

AIR QUALITY PERMIT

Issued To: Williston Basin Interstate Pipeline Company Permit: #3301-00
Baker Booster Compressor Station Application Complete: 02/19/04
P.O. Box 131 Preliminary Determination Issued: 03/24/04
Glendive, MT 59330 Department's Decision Issued: 04/09/04
Permit Final: 04/27/04
AFS: #025-0013

An air quality permit, with conditions, is hereby granted to the Williston Basin Interstate Pipeline Company – Baker Booster Compressor Station (WBI), 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. Permitted Equipment

Permit #3301-00 is issued to WBI for the construction and operation of the Baker Booster Compressor Station. The facility is a natural gas booster compressor station. A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

B. Plant Location

The WBI station is located approximately 1.5 miles north of Baker, Montana, in the NE¼ of Section 2, Township 7 North, Range 59 East, in Fallon County, Montana.

SECTION II. Conditions and Limitations

A. Emission Limitations

- 1. Emissions, from each of the five 1,680-horsepower (Hp) Waukesha compressor engines, shall be controlled by a non-selective catalytic reduction (NSCR) unit and an air to fuel ratio (AFR) controller. Emissions from each of the engines shall not exceed the following limits:

Table with 2 columns: Pollutant and Limit. Rows: NOx (3.70 lb/hr), CO (4.44 lb/hr), VOC (1.85 lb/hr).

- 2. WBI 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).
3. WBI shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
4. WBI 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.4 (ARM 17.8.749).

1 NOx reported as NO2

B. Testing Requirements

1. Each of the five 1,680-Hp Waukesha compressor engines shall be initially tested for NO<sub>x</sub> and CO, concurrently, to demonstrate compliance with the emission limits in Section II.A.1. The testing shall be conducted within 180 days of the initial start up date of the respective compressor engine. Further testing shall continue on an every-4-year basis, or according to another testing/monitoring schedule as may be approved by the Department of Environmental Quality (Department) (ARM 17.8.105 and ARM 17.8.749).
2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
3. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. WBI 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. WBI 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 WBI as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
4. WBI shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information.

D. Notification

WBI shall provide the Department (both the Billings regional office and the Helena office) with written notification of the following information within the specified time periods (ARM 17.8.749).

1. WBI shall provide the Department with written notification of commencement of construction of the Baker Booster Compressor Station within 30 days after commencement of construction.
2. WBI shall provide the Department with the actual start-up date of each of the five 1,680-Hp Waukesha compressor engines within 15 days after the actual start-up date of each respective engine.

SECTION III: General Conditions

- A. Inspection – WBI 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 WBI fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving WBI of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The Department’s decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by WBI 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  
Williston Basin Interstate Pipeline Company  
Baker Booster Compressor Station  
Permit #3301-00

I. Introduction/Process Description

Williston Basin Interstate Pipeline Company – Baker Booster Compressor Station (WBI), is permitted for the construction and operation of the Baker Booster Compressor Station. The facility is a natural gas booster compressor station located approximately 1.5 miles north of Baker, Montana, in the NE¼ of Section 2, Township 7 North, Range 59 East, in Big Horn County, Montana.

A. Permitted Equipment

The facility consists of the following equipment:

- (5) 1,680-horsepower (Hp) Waukesha 7044 GSI compressor engines.
- (1) Glycol dehydration unit with a heat input capacity of 0.75 million British thermal units (MMBtu) per hour.
- Miscellaneous support equipment and materials including, but not limited to, tank heaters.

B. Source Description

The WBI facility is a natural gas booster compressor station. Production field facilities withdraw the natural gas from the surrounding production field and send the natural gas to the WBI station to be dehydrated and compressed for transmission through long-haul pipelines for transport to natural gas markets. The glycol dehydration unit is used to remove moisture from the gas and the 5 compressor engines are used to boost pipeline pressure for transmitting the natural gas through the pipeline. The WBI station is not a production field facility; rather, the station dehydrates and compresses natural gas that is received from surrounding production field facilities.

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 of Environmental Quality (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).

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

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

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

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

WBI 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, WBI 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. WBI will burn natural gas in its fuel burning equipment, which will meet this limitation.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR 60.
8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR 63, shall comply with the requirements of 40 CFR 63, as listed below:

40 CFR 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities. Owners or operators of oil and natural gas production facilities, as defined and applied in 40 CFR Part 63, shall comply with the applicable provisions of 40 CFR Part 63, Subpart HH. In order for a natural gas production facility to be subject to 40 CFR Part 63, Subpart HH requirements, certain criteria must be met. First, the facility must be a major source of Hazardous Air Pollutants (HAP) as determined according to paragraphs (a)(1)(i) through (a)(1)(iii) of 40 CFR 63, Subpart HH. Second, a facility that is determined to be major for HAPs must process, upgrade, or store hydrocarbon liquids prior to the point of custody transfer, or process, upgrade, or store natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user. Third, the facility must also contain an affected source as specified in paragraphs (b)(1) through (b)(4) of 40 CFR Part 63, Subpart HH. Finally, if the first three criteria are met, and the exemptions contained in paragraphs (e)(1) and (e)(2) of 40 CFR Part 63, Subpart HH do not apply, the facility is subject to the applicable provisions of 40 CFR Part 63, Subpart HH. Based on the information submitted by WBI, the Baker Booster Compressor Station is not subject to the provisions of 40 CFR Part 63, Subpart HH, because the facility is not a major source of HAPs.

40 CFR 63, Subpart HHH National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities. Owners or operators of natural gas transmission or storage facilities, as defined and applied in 40 CFR Part 63, shall comply with the standards and provisions of 40 CFR Part 63, Subpart HHH. In order for a natural gas transmission and storage facility to be subject to 40 CFR Part 63, Subpart HHH requirements, certain criteria must be met. First, the facility must transport or store natural gas prior to the gas entering the pipeline to a local distribution company or to a final end user if there is no local distribution company. In addition, the facility must be a major

source of HAPs as determined using the maximum natural gas throughput as calculated in either paragraphs (a)(1) and (a)(2) or paragraphs (a)(2) and (a)(3) of 40 CFR Part 63, Subpart HHH. Second, a facility must contain an affected source (glycol dehydration unit) as defined in paragraph (b) of 40 CFR Part 63, Subpart HHH. Finally, if the first two criteria are met, and the exemptions contained in paragraph (f) of 40 CFR Part 63, Subpart HHH, do not apply, the facility is subject to the applicable provisions of 40 CFR Part 63, Subpart HHH. Based on the information submitted by WBI, the Baker Booster Compressor Station is not subject to the provisions of 40 CFR 63, Subpart HHH, because the facility is not a major source of HAPs.

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

1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.402 Requirements. WBI must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed heights of the all stacks for the WBI Symons Central Compressor Station are below the allowable 65-meter GEP stack height.

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

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. WBI submitted the appropriate permit application fee for the current permit action.
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.

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

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter, or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. WBI has the potential to emit more than 25 tons per year of oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), and volatile organic compounds (VOC); therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits -- Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that are not subject to the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. WBI submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. WBI submitted an affidavit of publication of public notice for the January 9, 2004, issue of *The Billings Gazette*, a newspaper of general circulation in the Town of Billings in Yellowstone County, as proof of compliance with the public notice requirements.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that Best Available Control Technology (BACT) shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving WBI of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
  14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.
- G. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
  2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

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

- H. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:
1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
    - a. PTE > 100 tons/year of any pollutant;
    - b. PTE > 10 tons/year of any one HAP, PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
    - c. PTE > 70 tons/year of PM<sub>10</sub> in a serious PM<sub>10</sub> 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 #3301-00 for WBI, the following conclusions were made.
    - a. The facility's permitted PTE is less than 100 tons/year for all pollutants.
    - b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.
    - c. This source is not located in a serious PM<sub>10</sub> 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.
- h. ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit the source's PTE. WBI's Permit #3301-00 includes federally enforceable limits that allow the facility to stay below the Title V Operating Permit threshold. Therefore, the facility is not required to obtain a Title V Operating Permit.
  - i. In applying for an exemption under this section, the owner or operator of the source shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.
  - ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

The Department determined that the annual reporting requirements contained in the permit are sufficient to satisfy this requirement.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. WBI shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204 (3)(b). The annual certification shall comply with requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information.

Based on these facts, the Department determined that WBI will be a synthetic minor source of emissions as defined under Title V.

### III. BACT Determination

A BACT determination is required for each new or altered source. WBI 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 determination is required for each new or modified source.

Under the current permit action, WBI proposed the operation of rich-burn Waukesha 7044 GSI natural gas compressor engines (1,680 Hp/engine) utilizing non-selective catalytic reduction (NSCR) and an air-to-fuel ratio (AFR) controller to achieve BACT. In addition, WBI indicates that 96% to 98% engine run time is required to service natural gas companies served by this station. The following BACT analysis addresses available methods for controlling NO<sub>x</sub> and CO emissions from technically feasible internal combustion engine technologies used to compress natural gas for the purpose of transmission. The Department reviewed previous BACT determinations for compressor engines before making the following BACT determination.

#### A. No Additional Controls

This practice would consist of operating technically available natural gas compressor engines without any add-on pollution control equipment.

Internal combustion engine operation with no additional controls is a technically feasible option for the compression and transmission of natural gas, as proposed by WBI. This approach would result in no additional energy or economic impacts on WBI; however, no additional controls would result in negative impacts on air quality due to increased NO<sub>x</sub> and CO emissions when compared to other existing and technically feasible control options. Therefore, the Department determined that no additional controls does not constitute BACT for the natural gas compressor engines at WBI.

B. Rich-Burn Engine: Air Fuel Ratio (AFR) Controller (NO<sub>x</sub> Control at the Crossover Point)

Under this control strategy, the proper air-to-fuel ratio is obtained by adjusting the engine to operate at the crossover point, where NO<sub>x</sub> 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 thereby lowering the exhaust temperature to a point where the concentration of NO<sub>x</sub> decreases and the concentration of CO increases. Conversely, combustion of a lean fuel mixture occurs at higher temperatures accompanied by higher concentration of NO<sub>x</sub> and a lower concentration of CO.

Internal combustion engines 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. Therefore, because the proposed project requires engine run time exceeding 96%, the use of an AFR controller with no additional control may present technical difficulties resulting in decreased run time thus leading to project infeasibility. Further, while the use of an AFR controller to adjust the engine to operate at the crossover point results in a reasonable reduction of both NO<sub>x</sub> and CO emissions, an AFR controller operated without additional control does not provide for a reduction in NO<sub>x</sub> and CO emissions as effectively as other control strategies such as an NSCR unit or an NSCR unit operated in conjunction with an AFR controller (discussed in Section III.C and III.D below). Therefore, the Department determined that an AFR controller, operated alone, does not constitute BACT in this case.

C. Rich-Burn Engine: Non-Selective Catalytic Reduction (NSCR) Unit

An NSCR unit controls NO<sub>x</sub> emissions by using available CO and residual hydrocarbons in the exhaust of a rich-burn engine as a NO<sub>x</sub> reducing agent. Without the catalyst, in the presence of oxygen, the hydrocarbons will be oxidized instead of reacting with NO<sub>x</sub>. As the excess hydrocarbon and NO<sub>x</sub> 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<sub>2</sub>, H<sub>2</sub>O, and CO<sub>2</sub>. The noble metal catalyst usually operates between 800 degrees Fahrenheit (°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<sub>x</sub> concentration, the engine must burn a rich fuel mixture, causing the engine to operate less efficiently.

Similar to the use of an AFR controller alone, the use of an NSCR unit alone can be used to effectively reduce NO<sub>x</sub> and CO emissions. However, to effectively reduce these pollutants in the gas stream when operated as the only control, the engine must burn a rich fuel mixture to achieve maximum performance thereby resulting in lower engine operating efficiency and increased fuel use. Subsequently, an NSCR unit operated alone does not provide as high of a reduction in NO<sub>x</sub> and CO emissions as an NSCR unit with an AFR controller where engine efficiency is increased. Therefore, the Department determined that an NSCR unit, alone, does not constitute BACT for the natural gas compressor engines.

D. Rich Burn Engine: NSCR unit with an AFR Controller

In order to provide for the most effective use of the catalyst in an NSCR unit (described in Section III.C), it is necessary to install an electronic AFR controller (described in Section III.B.). This device maintains the proper air-to-fuel ratio thereby increasing fuel efficiency, optimizing the level of reducing agents, and minimizing agents that can poison the catalyst thus providing for the maximum NO<sub>x</sub> and CO emission reduction and limiting technical difficulties such as engine down time.

As proposed by WBI, the Department determined that an NSCR unit with an AFR controller constitutes BACT for the reduction of NO<sub>x</sub> and CO emissions resulting from the operation of the proposed natural gas compressor engines. NSCR/AFR control typically constitutes BACT for rich-burn compressor engines. NSCR/AFR control effectively reduces NO<sub>x</sub> and CO emissions and represents a technically, economically, and environmentally feasible option for the control of NO<sub>x</sub> and CO resulting from internal combustion engines such as those proposed for the current permit action. Further, it has been demonstrated that these technologies operated together are capable of achieving the pound per hour BACT emission limits established for the 1680 Hp Waukesha 7044 compressor engines (Section II.A of Permit #3301-00). These pound per hour limits were established as BACT by using 1.0 gram per horsepower-hour (g/Hp-hr) for NO<sub>x</sub> and 0.5 g/Hp-hr for VOC. Further, WBI proposed a 1.2 g/Hp-hr CO limit for the purpose of meeting the requirements of a Title V synthetic minor source and thereby avoiding the requirement to obtain a Title V operating permit.

E. Lean-Burn Engine: AFR controller

The lean-burn engine uses a pre-combustion chamber to enclose a rich mixture of air and fuel; the mixture is then ignited in this chamber. The resulting ignition front 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<sub>x</sub> concentration in the exhaust gas stream; however, excess air in the fuel/air mixture can result in increased CO emissions.

The NO<sub>x</sub> and CO emissions from a lean-burn engine can be stabilized by installing an electronic AFR controller. This device maintains the proper air-to-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 NO<sub>x</sub> and CO emissions as a rich-burn engine fitted with an NSCR unit and an AFR controller.

Lean-burn engines with AFR control have a higher initial cost when compared to rich-burn engines fitted with an NSCR unit and an AFR controller. However, since there is limited add-on equipment, the lean-burn engine requires far less maintenance than a rich-burn engine fitted with an NSCR unit and an AFR controller and therefore operation of the lean burn engine typically results in less technical difficulty and down time and lower operating costs.

However, since WBI proposed to install a rich-burn engine with an NSCR unit and an AFR controller and because a lean-burn engine with an AFR controller achieves approximately the same reduction in emissions as a rich-burn engine fitted with an NSCR unit and an AFR controller, the Department determined that the use of lean-burn engines with an AFR controller will not constitute BACT in this case.

F. Lean-Burn Engine: Selective Catalytic Reduction (SCR) Unit

SCR is a post-combustion emission control technology that has been shown to be effective in reducing NO<sub>x</sub> emissions from lean-burn engines. SCR units can achieve NO<sub>x</sub> control efficiencies as high as 90% for lean-burn engines that are operated at a constant load. An SCR unit selectively reduces NO<sub>x</sub> emissions by injecting either liquid anhydrous ammonia or aqueous ammonium hydroxide into the exhaust gas stream prior to the gas stream reaching the catalyst. The catalyst is typically made from noble metals, base metal oxides such as vanadium and titanium, and zeolite-based material. NO<sub>x</sub>, NH<sub>3</sub>, and O<sub>2</sub> react on the surface of the catalyst to form N<sub>2</sub> and H<sub>2</sub>O. For an SCR unit to operate properly, the exhaust gas must be within a particular temperature range (typically between 450°F and 850°F). The catalyst that is utilized dictates the temperature range. Exhaust gas temperatures greater than the upper limit will pass the NO<sub>x</sub> and NH<sub>3</sub> through the catalyst prior to the reaction. NH<sub>3</sub> emissions, called ammonia slip, are a key consideration when specifying an SCR unit.

While an SCR unit can be utilized to effectively reduce NO<sub>x</sub> emissions, CO emissions are typically increased with lean-burn technology. Further, the proposed project to compress natural gas will necessitate operations at variable loads thereby creating technical difficulties such as periods of ammonia slip or periods of insufficient ammonia injection. In addition, because the high oxygen concentration associated with lean burn engine operation is necessary for proper SCR utilization, SCR units are only applicable to lean-burn engines.

Therefore, because the WBI proposed rich-burn technology operating with NSCR/AFR is capable of achieving effective NO<sub>x</sub> and CO emission reduction meeting Department established BACT emissions limits, the Department determined that lean-burn technology operating with SCR does not constitute BACT in this case.

G. Lean-Burn Engine: SCR with Catalytic Oxidation

Catalytic Oxidation is a post combustion technology that has been applied to oxidize CO emissions from lean-burn engines. As mentioned in Section III.E and III.F of this permit analysis, lean-burn technologies may cause increased CO emissions. In a catalytic oxidation system, CO passes over a catalyst, usually a noble metal, which oxidizes the CO to CO<sub>2</sub> at efficiencies of 70-90%.

An oxidation catalyst may be used in conjunction with an SCR unit to effectively reduce CO emissions; however, as with an SCR unit, oxidation catalysts are only applicable to lean-burn engines because a high oxygen concentration is needed for the unit to operate properly. Further, as stated in Section III.F, SCR units are not used on engines that operate at variable loads (such as natural gas compressor engines) due to technical difficulties arising from this type of operation in conjunction with the SCR control technology.

Therefore, because the WBI proposed rich-burn technology operating with NSCR/AFR is capable of achieving effective NO<sub>x</sub> and CO emission reduction meeting Department established BACT emission limits, the Department determined that lean-burn technology operating with SCR and an oxidation catalyst does not constitute BACT in this case.

H. Summary

Through previous analysis and other BACT determinations for similar source internal combustion engines, the Department determined that, with the exception of CO emissions, the pound per hour limits contained in Section II.A of Permit #3301-00 constitute BACT for the proposed project. WBI proposed a CO emission limit of 1.2 gram/brake-Hp, which is lower than the Department determined BACT limit of 2.0 gram/brake-Hp for engines of this type.

The purpose of the proposed CO limit was to avoid the requirement to obtain a Title V operating permit and was therefore not permitted as a BACT requirement. In addition, the Department determined that the proposed 1680 Hp Waukesha rich-burn natural gas compressor engines operating with NSCR/AFR are capable of meeting these BACT limits while maintaining operational requirements deemed necessary for the proposed project.

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

#### IV. Emission Inventory

Source	Ton/year				
	PM <sub>10</sub>	NO <sub>x</sub>	VOC	CO	SO <sub>x</sub>
1,680-Hp Waukesha Compressor Engine - Unit #1	0.55	16.22	8.11	19.47	0.03
1,680-Hp Waukesha Compressor Engine - Unit #2	0.55	16.22	8.11	19.47	0.03
1,680-Hp Waukesha Compressor Engine - Unit #3	0.55	16.22	8.11	19.47	0.03
1,680-Hp Waukesha Compressor Engine - Unit #4	0.55	16.22	8.11	19.47	0.03
1,680-Hp Waukesha Compressor Engine - Unit #5	0.55	16.22	8.11	19.47	0.03
Glycol Dehy Reboiler (0.75 MMBtu/hr)	0.02	0.33	0.02	0.28	0.002
Dehy Still Vent	0.00	0.00	13.44	0.00	0.00
Heater	0.07	0.97	0.05	0.81	0.01
<b>Total</b>	<b>2.85</b>	<b>82.41</b>	<b>40.63</b>	<b>98.42</b>	<b>0.18</b>

#### 1,680-Hp Compressor Engines (5 Engines)

Brake Horsepower: 1680 bhp  
Hours of operation: 8760 hr/yr

##### PM<sub>10</sub> Emissions

Emission Factor: 9.50E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)  
Fuel Consumption: 13.23 MMBtu/hr (Maximum Design)  
Calculations: 13.23 MMBtu/hr \* 9.50E-03 lb/MMBtu = 0.14 lb/hr  
0.14 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 0.55 ton/yr

##### NO<sub>x</sub> Emissions

Emission factor: 1.00 gram/bhp-hour (BACT Determination)  
Calculations: 1.00 gram/bhp-hour \* 1680 bhp \* 0.002205 lb/gram = 3.70 lb/hr  
3.70 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 16.22 ton/yr

##### VOC Emissions

Emission factor: 0.5 gram/bhp-hour (BACT Determination)  
Calculations: 0.5 gram/bhp-hour \* 1680 bhp \* 0.002205 lb/gram = 1.85 lb/hr  
1.85 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 8.10 ton/yr/engine

##### CO Emissions

Emission factor: 1.2 gram/bhp-hour (Permit Limit)  
Calculations: 1.2 gram/bhp-hour \* 1680 bhp \* 0.002205 lb/gram = 4.44 lb/hr  
4.44 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 19.47 ton/yr/engine

##### SO<sub>2</sub> Emission

Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)  
Fuel Consumption: 13.23 MMBtu/hr (Maximum Design)  
Calculations: 13.23 MMBtu/hr \* 5.88E-04 lb/MMBtu = 0.01 lb/hr  
0.01 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 0.03 ton/yr

#### **Glycol Dehy Reboiler**

Heat Output: 0.75 MMBtu/hr (Maximum Design)  
Hours of Operation: 8760 hr/yr  
Fuel Heating Value: 0.001 MMScf/MMBtu  
Fuel Consumption: 0.75 MMBtu/hr \* 0.001 MMScf/MMBtu \* 8760 hr/yr = 6.57 MMScf/yr

PM<sub>10</sub> Emissions

Emission Factor: 7.6 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98)  
Calculations: 7.6 lb/MMScf \* 6.57 MMScf/yr \* 0.0005 ton/lb = 0.025 ton/yr

NO<sub>x</sub> Emissions

Emission factor: 100 lb/MMScf (AP-42, Chapter 1, Table 1.4-1, 7/98)  
Calculations: 100 lb/MMScf \* 6.57 MMScf/yr \* 0.0005 ton/lb = 0.329 ton/yr

VOC Emissions

Emission factor: 5.5 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98)  
Calculations: 5.5 lb/MMScf \* 6.57 MMScf/yr \* 0.0005 ton/lb = 0.018 ton/yr

CO Emissions

Emission factor: 84 lb/MMScf (AP-42, Chapter 1, Table 1.4-1, 7/98)  
Calculations: 84 lb/MMScf \* 6.57 MMScf/yr \* 0.0005 ton/lb = 0.276 ton/yr

SO<sub>2</sub> Emission

Emission factor: 0.6 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98)  
Calculations: 0.6 lb/MMScf \* 6.57 MMScf/yr \* 0.0005 ton/lb = 0.002 ton/yr

**Dehydrator Still Vent**

Hours of Operation: 8760 hr/yr

VOC Emissions

Emission Factor: 3.069 lb/hr (GRI-GLYCalc, Version 4.0, Emission Estimate Source Specific)  
Calculations: 3.069 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 13.44 ton/yr

HAPs Emissions

Emission Factor (Total): 2.475 lb/hr (GRI-GLYCalc, Version 4.0, Emission Estimate Source Specific)  
Calculations: 2.475 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 10.84 ton/yr

Specific HAPs (BTEX Emissions)

Benzene: 0.286 lb/hr (GRI-GLYCalc, Version 4.0, Emission Estimate Source Specific)  
Calculations: 0.286 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 1.25 ton/yr

Toluene: 0.707 lb/hr (GRI-GLYCalc, Version 4.0, Emission Estimate Source Specific)  
Calculations: 0.707 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 3.10 ton/yr  
Ethylbenzene: 0.136 lb/hr (GRI-GLYCalc, Version 4.0, Emission Estimate Source Specific)  
Calculations: 0.136 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 0.60 ton/yr

Xylenes: 1.346 lb/hr (GRI-GLYCalc, Version 4.0, Emission Estimate Source Specific)  
• Calculations: 1.346 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 5.90 ton/yr

**Heater**

Heat Output: 2.21 MMBtu/hr (Maximum Design)  
Hours of Operation: 8760 hr/yr  
Fuel Heating Value: 0.001 MMScf/MMBtu  
Fuel Consumption: 2.21 MMBtu/hr \* 0.001 MMScf/MMBtu \* 8760 hr/yr = 19.36 MMScf/yr

PM<sub>10</sub> Emissions

Emission Factor: 7.6 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98)  
Calculations: 7.6 lb/MMScf \* 19.36 MMScf/yr \* 0.0005 ton/lb = 0.074 ton/yr

NO<sub>x</sub> Emissions

Emission factor: 100 lb/MMScf (AP-42, Chapter 1, Table 1.4-1, 7/98)  
Calculations: 100 lb/MMScf \* 19.36 MMScf/yr \* 0.0005 ton/lb = 0.968 ton/yr

VOC Emissions

Emission factor: 5.5 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98)  
Calculations: 5.5 lb/MMScf \* 19.36 MMScf/yr \* 0.0005 ton/lb = 0.053 ton/yr

CO Emissions

Emission factor: 84 lb/MMScf (AP-42, Chapter 1, Table 1.4-1, 7/98)  
Calculations: 84 lb/MMScf \* 19.36 MMScf/yr \* 0.0005 ton/lb = 0.813 ton/yr

SO<sub>2</sub> Emission

Emission factor: 0.6 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98)  
Calculations: 0.6 lb/MMScf \* 19.36 MMScf/yr \* 0.0005 ton/lb = 0.006 ton/yr

V. Existing Air Quality

The WBI station is located approximately 1.5 miles north of Baker, Montana, in the NE¼ of Section 2, Township 7 North, Range 59 East, in Fallon County, Montana. Fallon County is considered unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. In the view of the Department, controlled emissions from the proposed WBI station will not cause or contribute to a violation of any NAAQS.

VI. Ambient Air Impact Analysis

Potential controlled emissions from the proposed WBI station do not exceed any ambient air quality modeling threshold; therefore, the Department did not conduct ambient air quality modeling for the proposed project. In the view of the Department, controlled emissions from the proposed WBI station will not cause or contribute to a violation of any NAAQS.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VIII. Environmental Assessment

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

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

**FINAL ENVIRONMENTAL ASSESSMENT (EA)**

*Issued To:* Williston Basin Interstate Pipeline Company  
Baker Booster Compressor Station  
P.O. Box 131  
Glendive, MT 59330

*Air Quality Permit number:* 3301-00

*Preliminary Determination Issued:* March 24, 2004

*Department Decision Issued:* April 9, 2004

*Permit Final:* April 27, 2004

1. *Legal Description of Site:* The WBI station is located approximately 1.5 miles north of Baker, Montana, in the NE¼ of Section 2, Township 7 North, Range 59 East, in Fallon County, Montana.
2. *Description of Project:* WBI proposes to construct and operate a natural gas central compressor station. The facility would consist of five 1,680-Hp natural gas fired compressor engines, a glycol dehydration unit, and associated equipment. The facility is a central compressor station that receives natural gas from nearby production field facilities and dehydrates and compresses the natural gas for transmission through the pipeline.
3. *Objectives of Project:* The proposed project would provide additional business and revenue for WBI by allowing the company to gather and sell larger quantities of natural gas. Natural gas would be received from nearby production field facilities and the gas would be dehydrated and compressed for transmission through a natural gas sales pipeline.
4. *Alternatives Considered:* In addition to the proposed action, the Department considered the “no-action” alternative. The “no-action” alternative would deny issuance of the Montana Air Quality Permit to the proposed facility. However, the Department does not consider the “no-action” alternative to be appropriate because WBI demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the “no-action” alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in Permit #3301-00.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in the permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

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

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

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

A. Terrestrial and Aquatic life and Habitats

Minor impacts to terrestrial and aquatic life and habitats would be expected from the proposed project because deer, antelope, coyotes, geese, ducks, and other terrestrials would potentially use the area around the facility and because the facility would be a source of air pollutants. The facility would emit air pollutants and corresponding deposition of pollutants would occur; however, as described in Section 7.F. of this EA, the Department determined that any impacts from deposition would be minor. In addition, minor land disturbance would occur through facility construction activities. Any impacts from facility construction would be minor due to the relatively small size of the project and the relatively short period of time required for construction. Overall, any impacts to terrestrial and aquatic life and habitats would be minor.

B. Water Quality, Quantity, and Distribution

Minor impacts would be expected on water quality, quantity, and distribution from the proposed project because the facility would be a source of air pollutants. The facility is a central compressor station, not a production field facility; therefore, no discharges into surface water would occur from operating the facility. However, minor amounts of water may be required to control fugitive dust emissions from the access roads and the general facility property. In addition, the facility would emit air pollutants and corresponding deposition of pollutants would occur; however, as described in Section 7.F. of this EA, the Department determined that any impact resulting from the deposition of pollutants would be minor.

Further, water quality, quantity, and distribution would not be impacted from constructing the facility because there is no surface water at or relatively close to the site. Furthermore, no discharges into surface water would occur and no use of surface water would be expected for facility construction. Therefore, no impacts to water quality, quantity, and distribution would be expected from facility construction. Overall, any impacts to water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability, and Moisture

Minor impacts would occur on the geology and soil quality, stability, and moisture from the proposed project because minor construction would be required to develop the facility. Small buildings would be constructed, natural gas pipelines would be installed, and an access road would be developed. In addition, no discharges, other than air emissions, would occur at the facility. Any impacts to the geology and soil quality, stability and moisture from facility construction would be minor due to the relatively small size of the project.

Further, deposition of pollutants would occur; however, as described in Section 7.F of this EA, the Department determined that any impacts resulting from the deposition of pollutants on the areas surrounding the site would be minor. Overall, any impacts to the geology and soil quality, stability, and moisture would be minor.

D. Vegetation Cover, Quantity, and Quality

Minor impacts would occur on vegetation cover, quantity, and quality because minor construction would be required to develop the facility. Small buildings would be constructed, natural gas pipelines would be installed, and an access road would be developed.

In addition, no discharges, other than air emissions, would occur at the facility. Any impacts to the vegetation cover, quantity, and quality from facility construction would be minor due to the relatively small size of the project.

The facility would be a source of air pollutants and corresponding deposition of pollutants would occur; however, as described in Section 7.F of this EA, the Department determined that any impacts resulting from the deposition of pollutants on the existing vegetation cover, quantity, and quality would be minor. Overall, any impacts to vegetation cover, quantity, and quality would be minor.

E. Aesthetics

Minor impacts would result on the aesthetic values of the area because the facility would be a new facility. Small buildings would be constructed to house the engines, natural gas pipelines would be installed, and an access road would be developed. However, any visual aesthetic impacts would be minor because natural gas compressor stations are relatively small industrial facilities.

The facility would also create additional noise in the area. However, any auditory aesthetic impacts would be minor because the compressor engines would be required to be operated with non-selective catalytic reduction (NSCR) units and NSCR units are typically designed to be installed in mufflers. Overall, any aesthetic impacts would be minor.

F. Air Quality

The air quality of the area would realize minor impacts from the proposed project because the facility would emit the following air pollutants: PM<sub>10</sub>; NO<sub>x</sub>; CO; volatile organic compounds (VOC), including HAPs; and SO<sub>x</sub>. Air emissions from the facility would be minimized by limitations and conditions that would be included in Permit #3301-00. Conditions would include, but would not be limited to, BACT emission limits and opacity limitations on the proposed engines and the general facility. In addition, based on previous analysis of sources of this type operating under similar conditions, the Department believes that the emissions resulting from the proposed engines exhibit good dispersion characteristics resulting in lower deposition impacts to the affected area.

Since controlled potential emissions from the proposed station would exhibit good dispersion characteristics and would not exceed any Montana ambient air quality modeling threshold, the Department determined that controlled emissions from the source will not cause or contribute to a violation of any ambient air quality standard. Therefore, any impacts to air quality from the proposed facility would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS). The NRIS search did not identify any known species of special concern locating within the proposed project area. In this case, the project area was defined by the section, township, and range of the proposed location with an additional 1-mile buffer zone. Due to the minor amounts of construction that would be required, the relatively low levels of pollutants that would be emitted, and because the NRIS search did not identify any species of special concern in the area of the proposed facility, the Department determined that it would be unlikely that the proposed project would impact any species of special concern and that any potential impacts would be minor.

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

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

The proposed project would be expected to have minor impacts on the demand for the environmental resource of energy because power would be required at the site. The impact on the demand for the environmental resource of energy would be minor because the facility would be relatively small by industrial standards. Overall, the impacts for the demands on the environmental resources of water, air, and energy would be minor.

I. Historical and Archaeological Sites

In an effort to identify any historical and archaeological sites located near the proposed project area, the Department contacted the Montana Historical Society, State Historic Preservation Office (SHPO). According to SHPO records, there are no previously recorded historic or archaeological sites within the proposed area. Further, according to SHPO records, several cultural resource inventories have been done within the defined area; therefore, it is unlikely that any cultural properties would be impacted by the proposed project and an additional cultural resource inventory would be unwarranted at this time. Overall, the Department determined that it is unlikely that the proposed project would have any impact on any historical and archaeological site.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts on the physical and biological aspects of the human environment in the immediate area would be minor due to the relatively small size of the project and little construction activities associated with this type of facility. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #3301-00.

Additional facilities (production field facilities) would likely locate in the area to withdraw natural gas from the nearby area and supply the WBI station with gas to be dehydrated and compressed for transmission through a natural gas pipeline. However, any future facility would be required to apply for and receive the appropriate permits from the appropriate regulating authority. Environmental impacts from any future facilities would be assessed through the appropriate permitting process.

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

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

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

A. Social Structures and Mores

B. Cultural Uniqueness and Diversity

The proposed project would cause minor, if any, impacts to the above social and economic resources in the area because the proposed project would take place in a relatively remote location. Further, the operation of a compressor station of this type necessitates relatively few employees for normal operations and would likely not result in any, or very little, immigration of new people to the area for employment purposes; thereby, having little if any impact on above social and economic resources of the area.

Additional activity (vehicle traffic, construction equipment, etc.) would be noticeable during facility construction; however, compressor stations typically do not require day-to-day employees and once the facility is constructed, activities associated with the operation of the facility would be minor. Overall, any impacts to the above social and economic resources in the area would be minor.

C. Local and State Tax Base and Tax Revenue

The proposed project would result in minor impacts to the local and state tax base and tax revenue because relatively few new employees would be expected as a result of constructing the facility. Further, the proposed project would necessitate relatively little construction and typically would not require an extended period of time for completion; therefore, any construction related jobs would be temporary and any corresponding impacts on the tax base/revenue of a given area would be minor. In addition, compressor operations of this type are common within the local area, and this area of Montana in general; therefore, because the proposed station constitutes a common industrial entity, any impacts to the local and state tax base and tax revenue would be minor and familiar. Overall, any impacts to the local and state tax base would be minor.

D. Agricultural or Industrial Production

The land at the proposed location is rural agriculture grazing land; however, because the facility would be relatively small, the proposed project would result in only minor impacts to agricultural production. The proposed project would have minor impacts to industrial production because the proposed project would be a new industrial source locating in the proposed area. However, because the facility would be relatively small by industrial standards, the project would likely not result in additional other industrial sources not directly associated with operations moving to a given area thereby resulting in relatively minor impact to industrial production of a given area.

Additional associated facilities (production field facilities) would likely locate in the area to withdraw the natural gas from the nearby area to supply the station with gas to be dehydrated and compressed for transmission through a natural gas pipeline. However, any future facility would be required to apply for and receive the appropriate permits from the appropriate regulating authority. Impacts from any future facilities would be assessed through the appropriate permitting process. Overall, any impacts to agricultural or industrial production of the area would be minor.

E. Human Health

The proposed project would result in minor, if any, impacts to human health. As explained in Section 7.F of this EA, deposition of pollutants would occur; however, the Department determined that the proposed project would comply with all applicable air quality rules, regulations, and standards. These rules, regulations, and standards are designed to be protective of human health. Overall any impacts to public health would be minor.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would have minor, if any, impacts on access to recreational and wilderness activities because of the relatively remote location and the relatively small size of the facility. The proposed project would have minor impacts on the quality of recreational and wilderness activities in the area because the facility, while relatively small by industrial standards, would be visible and would produce noise. Overall any impacts to the access to and quality of recreational and wilderness activities in the area would be minor.

G. Quantity and Distribution of Employment

H. Distribution of Population

The proposed project would have minor, if any, impacts on the above social and economic resources because relatively few permanent employees would be required for normal operations thereby resulting in relatively few, if any, new immigration to the area. In addition, temporary construction-

related positions would result from this project but any impacts to the quantity and distribution of employment from construction related employment would be minor due to the relatively small size of the facility and the relatively short time period that would be required for constructing the facility. Overall, any impacts to the above social and economic resources in the area would be minor.

I. Demands for Government Services

There would be minor impacts on the demands for government services because additional time would be required by government agencies to issue Permit #3301-00 and to assure compliance with applicable rules, standards, and conditions contained in Permit #3301-00. In addition, there would be minor impacts on the demands for government services to regulate the increase in vehicle traffic that would be associated with constructing and operating the facility. The increase in vehicle traffic would be primarily during facility construction because compressor stations typically do not require day-to-day employees. Therefore, vehicle traffic would be relatively minor due to the relatively short time period that would be required to construct the facility. Overall, any demands for government services to regulate the facility or activities associated with the facility would be minor due to the relatively small size of the facility.

J. Industrial and Commercial Activity

Only minor impacts would be expected on the local industrial and commercial activity because the proposed project would represent only a minor increase in the industrial and commercial activity in the area. The proposed project would be relatively small and would take place at a relatively remote location.

Additional facilities (production field facilities) would likely locate in the area to withdraw the natural gas from the area and supply the station with gas to be dehydrated and compressed for transmission through a natural gas pipeline. However, any future facility would be required to apply for and receive the appropriate permits from the appropriate regulating authority. Impacts from any future facilities would be assessed through the appropriate permitting process.

K. Locally Adopted Environmental Plans and Goals

The Department is unaware of any locally adopted environmental plans or goals. The permit would ensure compliance with state standards and goals.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social aspects of the human environment in the immediate area. Due to the relatively small size of the project, the industrial production, employment, and tax revenue (etc.) impacts resulting from the proposed project would be minor. In addition, the Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #3301-00.

Additional facilities (production field facilities) would likely locate in the area to withdraw the natural gas from the area and supply the station with gas to be dehydrated and compressed for transmission through a natural gas pipeline. However, any future facility would be required to apply for and receive the appropriate permits from the appropriate regulating authority. Impacts from any future facilities would be assessed through the appropriate permitting process.

Recommendation: No EIS is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permit action is for the construction and operation of a natural gas central compressor station. This EA assesses the impacts specific to the proposed project. Permit #3301-00 would include conditions and limitations to ensure the facility would operate in compliance with all applicable air quality rules and regulations. In addition, there are no significant impacts associated with the proposed project.

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

Individuals or groups contributing to this EA: Montana Department of Environmental Quality; Montana Historical Society – State Historic Preservation Office; Natural Resource Information System – Montana Natural Heritage Program.

EA prepared by: M. Eric Merchant, MPH

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