr * 24 hr/day = 42.71 ton/yr

PM-10 Emissions: (PM10 Emission Factor is determined by AQD policy dated 4/25/94.)
Emission: 2.70 lb/VMT (PM10 Emission Factor (Rated Load Capacity <50 tons))
Calculation: 2.70 lb/VMT * 78 VMT/day * 1 day/24 hr * 0.5 = 4.38 lb/hr
4.38 lb/hr * 0.0005 ton/lb * 365 day/yr * 24 hr/day = 19.22 ton/yr

(SOURCE #21)
Natural Gasoline Storage Tank Vent
VOC emissions determined using the TANKS2 program. (From Title V Application)

VOC Emissions
1.180 lb/hr or 5.17 tons/year

(SOURCE #22)
Smart Ash Burner - 100
Specific weight oil = 7.208 lb/gal
Oil incinerated = 12153 gal/yr
Process rate = 10 lb/yr
Percent sulfur in oil = 2 %
Manufacture process rate is 50 lb/hr of material
Assume: 20% of the material is oil

PM-10 Emissions
Emission Factor: 1.20 lb/ton (Stack Test)
Calculations: 1.20 lb/ton * 10 lb/hr * 0.0005 tons/lb = 0.006 lb/hr
0.006 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0263 ton/yr

NO_x Emissions
Emission Factor: 55.00 lb/1000 gal (AP-42, Table 1.3-1, 10/96)
Calculations: 55.00 lb/1000 gal * 12153 gal/yr * 1 yr/8760 hr = 0.0763 lb/hr
0.0763 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.3342 ton/yr

CO Emissions
Emission Factor: 1.64 lb/ton (Stack Test)
Calculations: 1.64 lb/ton * 10 lb/hr *0.0005 tons/lb = 0.0082 lb/hr
0.0082 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0359 ton/yr

VOC Emissions
Emission Factor: 0.10 lb/1000 gal (AP-42, Table 1.3-1, 10/96)
Calculations: 0.10 lb/1000 gal * 12153 gal/yr * 1 yr/8760 hr = 0.00014 lb/hr
0.00014 lb/hr * 8760 hr/yr * 0.0005 ton/lb =0.00061 ton/yr

SO_x Emissions
Emission Factor: 159.00 lb/1000 gal (AP-42, Table 1.3-1, 10/96)
Calculations: 159.00 lb/1000 gal * 12153 gal/yr * 1 yr/8760 hr = 0.22059 lb/hr
0.22059 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.96616 ton/yr

(Source #23)
2370-Hp Caterpillar Compressor Enging
Brake Horsepower: 2,370 BHp
Hours of Operation: 8,760 hr/yr
Max Fuel Combustion Rate: 20.76 MMBtu/hr
Fuel Heating Value: 1,000 Btu/Scf or 0.0010 MMScf/MMBtu

PM-10 Emissions
Emission Factor: 0.00991 lb/MMBtu (AP-42, Table 3.2-2, 7/00)
Calculations: 0.00991 lb/MMBtu * 20.76 MMBtu/hr = 0.21 lb/hr
0.21 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.90 ton/yr

NO_x Emissions
Emission Factor: 2.00 gram/BHp-hr (BACT-Department Policy, 12/13/93)
Calculations: 2.00 gram/BHp-hr * 2370 Hp * 0.002205 lb/gram = 10.45 lb/hr
10.45 lb/hr * 8760 hr/yr * 0.005 ton/lb = 45.78 ton/yr

CO Emissions
Emission Factor: 3.00 gram/BHp-hr (BACT-Department Policy, 12/13/93)
Calculations: 3.00 gram/BHp-hr * 2370 Hp * 0.002205 lb/gram = 15.68 lb/hr
15.68 lb/hr * 8760 hr/yr * 0.005 ton/lb = 68.67 ton/yr

VOC Emissions
Emission Factor: 1.00 gram/BHp-hr (BACT-Department Policy, 12/13/93)
Calculations: 1.00 gram/BHp-hr * 2370 Hp * 0.002205 lb/gram = 5.23 lb/hr
5.23 lb/hr * 8760 hr/yr * 0.005 ton/lb = 22.89 ton/yr

SO_x Emissions

Emission Factor:	0.000588 lb/MMBtu	(AP-42, Table 3.2-2, 7/00)
Calculations:	0.000588 lb/MMBtu * 20.76 MMBtu/hr = 0.012 lb/hr	
	0.012 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.053 ton/yr	

V. Existing Air Quality

The existing air quality of the Cut Bank area is expected to be in compliance with all state and federal requirements. Current sources in the area include the existing gas plant and the inactive Flying J Refinery.

VI. Ambient Air Impact Analysis

The Department has determined, based on ambient air modeling, that the impact from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

Air Quality Modeling was conducted for the Montana Power - Main Line #1 facility in 1991 (Permit #2428b). The modeling was done to determine compliance with PSD increments and ambient air quality standards. The modeling results demonstrated that there were no significant impacts to the NO_x and CO PSD increments. The modeling also demonstrated that neither the National Ambient Air Quality Standards (NAAQS), nor the Montana Ambient Air Quality Standards (MAAQS) would be violated. Air quality modeling was not required for the current permit action because the proposed NO_x and CO potential emissions from the facility are less than the modeled NO_x and CO emissions contained in Permit #2428b. The complete model results can be found in Permit Application #2428b.

Modeling was also conducted for Permit #2428-05. The modeling was done to determine the ambient annual concentration of HAP's resulting from the Smart Ash Burner. Upper air and surface air data from the National Weather Service for Great Falls (1991) were used to assist in determining the impacts. The modeling results satisfied the conditions of MCA 75-2-215 and ARM 17.8.706(5). Further information can be found in Permit Application #2428-05. The addition of the 2,370-Hp Caterpillar compressor engine does not increase emissions from the Smart Ash Burner.

VII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 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 Impact Statement was prepared for this project by the Department.