Montana Department of
ENVIRONMENTAL QUALITY
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April 22, 2013

Leo Zwemke
Knife River Corporation
P.O. Box 80066
Billings, MT 59108

Dear Mr. Zwemke:

Montana Air Quality Permit #3092-02 is deemed final as of April 20, 2013, by the Department of Environmental Quality (Department). This permit is for a portable asphalt plant. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Julie A. Merkel
Air Permitting Supervisor
Air Resources Management Bureau
(406) 444-3626

Tashia Love
Environmental Science Specialist
Air Resources Management Bureau
(406) 444-5280

JM:TL
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #3096-02

Knife River Corporation
P.O. Box 80066
Billings, MT 59108

April 22, 2013

MONTANA AIR QUALITY PERMIT

Issued To: Knife River Corporation
P.O. Box 80066
Billings, Montana 59108

MAQP: #3096-02
Application Complete: 02/07/2013
Preliminary Determination Issued: 03/04/2013
Department Decision's Issued: 04/04/2013
Final Permit: April 20, 2013
AFS #777-3096

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Knife River Corporation (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. Plant Location

The asphalt plant and associated equipment are located at 2880 South 56th Street West, Billings, Montana. The home pit of the facility is Section 29, Township 1 South, Range 25 East in Yellowstone County, Montana. However, Knife River operates the portable asphalt plant and associated equipment in various locations throughout the State of Montana. Permit #3096-02 applies while operating in any location within the State of Montana, except within those areas having a Department of Environmental Quality (Department) approved permitting program. *A Missoula County air quality permit will be required for locations within Missoula County, Montana*. A complete list of permitted equipment is included in the permit analysis.

B. Current Permit Action

On January 23, 2013, the Department received a permit application from Knife River requesting a modification to MAPQ #3096-01. The modification is for a replacement of the batch mix asphalt plant with a drum mix asphalt plant, including an addition of a recycled asphalt feeder. The modification also changes the home pit location of the asphalt plant. The current permit action incorporates limits which maintain potential emissions below 80 tons per year (TPY) of any regulated pollutant. The limits reduce emissions to avoid additional monitoring and increased inspections required under the Compliance Monitoring Strategy (CMS) in connection with the U.S. Environmental Protection Agency (EPA). This permitting action establishes new limits for annual production capacity to maintain potential emissions below 80 TPY. In addition, this permitting action updates the emissions inventory.

Section II: Limitations and Conditions

A. Emission Limitations

1. Asphalt plant particulate matter emissions shall be limited to 0.04 grains per dry standard cubic feet (gr/dscf) from the asphalt drum mix dryer exhaust (ARM 17.8.340, ARM 17.8.752, and 40 Code of Federal Regulations (CFR) 60, Subpart I).

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

3. Knife River shall not cause or authorize to be discharged into the atmosphere from dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems, any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.340, ARM 17.8.752, and 40 CFR 60, Subpart I).

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.2 and II.A.3 (ARM 17.8.749).

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 PM (ARM 17.8.308 and ARM 17.8.752).

6. Knife River shall treat all unpaved portions of the haul roads, access roads, and 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 17.8.752).

7. Knife River shall install, operate, and maintain a fabric-filter baghouse for particulate matter air pollution control on the asphalt drum mix dryer exhaust. A device to measure the pressure drop (magnehelic gauge, manometer, etc.) on the control devices (baghouse) must be installed and maintained. Pressure drop must be measured in inches of water. Temperature indicators at the control device inlets and outlets must be installed and maintained (ARM 17.8.752).

8. Knife River shall install, operate, and maintain a fabric filter on the lime silo for particulate matter air pollution control (ARM 17.8.752).

9. Knife River shall use only natural gas as fuel for the asphalt heater and hot mix burner (ARM 17.8.749).

10. Total asphalt plant production shall be limited to 1,170,000 tons per year during any rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).

11. Once a stack test is performed, the asphalt plant production rate shall be limited to the average production rate during the last source test demonstrating compliance (ARM 17.8.752).

12. 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 time period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).

13. Knife River shall comply with all applicable standards and limitations, monitoring, reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart I, *Standards of Performance for Hot Mix Asphalt Facilities* (ARM 17.8.340 and 40 CFR 60, Subpart I).

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) Methods 1-5 source test shall be performed on the asphalt drum mix dryer exhaust stack to demonstrate compliance with Section II.A.1. An EPA Method 9 opacity test shall be performed in conjunction with all particulate tests to demonstrate compliance with the conditions specified in Section II.A.3. Testing shall continue on an every 4-year basis or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105, ARM 17.8.340, ARM 17.8.749, and 40 CFR 60 Subpart I).

2. Since asphalt production will be limited to the average production rate during the compliance source test, it is suggested that the test be performed at the highest practical production rate (ARM 17.8.749).

3. Knife River may retest at any time in order to test at a higher production rate (ARM 17.8.749).

4. Temperature and pressure drop across the pollution control device must be recorded daily and kept on site according to Section II.C.7 (ARM 17.8.749).

5. Temperature and pressure drop across the pollution control device must be recorded during the compliance source test and reported as part of the test results (ARM 17.8.749).

6. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

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

C. Operational Reporting Requirements

1. If this portable asphalt 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 is not limited to, all sources identified in the most recent emission inventory report and sources identified in Section I.A of the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department (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 asphalt production from the facility. By the 25th day of each month, Knife River shall calculate the asphalt production from the facility 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 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 with the annual emission inventory information (ARM 17.8.749 and ARM 17.8.1204).

D. Notification

1. Within 30 days of commencement of construction of any New Source Performance Standard (NSPS)-affected equipment, Knife River shall notify the Department of the date of commencement of construction of the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart I).

2. Within 15 days of the actual start-up date of any NSPS-affected equipment, Knife River shall submit written notification to the Department of the initial start-up date of the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart I).

3. Within 15 days of the actual start-up date of any non-NSPS-affected equipment, Knife River shall submit written notification to the Department of the initial start-up date of the affected equipment (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 emission monitoring system (CEMS), continuous emission 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 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 as specified in Section 75-2-401, *et seq*., MCA.

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

F. Permit Inspection - As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel 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 having a Department-approved permitting program or areas considered tribal lands.

Montana Air Quality Permit (MAQP) Analysis
Knife River Corporation – Billings, Montana
MAQP #3096-02

I. Introduction/Process Description

Knife River Corporation (Knife River) owns and operates a portable drum mix asphalt plant with a maximum rated design capacity of 450 tons per hour (tph).

A. Permitted Equipment

A portable drum mix asphalt plant and associated equipment with a maximum production capacity of 450 tph utilizing a natural gas fueled burner in the asphalt dryer and a natural gas fueled hot asphalt oil heater.

The legal location of the facility's home pit is the Section 29, Township 1 South, Range 25 East, Yellowstone County, Montana. However, MAQP 3096-02 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.

B. Source Description

For a typical operational set-up, aggregate of various size is loaded into the bin feeders and transported via conveyor to the drum mixer. In the drum, the aggregate is dried and mixed with asphalt oil and at times, lime. The finishing mix is conveyed up the drag slot and deposited in storage silos. Knife River utilizes an electrical power drop from a power pole for power generation to the asphalt drum mix plant.

C. Permit History

On November 16, 2000, the Department issued **MAQP #3096-00** to JTL Group, Inc. (JTL) for the purpose of transferring permitting authority from Yellowstone County to the State of Montana. The facility did not change its operation or configuration, but the existing Yellowstone County permit needed to be re-issued as a state permit**.** MAQP #3096-00 replaced all Yellowstone County air quality permits and any other air quality permits held by JTL for this equipment.

On January 24, 2008, the Department received a request to change the permittee name from JTL to Knife River. This permit action was an administrative amendment (AA) pursuant to the Administrative Rules of Montana (ARM) 17.8.764 that changed the permittee name as requested. In addition to accounting for this name change, the permit updated the rule references, and permit format. **MAQP #3096-01** replaced MAQP #3096-00.

D. Current Permit Action

On January 23, 2013, the Department received a permit application from Knife River requesting a modification to MAPQ #3096-01. The modification is for a replacement of the batch mix asphalt plant with a drum mix asphalt plant, including an addition of a

recycled asphalt feeder. The modification also changes the home pit location of the asphalt plant. The current permit action incorporates limits which maintain potential emissions below 80 tons per year (TPY) of any regulated pollutant. The limits reduce emissions to avoid additional monitoring and increased inspections required under the Compliance Monitoring Strategy (CMS) in connection with the U.S. Environmental Protection Agency (EPA). This permitting action establishes new limits for annual production capacity to maintain potential emissions below 80 TPY. In addition, this permitting action updates the emissions inventory. **MAQP #3096-02** replaces MAQP #3096-01.

E. Additional Information

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

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

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

1. ARM 17.8.101 Definitions. This rule is 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.*, MCA.

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

4. ARM 17.8.110 Malfunctions. 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. No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant which would otherwise violate an air pollution control regulation. 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. This section requires an opacity limitation of 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter (PM), Fuel Burning Equipment. This section requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.

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

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. 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.

6. ARM 17.8.340 Standard of Performance for New Stationary 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 I – Standards of Performance for Hot Mix Asphalt Facilities. In order for an asphalt 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 asphalt plant equipment to be used under MAQP #3906-02 is subject to this subpart because the facility is a hot mix asphalt facility.

D. ARM 17.8, Sub-Chapter 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. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

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

E. ARM 17.8, Sub-Chapter 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 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 particulate matter (PM), particulate matter with an aerodynamic diameter less than 10 microns (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. A permit application was not required for the current permit action because the permit change is considered an administrative permit change. (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 January 10, 2013, 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 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 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.

12. 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.

13. 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).

14. 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.

15. ARM 17.8.765 Transfer of Permit. (1) This rule states that an air quality permit 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, Sub-Chapter 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 sub-chapter 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 (tpy) 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) A Major Source under Section 7412 of the FCAA is defined as any stationary source having:

a. PTE > 100 tpy of any pollutant;

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

c. PTE > 70 tpy of PM_{10} in a serious PM_{10} non-attainment 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 #3096-02 for Knife River, the following conclusions were made:

   a. Knife River agreed to federally enforceable permit conditions that when complied with will limit the facility's PTE to less than major source thresholds for any pollutant.

   b. The emission limitations and conditions set in the permit will limit HAP emissions to less than 10 tpy of any one HAP, and less than 25 tpy of a combination of all HAPs.

   c. This source is not located in a serious PM_{10} non-attainment area.

   d. This facility is subject to current NSPS (40 CFR 60, Subpart I– Standards of Performance for Hot Mix Asphalt Plants.

   e. This facility is not subject to any current National Emission Standards for Hazardous Air Pollutants (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.

   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.

   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 that source's PTE.

      i. 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.

      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.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal required by ARM 17.8.1204(3) shall contain a certification of truth, accuracy, and completeness by a responsible official. 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.

A. Asphalt Drum Mixer

The Department reviewed relevant particulate matter (PM) control options, as well as previous BACT determinations. The following control options were reviewed by the Department in order to make the following BACT determinations:

- Fabric Filter Baghouse
- Electrostatic Precipitator
- Cyclone
- Wet Scrubber

All of the listed technologies are deemed technically feasible for this application. Technical feasible control options, in order the highest control efficiency to the lowest control efficiency based on PM control are as follows:

1. Fabric Filter Baghouse (99 – 99.9% efficient) (EPA Fact Sheet EPA-452/F-03-025, 07/15/03)
2. Electrostatic Precipitator (99 – 99.9% efficient) (EPA Fact Sheet EPA-452/F-03-025, 07/15/03)
3. Cyclone (up to 99% efficient) (EPA Fact Sheet EPA-452/F-03-005, 07/15/03)
4. Wet Scrubber (up to 99% efficient) (EPA Fact Sheet EPA-452/F-03-0010, 07/15/03)

Knife River has proposed to use a fabric filter baghouse for the control of PM from the exhaust of the asphalt drum mixer. Because Knife River proposes to use a control technology that is equivalent to the highest control efficiency, no further analysis is needed. The control option selected has control technology comparable to other recently permitted similar sources and is capable of achieving the appropriate emissions standards. Operating and maintaining a baghouse will constitute BACT for the asphalt drum mixer. All asphalt drum mixer emissions are limited to 0.04 grains per dry standard cubic foot (gr/dscf) for particulate and 20 percent opacity in accordance with 40 CFR 60, Subpart I.

B. Lime Silo

Knife River's portable asphalt plant will utilize mineral filler (lime) as an additive to the asphalt. Mineral filler will be stored in an on-site silo and will be added to the asphalt drum mixer as needed. The PM emissions generated from filling the silo will be routed to a fabric filter. As with the asphalt drum mixer BACT analysis, Knife River has proposed to utilize a control technology that is equivalent to the highest control efficiency. The fabric filter is considered to be the BACT for controlling the PM emissions associated with the mineral filler silo.

C. Fugitive Emissions

Knife River must take reasonable precautions to limit the fugitive emissions of airborne particulate matter on haul roads, access roads, parking lots, and the general plant area. Reasonable precautions include treating 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. Using water and/or chemical dust suppressant to comply with the reasonable precautions limitation will be considered BACT.

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.

IV. Emission Inventory

	Emissions (in tpy)						
Emission Source	**PM**	**PM_{10}**	**$PM_{2.5}$**	**NO_x**	**CO**	**VOC**	**SO_x**
Aggregate Storage Piles	69.49	32.87	4.98	--	--	--	--
Handling/Conveyors	5.27	1.93	0.79	--	--	--	--
Natural Gas Asphalt Oil Heater	--	--		--	0.08	--	--
Drum Mix Asphalt Plant	29.18	20.26	15.09	15.21	76.05	18.72	1.99
Asphalt Product Silo Filling	0.34	0.34	0.34	--	0.69	7.13	--
Plant Load-Out	0.31	0.31	0.31	--	0.79	2.29	--
Lime Silo (fabric filter)	0.09	0.03	0.03	--	--	--	--
Haul Roads / Vehicle Traffic	11.37	3.13	0.31	--	--	--	--
Total Emissions	**116.04**	**58.87**	**21.85**	**15.21**	**77.61**	**28.14**	**1.99**

NOTES:

Inventory reflects enforceable limits on hours of operation to keep emissions below the Title V threshold of 100 TPY of any pollutant and below 80 TPY so that the oversight category for this facility is at a level that is only subject to the State Compliance Monitoring Strategy.

All PM, PM_{10}, and $PM_{2.5}$ values in the table represent the sum of the filterable and condensable fractions.

Total asphalt plant production shall be limited to 1,170,000 tons per year during any rolling 12-month time period.

The emissions inventory limits the operational hours to 2,600 for the drum mix asphalt plant and associated equipment to reflect annual limit on asphalt production to stay below the 80 TPY threshold.

Cold Aggregate/RAP Storage Piles

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 8,760 hrs/yr

Number of Piles = 8 piles

Filterable 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 = 0.00331 lb/ton

Where: k = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)

U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 0% (Water or chemical spray)

Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00331 lb/ton) * (ton/2000 lb) * (8 piles) = 69.49 ton/yr

Filterable PM_{10} 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 = 0.00156 lb/ton

Where: k = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)

U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 0% (Water or chemical spray)

Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00156 lb/ton) * (ton/2000 lb) * (8 piles) = 32.87 ton/yr

Filterable $PM_{2.5}$ 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 = 0.00024 lb/ton

Where: k = particle size multiplier = 0.053 (Value for PM < 2.5 microns per AP 42, Sec. 13.2.4.3, 11/06)

U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 0% (Water or chemical spray)

Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00024 lb/ton) * (ton/2000 lb) * (8 piles) = 4.98 ton/yr

Conveyor Transfer Points

Maximum Process Rate = 450 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 2,600 hrs/yr

Number of Transfers = 3 transfer (Company Information)

Filterable PM Emissions:

Emission Factor = 0.003 lb/ton (0.0030 uncontrolled, 0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = %

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.003 lb/ton) * (ton/2000 lb) * (3 transfer) = 5.27 ton/yr

Filterable PM_{10} Emissions:

Emission Factor = 0.0011 lb/ton (0.00110 uncontrolled, 0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = %

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.0011 lb/ton) * (ton/2000 lb) * (3 transfer) = 1.93 ton/yr

Filterable $PM_{2.5}$ Emissions:

Emission Factor = 0.00045 lb/ton (uncontrolled PM2.5 = 15% of PM, AP 42, Appendix B-2, Table B.2.2, Category 3, 9/90)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.00045 lb/ton) * (ton/2000 lb) * (3 transfer) = 0.79 ton/yr

Natural Gas Oil Heater

Production Rate = 2,157.00 cf/hr 1020 Btu/cf for natural gas

Maximum Hours of Operation = 8,760 hrs/yr

CO Emissions:

Emission Factor = 0.0000089 lb/cf (AP-42, Section 11.1, Table 11.1-13, Natural Gas, 3/04)

Control Efficiency = 0%

Calculation: (8760 hrs/yr) * (2,157.00 cf/hr) * (0.0000089 lb/cf) * (ton/2000 lb) = 0.08 ton/yr

Calculation: (8760 hrs/yr) * (2,157.00 cf/hr) * (0.0000089 lb/cf) * (ton/2000 lb) * (1 - 0/100) = 0.08 ton/yr

Drum-Mix Asphalt Plant Dryer

Maximum Process Rate = 450 ton/hr (Application information)

Maximum Hours of Operation = 2,600 hrs/yr

Condensable $PM_{2.5}$ Emissions:

Based on AP-42

Emission Factor = 0.0194 lb/ton (fabric filter, organic + inorganic, AP 42, Table 11.1-3, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.0194 lb/ton) * (ton/2000 lb) = 11.35 ton/yr

CO Emissions:

Emission Factor = 0.13 lb/ton (Natural gas-fired dryer, AP 42, Table 11.1-7, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.13 lb/ton) * (ton/2000 lb) = 76.05 ton/yr

NOx Emissions:

Emission Factor = 0.026 lb/ton (Natural gas-fired dryer, AP 42, Table 11.1-7, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.026 lb/ton) * (ton/2000 lb) = 15.21 ton/yr

SO2 Emissions:

Emission Factor = 0.0034 lb/ton (Natural gas-fired dryer, AP 42, Table 11.1-7, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.0034 lb/ton) * (ton/2000 lb) = 1.99 ton/yr

VOC Emissions:

Emission Factor = 0.032 lb/ton (Natural gas-fired dryer, AP 42, Table 11.1-8, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.032 lb/ton) * (ton/2000 lb) = 18.72 ton/yr

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.032 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 18.72 ton/yr

Silo Filling

Maximum Process Rate = 450 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 2,600 hrs/yr

Filterable $PM_{2.5}$ Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = 0.000332 + 0.00105(-V)e^((0.0251)(T + 460) - 20.43) - 0.00025 = 0.00033 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.00033 lb/ton) * (ton/2000 lb) = 0.19 ton/yr

Condensable $PM_{2.5}$ Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = 0.00105(-V)e^((0.0251)(T + 460) - 20.43) = 0.00025 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.00025 lb/ton) * (ton/2000 lb) = 0.15 ton/yr

VOC Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = 0.0504(-V)e^((0.0251)(T + 460) - 20.43) = 0.01219 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.01219 lb/ton) * (ton/2000 lb) = 7.13 ton/yr

CO Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = 0.00488(-V)e^((0.0251)(T + 460) - 20.43) = 0.00118 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.00118 lb/ton) * (ton/2000 lb) = 0.69 ton/yr

Load Out

Maximum Process Rate = 450 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 2,600 hrs/yr

Filterable $PM_{2.5}$ Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = 0.000181 + 0.00141(-V)e^((0.0251)(T + 460) - 20.43) - 0.00034 = 0.00018 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.00018 lb/ton) * (ton/2000 lb) = 0.11 ton/yr

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.00018 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 0.11 ton/yr

Condensable $PM_{2.5}$ Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = 0.00141(-V)e^((0.0251)(T + 460) - 20.43) = 0.00034 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.00034 lb/ton) * (ton/2000 lb) = 0.20 ton/yr

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.00034 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 0.20 ton/yr

VOC Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = 0.0172(-V)e^((0.0251)(T + 460) - 20.43) * 94% = 0.00391 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.00391 lb/ton) * (ton/2000 lb) = 2.29 ton/yr

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.00391 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 2.29 ton/yr

CO Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = 0.00558(-V)e^((0.0251)(T + 460) - 20.43) = 0.00135 lb/ton

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Control Efficiency = 0%

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.00135 lb/ton) * (ton/2000 lb) = 0.79 ton/yr

Calculation: (450 ton/hr) * (2600 hrs/yr) * (0.00135 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 0.79 ton/yr

Haul Roads

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate)

VMT per hour = (5 VMT/day) * (day/24 hrs) = 0.21 VMT/hr

Hours of Operation = 8,760 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 = 12.46 lb/VMT

Where: k = constant = 4.9 lbs/VMT (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)

s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)

W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)

a = constant = 0.7 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)

b = constant = 0.45 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 0% (Water spray or chemical dust suppressant)

Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (12.46 lb/VMT) * (ton/2000 lb) = 11.37 tons/yr (Uncontrolled Emissions)

Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (12.46 lb/VMT) * (ton/2000 lb) * (1-0/100) = 11.37 tons/yr (Apply 50% control efficiency)

PM_{10} 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 = 3.43 lb/VMT

Where: k = constant = 1.5 lbs/VMT (Value for PM10, AP 42, Table 13.2.2-2, 11/06)

s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)

W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)

a = constant = 0.9 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)

b = constant = 0.45 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 0% (Water spray or chemical dust suppressant)

Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (3.43 lb/VMT) * (ton/2000 lb) = 3.13 tons/yr (Uncontrolled Emissions)

Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (3.43 lb/VMT) * (ton/2000 lb) * (1-0/100) = 3.13 tons/yr (Apply 50% control efficiency)

$PM_{2.5}$ 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 = 0.34 lb/VMT

Where: k = constant = 0.15 lbs/VMT (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)

s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)

W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)

a = constant = 0.9 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)

b = constant = 0.45 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 0% (Water spray or chemical dust suppressant)

Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (0.34 lb/VMT) * (ton/2000 lb) = 0.31 tons/yr (Uncontrolled Emissions)

Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (0.34 lb/VMT) * (ton/2000 lb) * (1-0/100) = 0.31 tons/yr (Apply 50% control efficiency)

V. Existing Air Quality

This permit is for a portable facility to originally be located in Section 29 Township 1South, Range 25 East in Yellowstone County, Montana. The area surrounding the facility is a gravel source owned by Knife River. Areas not yet mined are agricultural. In the view of the Department, the amount of controlled emissions generated by the continued operation of the asphalt plant will not exceed any set ambient standard.

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 #3096-02, 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	
		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)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		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.

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 Corporation
P.O. Box 80066
Billings, Montana 59108

2880 South 56th Street West, Billings, Montana. The home pit of the facility is Section 29, Township 1 South, Range 25 East in Yellowstone County, Montana

Montana Air Quality Permit Number (MAQP): 3096-02
Preliminary Determination Issued: March 04, 2013
Department Decision Issued: April 04, 2013
Permit Final: April 20, 2013

1. *Legal Description of Site*: Knife River Corporation (Knife River) proposes to operate a portable drum mix asphalt plant which will initially be located in Section 29, Township 1 South, Range 25 East in Yellowstone County, Montana. However, MAQP #3096-02 applies while operating at any location in Montana, except those areas having a Montana 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 would be required for locations in or within 10 km of certain PM_{10} nonattainment areas.

2. *Description of Project*: The Department received a permit application from Knife River for the replacement of a batch mix asphalt plant with a drum mix asphalt plant, including an addition of a recycled asphalt feeder. The modification also changes the home pit location of the asphalt plant.

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 asphalt. The issuance of MAQP #3096-02 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 considered the "no-action" alternative. The "no-action" alternative would deny issuance of the MAQP to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because Knife River 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 listing of the enforceable permit conditions and a permit analysis, including a BACT analysis, would be contained in MAQP #3096-02.

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 the permit conditions would be reasonably necessary to ensure compliance with applicable requirements and to demonstrate compliance with those requirements and would 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

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 a Knife River owned gravel source. 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 (see 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. The water use would be expected to cause minor, if any, impacts to water sources. 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 #3096-02, 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 on soil 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 soil and vegetation (as described in Section 7.D of 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 on vegetative cover, quality, and quantity because the facility would be operating on land that is currently used as a gravel source owned by Knife River. During operations, the facility would likely be a relatively minor source of emissions and the pollutants widely dispersed (as described in 7.F of this EA) therefore, deposition on vegetation from the proposed project would be expected to be minor. Also, due to limited water usage (as described in Section 7.F of this EA) and minimal associated disturbance from the application of water and run-off (as described in Section 7.B of this EA), corresponding vegetative impacts would likely by minor.

E. Aesthetics

The portable drum mix asphalt plant would disturb approximately six acres of land. Activity within the facility will create noise while operating at the proposed site. The proposed project is on private land owned by Knife River. The application states the nearest home and/or structure is 1,100 feet from the proposed project site, therefore visual and noise impacts would occur. The facility would operate on an intermittent and seasonal basis, therefore 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 be small and operate on an intermittent and temporary basis. MAQP #3096-02 includes conditions limiting the facility's opacity and requiring water and spray bars to be available on site to ensure compliance with opacity standards. These conditions would limit fugitive emissions. The facility would also require the use of a baghouse on the dryer to control particulate emissions. Further, Knife River has taken federally-enforceable limitations to remain a minor source of emissions with respect to Title V. Pollutant deposition from the facility would be expected to be minimal because the pollutants 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 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 any species of concern that may be found in the area where the proposed project will occur. Search results have concluded three animal species of concern in the area. Area, in this case, will be defined by the township and range of the proposed site, with an additional 1-mile buffer. The known species of concern include: the Bald Eagle (Sensitive), the Pinyon Jay, and the Western Hog-nosed Snake (Sensitive).

While the Bald Eagle may be found within the search area, this species is known to inhabit forested areas along rivers and lakes, which are not impacted by the operation of this facility. The Pinyon Jay's preferred habitat is low-elevation ponderosa pine and limber pine-juniper woodlands. In Montana, the Western Hog-nosed Snake has been reported in areas of sagebrush and grassland habitat. The proposed project would have minor impacts considering its operations will occur in a previously disturbed gravel source.

MAQP #3906-02 application states there are no potential impacts to wetlands or drainage patterns. Areas not mined are planted with sugar beets, corn, or barley. Berms are planted with natural dry land grass mix. Trees and shrubs are also used as vegetative screens. The

application also states that the dewatering of the Knife River gravel source provides water for the Montana Department of Transportation wetland east of the site where waterfowl is highly active.

Specific impacts of operating the proposed project in this area would be minor since the project is located partially within an existing gravel source. Therefore, the Department determined that any effects upon these species would likely be minor and short-lived.

H. Demands on Environmental Resources 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 would be 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. Furthermore, Knife River has taken federally-enforceable limitations to remain a minor source of emissions with respect to Title V.

I. Historical and Archaeological Sites

The Department contacted the Montana History Society – State Historical Preservation Office (SHPO) in an effort to identify any historical and/or archaeological sites that may be present in the proposed area of construction and operation. According to their records, there have been several previously records sites within the designated search locales. In addition to the sites, there have been a few previously conducted cultural resource inventories done in the areas.

As long as no disturbance or alteration to structures over fifty years of age, SHPO feels "that there is a low likelihood cultural properties will be impacted". Therefore, it is unlikely that the project would affect any historic or archaeological site and no resulting impacts.

J. Cumulative and Secondary Impacts

The operation of the proposed project would likely cause minor cumulative and secondary impacts to the physical and biological aspects of the human environmental because the facility would generate air emissions. Noise would also be generated from the site. Emissions and noise would cause minimal disturbance because the facility would be expected to operate in areas designated and used for such operations on a temporary and seasonal basis. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as outlined in MAQP #3096-02. Overall, any cumulative and or secondary impacts to the physical and biological aspects of the human environment would 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			X			Yes
B	Cultural Uniqueness and Diversity			X			Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production			X			Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities				X		Yes
G	Quantity and Distribution of Employment			X			Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity			X			Yes
K	Locally Adopted Environmental Plans and Goals			X			Yes
L	Cumulative and Secondary Impacts			X			Yes

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

A. Social Structures and Mores

The operation of the proposed project would be expected to cause minor disruption to the social structures and mores in the area because the source would be a minor industrial source in an area that is primarily agricultural. The facility would only have intermittent operations. Further, the facility would be required to operate according to the conditions that would be placed in MAQP #3096-02. Therefore, the existing social structures and mores would experience minor impacts as a result of this permitting action.

B. Cultural Uniqueness and Diversity

The impact to cultural uniqueness and diversity of these areas would be minor from the proposed equipment because the site will be located in an area that is an existing industrial side owned by Knife River where access is secure and controlled. Additionally, the facility would be considered a portable source with seasonal and intermittent operations. Therefore, the Department determined that there would be minor effects to cultural uniqueness and diversity.

C. Local and State Tax Base and Tax Revenue

The proposed project would have little, if any impact on the local and state tax base and tax revenue because the facility would be a temporary source and small by industrial standards. The proposed project itself would likely employ three employees for the proposed project. According to the MAQP #3096-02 application, indirectly an additional 15-20 employees would be required for crushing aggregate, hauling asphalt, dispatching trucks, etc. Thus, only minor impacts to the local and state tax case and revenue could be expected from the employees and facility production. Furthermore, the impacts to local tax base and revenue would be expected 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 proposed project would have only a minor impact on local industrial production since the facility would be a minor source of air emissions (by industrial standards). 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 that would minimize impacts upon surrounding vegetation, as described in Section 7.D of this EA.

E. Human Health

MAQP #3096-02 would incorporate conditions to ensure the proposed project 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 the facility would be minimized by the use of a baghouse, water spray, and other conditions established in MAQP #3096-02. Therefore, only minor impacts would be expected upon human health from the proposed drum mix asphalt plant.

F. Access to and Quality of Recreational and Wilderness Activities

Based on the information received from Knife River, no recreational activities or wilderness areas are near the proposed project site. No access to the public is available on the land privately owned by Knife River where the proposed project would be located. 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 drum mix asphalt plant would only require a few employees to operate and would have seasonal and intermittent operations. The proposed project 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 states that 3 employees would be employed as a direct result of the proposed project. Therefore, minor effects upon the quantity and distribution of employment in these areas would be expected.

H. Distribution of Population

The drum mix asphalt plant 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 operating the drum mix asphalt plant. Therefore, the proposed project would not likely impact the normal population distribution in the initial area of operation or any future operating site.

I. Demands of Government Services

Minor increases would be seen in traffic on existing roadways in the area while the drum mix asphalt plant operates. In addition, government services would be required for acquiring the appropriate permits from government agencies. Demands for government services would be minor.

J. Industrial and Commercial Activity

The operation of the portable drum mix asphalt plant 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. 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 #3096-02, to operate in areas designated by Environmental Protection Agency as attainment or unclassified for ambient air quality. MAQP #3096-02 contains operational restrictions for protecting air quality and to keep facility emissions in compliance with any applicable ambient air quality standards, as a locally adopted environmental plan or goal for operating at this proposed site. Because the proposed drum mix asphalt plant would be a portable source and would likely have intermittent and seasonal operations, any impacts from the project would be expected to be minor and short-lived.

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. Minor increases in traffic would have minor effects on local traffic in the immediate area. 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 operation of a portable drum mix asphalt plant; MAQP #3096-02 provides conditions and limitations to ensure the facility would 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

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