May 11 2015

Ron Klinker
Knife River North Central
5454 134th Ave. NW
Williston, ND 58801

Dear Mr. Klinker:

The Department of Environmental Quality (Department) has made its decision on the Montana Air Quality Permit application for a portable crusher and screening operation. The application was given permit number 5119-00. The Department's decision may be appealed to the Board of Environmental Review (Board). A request for hearing must be filed by May 26th, 2015. This permit shall become final on May 27th, 2015, unless the Board orders a stay on the permit.

Procedures for Appeal: Any person jointly or severally adversely affected by the final action may request a hearing before the Board. Any appeal must be filed before the final date stated above. The request for a hearing shall contain an affidavit setting forth the grounds for the request. Any hearing will be held under the provisions of the Montana Administrative Procedures Act. Submit requests for a hearing in triplicate to: Chairman, Board of Environmental Review, P.O. Box 200901, Helena, Montana 59620.

Conditions: See attached.

For the Department,

Julie A. Merkel
Permitting Services Section Supervisor
Air Quality Bureau
(406) 444-3626

Rhonda Payne
Environmental Science Specialist
Air Quality Bureau
(406) 444-5287

JM:RP
Enclosures:

MONTANA AIR QUALITY PERMIT

Issued To: Knife River North Central
5454 134th Ave. NW
Williston, ND 58801

MAQP: #5119-00
Application Complete: 3/10/15
Preliminary Determination Issued: 3/18/15
Department's Decision Issued: 5/11/15
Permit Final:
AFS #: 777-5119

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Knife River North Central (Knife River) 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

Knife River crushing and screening operations shall include:

- Aggregate crusher(s) with a combined capacity up to 2000 tons per hour (tph)
- Screen(s) with a maximum capacity up to 1500 tph
- Miscellaneous conveyors
- Diesel-fired engine(s), package engines or generator set engines, with combined capacity rating not to exceed 1800 horse power (hp)

B. Plant Location

Knife River intents to operate a portable crusher and screening operation, which will initially be located at Township 24N, Range 59E, Section 13 in Richland County, Montana. However, MAQP 5119-00 applies while operating at any location in Montana, except those areas having a Department of Environmental Quality (Department)-approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* An addendum will be required for locations in or within 10 km of certain PM_{10} nonattainment areas.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. All visible emissions from any Standards of Performance for New Stationary Source (NSPS) – affected crusher shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO):

   - For crushers that commence construction, modification, or reconstruction on or after April 22, 2008: 12% opacity

   - For crushers that commence construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008: 15% opacity

2. All visible emissions from any other NSPS-affected equipment (such as screens and conveyors) shall not exhibit an opacity in excess of the following averaged over six consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO):

   - For equipment that commence construction, modification, or reconstruction on or after April 22, 2008: 7% opacity

   - For equipment that commence construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008: 10% opacity

3. All visible emissions from any non-NSPS affected equipment shall not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

4. Water and spray bars shall be available on-site at all times and operated as necessary to maintain compliance with the opacity limitations in Sections II.A.1, II.A.2, and II.A.3 (ARM 17.8.752).

5. Knife River shall not cause or authorize the use of any street, road or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

6. Knife River shall treat all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water and/or chemical dust suppressant, as necessary, to maintain compliance with the reasonable precautions limitation in Section II.A.5 (ARM 17.8.749).

7. Knife River may have onsite and operate one or more crushers where the combined maximum rated design capacity shall not exceed 2000 tph (ARM 17.8.749).

8. Knife River may have onsite and operate one or more screens where the combined maximum rated design capacity shall not exceed 1500 tph (ARM 17.8.749).

9. Knife River may have onsite and operate one or more diesel-fired engines, including generator set engines, where the combined maximum rated design capacity of the engines shall not exceed 1800 horsepower (hp) (ARM 17.8.749).

10. Operation of the diesel engine/generator set(s) shall not exceed 3500 hours combined during any rolling 12-month time period (ARM 17.8.1204).

11. If the permitted equipment is used in conjunction with any other equipment owned or operated by Knife River, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons during any rolling 12-month period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).

12. Knife River shall comply with all applicable standards and limitations, monitoring, reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants* (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

13. Knife River shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart IIII; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Within 60 days after achieving maximum production, but no later than 180 days after initial start-up, an Environmental Protection Agency (EPA) Method 9 opacity test and/or other methods and procedures as specified in 40 CFR 60.675 must be performed on all NSPS-affected equipment to demonstrate compliance with the emission limitations contained in Section II.A.1 and II.A.2. Additional testing may be required by 40 CFR 60, Subpart OOO (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

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. If this crushing/screening plant is moved to another location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).

2. Knife River 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 not be 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 for calculating operating fees, and/or to verify compliance with permit limitations (ARM 17.8.505).

3. Knife River shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit,*** 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. The notice must be submitted to the Department, in writing, 10 days prior to

startup 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(l)(d) (ARM 17.8.745).

4. Knife River shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. The records compiled in accordance with this permit shall be maintained by Knife River 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).

5. Knife River shall document, by month, the hours of operation of the diesel engine/generator set(s). By the 25th day of each month, Knife River shall total the hours of operation for each equipment for the previous month. The monthly information will be used to demonstrate compliance with the rolling 12-month limitation in Section II.A.10. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

6. Knife River shall annually certify that its 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 emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

D. Notification

Knife River shall provide the Department with written notification of the actual start-up date of the Knife River facility postmarked within 15 days after the actual start-up date (ARM 17.8.749)

SECTION III: General Conditions

A. Inspection – Knife River 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 (continuous emissions monitoring system (CEMS) or continuous emissions rate monitoring system (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 Knife River fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Knife River of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided for in ARM 17.8.740, *et seq.* (ARM 17.8.756)

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement action as specified in Section 75-2-401, *et seq*., MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the permitted source.

G. Air Quality Operation Fees – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Knife River may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

I. The Department may modify the conditions of this permit based on local conditions of any future site. These factors may include, but are not limited to, local terrain, meteorological conditions, proximity to residences, etc.

J. Knife River shall comply with the conditions contained in this permit while operating in any location in Montana, except within those areas that have a Department approved permitting program or areas considered tribal lands.

Montana Air Quality Permit (MAQP) Analysis
Knife River North Central
MAQP #5119-00

I. Introduction/Process Description

Knife River North Central (Knife River) owns and operates a owns and operates a portable non-metallic mineral processing plant which will initially be located in Township 24N, Range 59E, Section 13 in Richland County, Montana.

A. Permitted Equipment

The following list of permitted equipment is based on information provided within the application submitted by J&J and is provided for reference. MAQP #5119-00 is written de minimis-friendly to provide operational flexibility so that alternate equipment may be utilized as long as maximum capacities are not exceeded and permit conditions are met. See Section II of the MAQP for specific equipment limitations and or/conditions. Equipment permitted under this action consists of the following:

Knife River crushing and screening operations shall include:

- Aggregate crusher(s) with a combined capacity up to 2000 tons per hour (tph)
- Screen(s) with a maximum 1500 tph
- Miscellaneous conveyors
- Diesel-fired engine(s), package engines or generator set engines, with combined capacity rating not to exceed 1800 horse power (hp)

B. Source Description

The crushing/screening plant is used to crush and sort gravel/sand materials for use in various construction activities. For a typical operational setup, the raw materials will initially be sent through a crusher and then through a screen for a sorting or processing to the desire dimension and, ultimately, to a stockpile for use in construction operations.

Knife River's operation will be initially located within Township 24N, Range 59E, Section 13 in Richland County, Montana.

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 locations of complete copies of all applicable rules and regulations where appropriate.

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

1. <u>ARM 17.8.101 Definitions</u>. 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).

   Knife River 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:

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}
11. ARM 17.8.230 Fluoride in Forage

Knife River 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, Knife River 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 or authorize 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 Processes. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.

6. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Knife River is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts.

   a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:

   b. 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. In order for a crushing plant to be subject to this subpart, the facility must meet the definition of an affected facility and, the affected equipment must have been constructed, reconstructed, or modified after August 31, 1983. Based on the information submitted by Knife River, the portable crushing equipment to be used under MAQP #5119-00 is subject to this subpart as it meets the definition of an affected facility constructed after August 31, 1983.

   c. 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE). Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE

that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. As the permit is written de minimis-friendly, the CI ICE equipment to be used by Knife River under MAQP #5119-00 is potentially subject to this Subpart if it stays in a location for twelve consecutive months. Knife River may substitute compression ignition internal combustion engine(s), therefore applicability to this subpart may apply to engines in the future and shall be dependent upon the date of construction and/or manufacture of the diesel-fired engine utilized.

7. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories. Knife River is potentially a NESHAP-affected facility under 40 CFR Part 63 and is potentially subject to the requirements of the following subparts.

   a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a NESHAPs Subpart as listed below.

   b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of HAP emissions is a source that is not a major source. A RICE is considered stationary if it remains or will remain at the permitted location for more than 12 months, or a shorter period of time for an engine located at a seasonal source. As Knife River is considered an area source of HAP emissions and operates RICE equipment, the engine is potentially subject to this subpart depending upon the location, nature, and duration of operation. Since the RICE to be used under MAQP #5119-00 is intended to be portable, Knife River may not be required to comply with the applicable requirements of 40 CFR 63, Subpart ZZZZ. However, this subpart would become applicable if Knife River constructed and operated a RICE that remains in a location for more than 12 months.

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

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

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department.

   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 17.8.740 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 modification to construct, modify, or use any asphalt plant, crusher or screen that has the potential to emit (PTE) greater than 15 tons per year of any pollutant. Knife River has a PTE greater than 15 tons per year of oxides of nitrogen (NO_x), particulate matter (PM), particulate matter less than 10 micrometers in diameter (PM_{10}), and carbon monoxide (CO) therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. Knife River 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. Knife River submitted an affidavit of publication of public notice for the February 18, 2015 issue of the *Sidney Herald*, a newspaper of general circulation in the Town of Sidney in Richland County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Knife River 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 modified 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. (1) This rule states that an MAQP may be transferred from one location to another if the Department receives a complete notice of intent to transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 - Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because it is not a listed source and the facility's PTE is less than 250 tons per year of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:

   a. PTE > 100 tons/year of any pollutant;

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

   c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (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 MAQP #5119-00 for Knife River, the following conclusions were made:

   a. Knife River has requested that federally-enforceable permit operating limits be established to maintain the facility's PTE to less than 100 tpy.

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

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

   d. This facility is subject to a current NSPS standard (40 CFR 60 Subpart OOO and potentially IIII).

   e. This facility is potentially subject to a current NESHAP standard (40 CFR 63 Subpart ZZZZ).

f. This source is not a Title IV affected source

g. This source is not a solid waste combustion unit.

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

Knife River requested federally-enforceable permit limitations to remain a minor source of emissions with respect to Title V. Based on these limitations; the Department determined that this facility is not subject to the Title V Operating Permit Program. However, in the event that the EPA makes minor sources that are subject to NSPS obtain a Title V Operating Permit; this source will be subject to the Title V Operating Permit Program.

i. 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 that source's PTE.

ii. In applying for an exemption under this section the owner or operator of the facility shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.

iii. 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.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal required by ARM 17.8.1204(3)(a) shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

III. BACT Determination

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

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

A. Process and Fugitive Particulate Emissions

Two types of emission controls are readily available and used for dust suppression of fugitive emissions at the site. These two control methods are water and/or chemical dust suppressant. Chemical dust suppressant could be used on the area surrounding the crushing/screening operation, and for emissions from the crushing/screening operation itself. However, because water is more readily available, is more cost effective, is often equally effective as chemical dust suppressant, and is more environmentally friendly, water has been identified as the most appropriate method

of pollution control of particulate emissions. In addition, water suppression has been required of recently permitted similar sources. However, depending on individual site circumstances Knife River may use chemical dust suppressants to assist in controlling particulate emissions. The Department determined that the use of water and/or chemical dust suppressant, as necessary, constitutes BACT.

Knife River shall not cause or authorize to be discharged into the atmosphere from any NSPS-affected crusher any visible emissions that exhibit an opacity of 12% or greater averaged over 6 consecutive minutes for crushers that commenced construction, modification, or reconstruction on or after April 22, 2008. Additionally, Knife River shall not cause or authorize to be discharged into the atmosphere from any other associated NSPS-affected equipment, such as screens and material conveyors, any visible emissions that exhibit an opacity of 7% or greater averaged over 6 consecutive minutes for equipment that commences construction, modification, or reconstruction after April 22, 2008, and 10% for equipment that commences construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008. Finally, Knife River shall not cause or authorize to be discharged into the atmosphere from any crusher, screen, or associated equipment, not subject to NSPS, any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes. These opacity limits are federal and state emission standards rather than a BACT determination.

Knife River is required to have water spray bars and water available on site (at all times) and to apply the water, as necessary, to maintain compliance with the opacity restrictions and reasonable precautions limitations. Knife River may also use chemical dust suppressant to maintain compliance with emissions limitations in Section II.A of MAQP #5119-00.

The control options selected contain control equipment and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards. The Department determined that using water spray bars, water, and/or chemical dust suppressant to maintain compliance with the opacity requirements and reasonable precaution limitations constitutes BACT.

B. Diesel Engines

Due to the limited amount of emissions produced by the diesel-fired engine and the lack of readily available cost effective post-manufacturer add-on controls, add-on controls would be cost prohibitive.

Generally, any new diesel-fired engine would likely be required to comply with the federal engine emission limitations including, for example, EPA Tier engine exhaust emission standards for non-road engines (40 CFR Part 1039) or National Emissions Standards for Hazardous Air Pollutant Sources for Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ). Therefore, the Department has determined that compliance with applicable federal standards and proper operation and maintenance of the engine constitutes BACT for the engine.

IV. Emission Inventory**

Maximum Process Rate:	1500	tons/hr	
Maximum Hours of Operation:	8760	hrs/yr	All equipment except diesel engine/generator set calculated at 3500 h/y
Output:	13,140,000	tons	

CONTROLLED	tons/year						
Emission Source	**PM**	**PM10**	**PM2.5**	**NOx**	**CO**	**VOC**	**SO2**
Handling/Conveyors	2.45	0.81	0.23	--	--	--	--
Pile forming	17.08	8.04	1.22	--	--	--	--
Screens	14.45	4.86	0.33	--	--	--	--
2000 tph Crusher	10.51	4.73	0.88	--	--	--	--
Bulk Loading	0.26	0.26	0.26	--	--	--	--
Haul Roads / Vehicle Traffic	4.36	1.20	0.12	--	--	--	--
1800 hp Diesel Engine Generator [a, b.]	6.93	6.93	6.93	97.65	21.04	7.92	6.46
Total Emissions [c]	**60.68**	**28.04**	**9.96**	**97.65**	**21.04**	**7.92**	**6.46**

Footnotes:

a. Inventory reflects enforceable limits on hours of operation for the diesel engine/generator set as requested by the facility.

b. Inventory reflects enforceable limits on hours of operation for the diesel engine/generator set to keep emissions below the Title V threshold of 100 tpy of NO_x. The allowable emissions remain at or above the attainment area modeling threshold 80 tpy.

c. Except for the diesel engine/generator set, the inventory reflects maximum allowable emissions for all pollutants based on maximum production and year-round operation (8,760 hours).

** CO = carbon monoxide
HAPs = hazardous air pollutants
hp = horsepower
lb = pound
N/A = not applicable
ND = no data available
NO_X = oxides of nitrogen
PM = particulate matter
PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less
$PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 microns or less
SO_2 = sulfur dioxide
TPH = tons per hour
TPY = tons per year
VOC = volatile organic compounds
yr = year

Crushing [Crusher] (SCC 3-05-020-03)

Maximum Process Rate = 2,000 ton/hr (Application information)	2,000	ton/hr
Maximum Hours of Operation = 8,760 hrs/yr	8,760.00	hrs/yr

PM Emissions:

Emission Factor = 0.0012 lb/ton (tertiary crushing, controlled, AP 42, Table 11.19.2-2, 8/04)	0.0012	lb/ton
Calculation: (2,000 ton/hr) * (8760 hrs/yr) * (0.0012 lb/ton) * (ton/2000 lb) =	**10.51**	ton/yr
Calculation: (2,000 ton/hr) * (8760 hrs/yr) * (0.0012 lb/ton) * (ton/2000 lb) =	**10.51**	ton/yr

PM_{10} Emissions:

Emission Factor = 0.00054 lb/ton (tertiary crushing, controlled, AP 42, Table 11.19.2-2, 8/04)	0.00054	lb/ton
Calculation: (2,000 ton/hr) * (8760 hrs/yr) * (0.00054 lb/ton) * (ton/2000 lb) =	**4.73**	ton/yr
Calculation: (2,000 ton/hr) * (8760 hrs/yr) * (0.00054 lb/ton) * (ton/2000 lb) =	**4.73**	ton/yr

PM2.5 Emissions:

Based on AP-42

Emission Factor = 0.0001 lb/ton (tertiary crushing, controlled, AP 42, Table 11.19.2-2, 8/04)	0.0001	lb/ton
Calculation: (2,000 ton/hr) * (8760 hrs/yr) * (0.0001 lb/ton) * (ton/2000 lb) =	**0.88**	ton/yr
Calculation: (2,000 ton/hr) * (8760 hrs/yr) * (0.0001 lb/ton) * (ton/2000 lb) =	**0.88**	ton/yr

Screening (SCC 3-05-020-02, 03)

Maximum Process Rate = 500 ton/hr	500	ton/hr
Maximum Hours of Operation = 8,760 hrs/yr	8,760.00	hrs/yr
Number of Screens = 3 screens (Company Information)	3	screens

Total PM Emissions:

Emission Factor = 0.0022 lb/ton (0.025 uncontrolled, 0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)	0.0022	lb/ton
Control Efficiency = 0%	0	%
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.0022 lb/ton) * (ton/2000 lb) * (3 screens) =	**14.45**	ton/yr
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.0022 lb/ton) * (ton/2000 lb) * (3 screens) * (1 - 0/100) =	**14.45**	ton/yr

Total PM10 Emissions:

Emission Factor = 0.00074 lb/ton (0.0087 uncontrolled, 0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)	0.00074	lb/ton
Control Efficiency = 0%	0	%
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.00074 lb/ton) * (ton/2000 lb) * (3 screens) =	**4.86**	ton/yr
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.00074 lb/ton) * (ton/2000 lb) * (3 screens) * (1 - 0/100) =	**4.86**	ton/yr

Total PM2.5 Emissions:

Emission Factor = 0.00005 lb/ton (0.0087 uncontrolled, 0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)	0.00005	lb/ton
Control Efficiency = 0%	0	%
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.00005 lb/ton) * (ton/2000 lb) * (3 scree(s) =	**0.33**	ton/yr
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.00005 lb/ton) * (ton/2000 lb) * (3 screens) * (1 - 0/100) =	**0.33**	ton/yr

Conveyor Transfer Point (SCC 3-05-020-06)

Maximum Process Rate = 500 ton/hr (Maximum plant process rate)	500	ton/hr
Maximum Hours of Operation = 8,760 hrs/yr	8,760.00	hrs/yr
Number of Transfers = 8 transfers (Company Information)	8	transfers

Total PM Emissions:

Emission Factor = 0.00014 lb/ton (0.0030 uncontrolled, 0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)	0.00014	lb/ton
Control Efficiency = 0%	0	%
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.00014 lb/ton) * (ton/2000 lb) * (8 transfers) =	**2.45**	ton/yr
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.00014 lb/ton) * (ton/2000 lb) * (8 transfers) * (1 - 0/100) =	**2.45**	ton/yr

Total PM2.5 Emissions:

Emission Factor = 0.000013 lb/ton (0.0030 uncontrolled, 0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)	0.000013	lb/ton
Control Efficiency = 0%	0	%
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.000013 lb/ton) * (ton/2000 lb) * (8 transfers) =	**0.23**	ton/yr
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.000013 lb/ton) * (ton/2000 lb) * (8 transfers) * (1 - 0/100) =	**0.23**	ton/yr

Total PM10 Emissions:

Emission Factor = 0.000046 lb/ton (0.00110 uncontrolled, 0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)	0.000046	lb/ton
Control Efficiency = 0%	0	%
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.000046 lb/ton) * (ton/2000 lb) * (8 transfers) =	**0.81**	ton/yr
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.000046 lb/ton) * (ton/2000 lb) * (8 transfers) * (1 - 0/100) =	**0.81**	ton/yr

<u>Storage Piles</u>

Maximum Process Rate = 500 ton/hr (Maximum plant process rate)	500	ton/hr
Maximum Hours of Operation = 8,760 hrs/yr	8,760	hrs/yr
Number of Piles = 4 piles by # of piles, or exclude #piles from calcs	4	piles

PM Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00390 lb/ton	0.00390	lb/ton
Where: k = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)	0.74	
U = mean wind speed = 9.33 mph (Average from values providedin FAA ASOS/AWOS reporting data)	9.33	mph
M = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)	2.5	%
Control Efficiency = 50% (Water or chemical spray)	50	%
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.00390 lb/ton) * (ton/2000 lb) * (4 piles) =	**34.15**	ton/yr
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.00390 lb/ton) * (ton/2000 lb) * (4 piles) * (1 - 50/100) =	**17.08**	ton/yr

PM2.5 Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00028 lb/ton	0.00028	lb/ton
Where: k = particle size multiplier = 0.053 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)	0.053	
U = mean wind speed = 9.3 mph (Average from values providedin FAA ASOS/AWOS reporting data)	9.3	mph
M = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)	2.5	%
Control Efficiency = 50% (Water or chemical spray)	50	%
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.00028 lb/ton) * (ton/2000 lb) * (4 piles) =	**2.44**	ton/yr
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.00028 lb/ton) * (ton/2000 lb) * (4 piles) * (1 - 50/100) =	**1.22**	ton/yr

PM10 Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00184 lb/ton	0.00184	lb/ton
Where: k = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)	0.35	
U = mean wind speed = 9.3 mph (Average from values providedin FAA ASOS/AWOS reporting data)	9.3	mph
M = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)	2.5	%
Control Efficiency = 50% (Water or chemical spray)	50	%
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.00184 lb/ton) * (ton/2000 lb) * (4 piles) =	**16.08**	ton/yr
Calculation: (500 ton/hr) * (8760 hrs/yr) * (0.00184 lb/ton) * (ton/2000 lb) * (4 piles) * (1 - 50/100) =	**8.04**	ton/yr

<u>Truck unloading - SCC3-05-020-31</u>

Maximum Process Rate = 1,500 ton/hr (Maximum plant process rate)	1,500	ton/hr
Maximum Hours of Operation = 8,760 hrs/yr	8,760	hrs/yr
Number of Piles = 1 load	1	load

PM Emissions: (assume PM Emissions = PM10 Emissions = PM2.5)

Emission Factor = 0.00008 lb/ton	0.00008	lb/ton
Control Efficiency = 50% (Water spray)	50	%
Calculation: (1500 ton/hr) * (0.00008 lb/ton) * (ton/2000 lb) * (8760 hrs/yr) =	**0.5256**	ton/yr
Calculation: (1500 ton/hr) * (0.00008 lb/ton) * (ton/2000 lb) * (8760 hrs/yr) * (1 - 50/100) =	**0.26**	ton/yr

PM10 Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 11.19.2-2, 8/04.

Emission Factor = 0.00008 lb/ton	0.00008	lb/ton
Control Efficiency = 50% (Water spray)	50	%
Calculation: (1500 ton/hr) * (0.00008 lb/ton) * (ton/2000 lb) * (8760 hrs/yr) =	**0.0000**	ton/yr
Calculation: (1500 ton/hr) * (0.00008 lb/ton) * (ton/2000 lb) * (8760 hrs/yr) * (1 - 50/100) =	**0.26**	ton/yr

PM10 Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 11.19.2-2, 8/04.

Emission Factor = 0.00008 lb/ton	0.00008	lb/ton
Control Efficiency = 50% (Water spray)	50	%
Calculation: (1500 ton/hr) * (0.00008 lb/ton) * (ton/2000 lb) * (8760 hrs/yr) =	**0.0000**	ton/yr
Calculation: (1500 ton/hr) * (0.00008 lb/ton) * (ton/2000 lb) * (8760 hrs/yr) * (1 - 50/100) =	**0.26**	ton/yr

<u>Haul Roads</u>

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate)	5	VMT/day
VMT per hour = (5 VMT/day) * (day/24 hrs) = 0.21 VMT/hr	0.21	VMT/hr
Hours of Operation = 8,760 hrs/yr	8,760.00	hrs/yr

PM Emissions:

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor = k * (s / 12)^a * (W / 3)^b = 9.56 lb/VMT	9.56	lb/VMT
Where: k = constant = 4.9 lbs/VMT (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	4.9	lbs/VMT
s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)	7.1	%

W = mean vehicle weight = 30 tons (U.S. Dept. of Transportation Comprehensive Truck Size and Weight Study, page II-3 and Table III-4, max. 30 tons)	30	tons
a = constant = 0.7 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	0.7	
b = constant = 0.45 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)	0.45	
Control Efficiency = 50% (Water spray or chemical dust suppressant)	50	%
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (9.56 lb/VMT) * (ton/2000 lb) =	**8.73**	tons/yr
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (9.56 lb/VMT) * (ton/2000 lb) * (1-50/100) =	**4.36**	tons/yr

PM10 Emissions:

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor = k * (s / 12)^a * (W / 3)^b = 2.64 lb/VMT	2.64	lb/VMT
Where: k = constant = 1.5 lbs/VMT (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	1.5	lbs/VMT
s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)	7.1	%
W = mean vehicle weight = 30 tons (U.S. Dept. of Transportation Comprehensive Truck Size and Weight Study, page II-3 and Table III-4, max. 30 tons)	30	tons
a = constant = 0.9 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.9	
b = constant = 0.45 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.45	
Control Efficiency = 50% (Water spray or chemical dust suppressant)	50	%
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (2.64 lb/VMT) * (ton/2000 lb) =	**2.41**	tons/yr
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (2.64 lb/VMT) * (ton/2000 lb) * (1-50/100) =	**1.20**	tons/yr

PM2.5 Emissions:

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor = k * (s / 12)^a * (W / 3)^b = 0.26 lb/VMT	0.26	lb/VMT
Where: k = constant = 0.15 lbs/VMT (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.15	lbs/VMT
s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)	7.1	%
W = mean vehicle weight = 30 tons (U.S. Dept. of Transportation Comprehensive Truck Size and Weight Study, page II-3 and Table III-4, max. 30 tons)	30	tons
a = constant = 0.9 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.9	
b = constant = 0.45 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)	0.45	
Control Efficiency = 50% (Water spray or chemical dust suppressant)	50	%
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (0.26 lb/VMT) * (ton/2000 lb) =	**0.24**	tons/yr
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (0.26 lb/VMT) * (ton/2000 lb) * (1-50/100) =	**0.12**	tons/yr

<u>Diesel Engine/Generator Set</u>

Note: Emissions are based on the power output of the engine(s) (1800 hp).

Operational Capacity of Engines = 1,800 hp	1,800.00	hp
Hours of Operation = 3,500.00 hours	3,500.00	hours

PM = PM10 = PM2.5 Emissions (all PM < 1um in size):

PM Emissions = 6.93 ton/yr (Assume PM = PM10 = PM2.5)	**6.93**	ton/yr
PM Emissions = 13,860.00 lbs/yr (Assume PM = PM10 = PM2.5)	**13,860.00**	lbs/yr

PM-10 Emissions:

Emission Factor = 0.0022 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (3,500 hours) * (1,800 hp) * (0.0022 lbs/hp-hr) * (ton/2000 lb) = 6.93 ton/yr	2.20E-03	lbs/hp-hr
Calculation: (3,500 hours) * (1,800 hp) * (0.0022 lbs/hp-hr) = 13,860.00 lbs/yr	**6.93**	ton/yr
	13,860.00	lbs/yr

PM-2.5 Emissions:

Emission Factor = 0.0022 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (3,500 hours) * (1,800 hp) * (0.0022 lbs/hp-hr) * (ton/2000 lb) = 6.93 ton/yr	2.20E-03	lbs/hp-hr
Calculation: (3,500 hours) * (1,800 hp) * (0.0022 lbs/hp-hr) = 13,860.00 lbs/yr	**6.93**	ton/yr
	13,860.00	lbs/yr

NOx Emissions:

Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (3,500 hours) * (1,800 hp) * (0.031 lbs/hp-hr) * (ton/2000 lb) = 97.65 ton/yr	3.10E-02	lbs/hp-hr
Calculation: (3,500 hours) * (1,800 hp) * (0.031 lbs/hp-hr) = 195,300.00 lbs/yr	**97.65**	ton/yr
	195,300.00	lbs/yr

CO Emissions:

Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (3,500 hours) * (1,800 hp) * (0.00668 lbs/hp-hr) * (ton/2000 lb) = 21.04 ton/yr	6.68E-03	lbs/hp-hr
Calculation: (3,500 hours) * (1,800 hp) * (0.00668 lbs/hp-hr) = 42,084.00 lbs/yr	**21.04**	ton/yr
	42,084.00	lbs/yr

VOC Emissions:

Emission Factor = 0.0025141 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, TOC, Exhaust + Crankcase, 10/96)

Calculation: (3,500 hours) * (1,800 hp) * (0.0025141 lbs/hp-hr) * (ton/2000 lb) = 7.92 ton/yr	2.51E-03	lbs/hp-hr
Calculation: (3,500 hours) * (1,800 hp) * (0.0025141 lbs/hp-hr) = 15,838.83 lbs/yr	**7.92**	ton/yr
	15,838.83	lbs/yr

SOx Emissions:

Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (3,500 hours) * (1,800 hp) * (0.00205 lbs/hp-hr) * (ton/2000 lb) = 6.458 ton/yr	2.05E-03	lbs/hp-hr
Calculation: (3,500 hours) * (1,800 hp) * (0.00205 lbs/hp-hr) = 12,915.00 lbs/yr	**6.46**	ton/yr
	12,915.00	lbs/yr

V. Existing Air Quality

This permit is for a portable facility to be located in Section 13, Township 24N, Range 59E in Richland County, Montana. Richland County, and in those areas for which this facility is permitted to operate, have been designated unclassified/attainment with all ambient air quality standards, and where there are no major air pollution sources in the surrounding area.

VI. Air Quality Impacts

This permit contains conditions and limitations that would protect air quality for the site and surrounding area. Furthermore, this facility is a portable source that would operate on an intermittent and temporary basis, so any effects to air quality will be minor and of limited duration.

VII. Ambient Air Impact Analysis

Based on the information provided and the conditions established in MAQP #5119-00, the Department determined that the impact from this permitting action will be minor.

VIII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
	X	5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
	X	5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

IX. Environmental Assessment

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

Analysis Prepared By: R. Payne
Date: 3/11/15

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

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Knife River North Central

Montana Air Quality Permit number (MAQP): 5119-00
Preliminary Determination Issued: 3/18/15
Department Decision Issued: 5/11/15
Permit Final:

1. *Legal Description of Site*: Knife River operates a portable crusher and screening operation, which will initially be located at Township 24N, Range 59E, Section 13 in Richland County, Montana. However, MAQP 5119-00 applies while operating at any location in Montana, except those areas having a Department of Environmental Quality (Department)-approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment areas. A Missoula County air quality permit will be required for locations within Missoula County, Montana. An addendum will be required for locations in or within 10 km of certain PM10 nonattainment areas.

2. *Description of Project*: The Department received a permit application from Knife River for the proposed operation of a portable crushing and screening facility with a maximum rated design process rate of 2000 tons per hour (tph) of combined crushing capacity and 1500 tph of combined screening capacity. The application proposed the use of two diesel-fired engine/generator sets to provide power to equipment with a combined maximum rated design capacity of 1800 horsepower (hp). Knife River has requested that this permit be written in a de minimis friendly manner.

3. *Objectives of Project*: The object of the project would be to produce business and revenue for the company through the sale and use of aggregate. The issuance of MAQP #5119-00 would allow Knife River to operate the permitted equipment at various locations throughout Montana (as described above), including the proposed initial site location.

4. *Alternatives Considered*: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because Knife River has 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 MAQP #5119-00.

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

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

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

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

A. Terrestrial and Aquatic Life and Habitats

This permitting action would be expected to have a minor effect on terrestrial and aquatic life and habitats, as the proposed plant would operate within an agricultural area. Furthermore, the air emissions would likely have only minor effects on terrestrial and aquatic life because facility emissions would be well dispersed in the area of the operation (as described in Section 7.F of this EA) and would have intermittent and seasonal operations. Therefore, only minor and temporary effects to terrestrial and aquatic life and habitat would be expected from the proposed project.

B. Water Quality, Quantity and Distribution

Water would be required for dust suppression on the mineral processing equipment and surrounding facility area, including haul roads. This water use would be expected to only cause minor, if any, impacts to water resources because only a small volume of water would be required to be used. In addition, the facility would emit air pollutants and

corresponding deposition of pollutants would occur, as described in Section 7.F. of this EA. However, the Department determined that due to dispersion characteristics of pollutants and conditions that would be placed in MAQP #5119-00, any impacts from deposition of pollution on water quality, quantity, and distribution expected would be minor.

C. Geology and Soil Quality, Stability and Moisture

Only minor impacts from deposition of air pollutants on soils would likely result (as described in 7.F of this EA) and only minor amounts of water would be used for pollution control, and only as necessary, in controlling particulate emissions. Thus, only minimal water runoff would likely occur. Since only minor amounts of pollution would be expected and corresponding emissions would be widely dispersed before settling upon surrounding soils and vegetation (as described in Section 7.D of this EA), impacts would be minor. Therefore, any effects upon geology and soil quality, stability, and moisture from air pollutant emissions from equipment operations would likely be minor and short-lived.

D. Vegetation Cover, Quantity, and Quality

Only minor impacts would be expected to occur with respect to vegetative cover, quality, and quantity because the facility would operate in an area where vegetation has been previously disturbed. During operations, the facility would likely be a relatively minor source of emissions and the pollutants widely dispersed (as described in Section 7.F of this EA); therefore, deposition on vegetation from the proposed project would expect to be minor. Also, due to limited water usage (as described in Section 7.B of this EA) and minimal associated soil disturbance from the application of water and water runoff (as described in Section 7.C of this EA), corresponding vegetative impacts would likely be minor.

E. Aesthetics

The crushing/screening facility would be initially located in a total property area of 107 acres. Activity within the facility would create noise while operating at the proposed site. The application states the nearest home and/or structure is 0.3 mile from the initial proposed project site; therefore, visual and noise impacts would be minor and short-lived.

F. Air Quality

Air quality impacts from the proposed project would likely be minor because the facility would operate on an intermittent and temporary basis. MAQP #5119-00 includes conditions limiting the facility's opacity; require water and water spray bars be available on site and used to ensure compliance with opacity standards; and limit the hours of operation of the diesel engine/generator sets.

Further, the Department determined that this facility would be a minor source of emissions as the source's potential to emit is limited to below the major source threshold level of 100 tons per year (tpy) for any pollutant. Pollutant deposition from the facility would expect to be minimal because the pollutants emitted are widely dispersed (from factors such as wind speed and wind direction) and exhibit minimal deposition on the surrounding area. Therefore, air quality impacts from operating the crushing facility in this area would be expected to be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The Department contacted the Montana Natural Heritage Program (MNHP) in an effort to identify and species of concern that may be found in the area where the initial proposed crushing/screening facility will occur. Search results have concluded there is one animal species of concern in the area. Area, in this case, would be defined by the township and range of the proposed site, with an additional 1-mile buffer. The known species of concern is the Whooping Crane. Specific effects of operating the proposed project in this area would be minor since the project is small, temporary, and operates on an intermittent basis. Therefore, the Department determined that any effects upon these species would likely be minor and short-lived.

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

Due to the relatively small size of the project, only small demands on environmental resources would likely be required for proper operation. Only small quantities of water are required for dust suppression of particulate emissions being generated at the site. In addition, impacts to air resources would be expected to be minor because the source would be considered a minor industrial source of emissions, with intermittent and seasonal operations, and because air pollutants generated by the facility would be widely dispersed as described in Section 7.F of this EA. Energy requirements would also be small, as the diesel engines would use small amounts of fuel. Overall, any impacts to water, air, and energy resources would likely be minor.

I. Historical and Archaeological Sites

The Department contacted the Montana Historical Society - State Historical Preservation Office (SHPO) in an effort to identify any historical and/or archaeological sites that may be present in the location of the facility. No archaeological sites are known to be present. Because no structures would be expected to be removed or altered as a result of issuance of MAQP #5119-00, no impacts to known historically significant sites would be expected. Any impacts to historical and archaeological impacts would be expected to be minor.

J. Cumulative and Secondary Impacts

The operation of the crushing and screening equipment would likely cause minor cumulative and secondary impacts to the physical and biological aspects of the human environment because the facility would be limited in the amount of emissions allowed to be released to the atmosphere. Emissions and noise generated from the equipment would likely result in only minor impacts to the area, as the facility would be seasonal and temporary. The proposed project would be short-term in nature, and likely have minor cumulative effects upon resources within the area. These resources include water, terrestrial and aquatic life, soils, and vegetation. Overall, cumulative and secondary impacts to the physical and biological aspects of the human environment would likely be minor.

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

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

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

A. Social Structures and Mores

The operation of the non-metallic mineral processing facility would not be expected to cause any disruption to native or traditional lifestyles or communities (social structures and mores) in the area because the source would be a minor industrial source that would only have temporary and intermittent operations. The Department has determined that no impact to the social structure and mores would be expected.

B. Cultural Uniqueness and Diversity

The cultural uniqueness and diversity of this area would not likely be impacted by the operation of the proposed facility because the source would occur within an existing gravel pit and would be intermittent and temporary operation. Therefore, there would not be any impacts expected to the cultural uniqueness and diversity.

C. Local and State Tax Base and Tax Revenue

The operation of the facility would likely have little, if any, impact on the local and state tax base and tax revenue because the facility would be a minor industrial source of emissions and would have seasonal and intermittent operations. Thus, only minor impacts to the local and state tax base and revenue would be expected from the employees and facility production. Furthermore, the impacts to local tax base and revenue would expect to be minor because the source would be portable and the money generated for taxes would be widespread.

D. Agricultural or Industrial Production

The operation of the facility would have only a minor impact on local agricultural or industrial production since the facility would be a minor source. Because minimal deposition of air pollutants would occur on the surrounding land (as described in Section 7.F of this EA), only minor and temporary effects on the surrounding vegetation (i.e. agricultural production) would occur. In addition, the facility operations would be temporary in nature and would be permitted with operational conditions and limitations that would minimize impacts upon surrounding vegetation, as described in Section 7.D of this EA.

E. Human Health

MAQP #5119-00 incorporates conditions to ensure that the facility would operate in compliance with all applicable air quality rules and standards. These rules and standards are designed to be protective of human health. As described in Section 7.F of this EA, the air emissions from this facility would be minimized by the use of water spray and other operational limits that would be required by MAQP #5119-00. Also, the facility would be operating on a temporary basis and pollutants would disperse from the ventilation of emissions at this site (see Section 7.F of this EA). Therefore, only minor impacts would be expected on human health from the proposed project.

F. Access to and Quality of Recreational and Wilderness Activities

Based on information received from Knife River there is no hunting access, recreational activities or wilderness areas near the initial proposed project site. Therefore, no impacts to the access to and quality of recreational and wilderness activities would be expected.

G. Quantity and Distribution of Employment

The portable crushing/screening operation would only require a few employees to operate and would have seasonal and intermittent operations. The crushing/screening operation would be considered a portable source and would not be expected to have long-term

affects upon the quantity and distribution of employment in any given area of operation. The application stated 3 employees would be employed as a result of the proposed project. Therefore, no effects upon the quantity and distribution of employment in this area would be expected.

H. Distribution of Population

The portable crushing and screening operation is a portable industrial facility that would only require a limited number of employees. No individuals would be expected to permanently relocate to this area as a result of this operation. Therefore, the mineral processing facility would not likely impact the normal population distribution in the initial area of operation or any further operating site.

I. Demands for Government Services

A slight increase in traffic on existing roadways in the area while is expected from this project. Government services would be required for acquiring the appropriate permits for the proposed project and to verify compliance with the permits that would be issued. However, demands for government services would be expected to be minor.

J. Industrial and Commercial Activity

The operation of the new equipment would represent only a minor increase in the industrial activity in the proposed area of operation because the source would be a relatively small industrial source that would be portable and temporary in nature. Furthermore, the industrial activity associated with this plant will occur within an existing gravel pit. Therefore, only limited additional industrial or commercial activity would be expected as a result of the proposed operation.

K. Locally Adopted Environmental Plans and Goals

Knife River would be allowed by MAQP #5119-00 to operate in areas designated by the United States Environmental Protection Agency as attainment or unclassified for ambient air quality. MAQP #5119-00 contains operational restrictions for protecting air quality and to keep facility emissions in compliance with any applicable ambient air quality standards. Because the proposed equipment would be a portable source with only minor emissions, any impacts to any locally adopted environmental plans from the project would be expected to be minor and temporary.

L. Cumulative and Secondary Impacts

The operation of the facility would cause only minor cumulative and secondary impacts to the social and economic aspects of the human environment in the immediate area of operation because the source would be a portable and temporary source. Because the source is relatively small and temporary, only minor economic impacts to the local economy would be expected from operating the facility. Further, this facility may be operated in conjunction with other equipment owned and operated by Knife River but any cumulative impacts upon the social and economic aspects of the human environment would likely be minor and short-lived. Thus, only minor and temporary cumulative effects would be expected to the local economy.

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

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the construction and operation of portable non-metallic mineral processing facility. MAQP #5119-00 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

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

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

EA prepared by: R. Payne
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