



Montana Department of  
**ENVIRONMENTAL QUALITY**

Brian Schweitzer, Governor

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August 19, 2008

Jacqueline Flikkema  
Knife River Corporation  
P.O. Box 9  
Belgrade, MT 59714

Dear Ms. Flikkema:

Air Quality Permit #2777-03 is deemed final as of August 19, 2008, by the Department of Environmental Quality (Department). This permit is for a concrete batch 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,

Vickie Walsh  
Air Permitting Program Supervisor  
Air Resources Management Bureau  
(406) 444-3490

Trista Glazier  
Environmental Scientist  
Air Resources Management Bureau  
(406) 444-3403

VW:TG  
Enclosure

Montana Department of Environmental Quality  
Permitting and Compliance Division

Air Quality Permit #2777-03

Knife River Corporation  
PO Box 9  
Belgrade, MT 59714

August 19, 2008



## MONTANA AIR QUALITY PERMIT

Issued To: Knife River Corporation  
3131 Highway 2 East  
Kalispell, MT 59901

Permit: #2777-03  
Administrative Amendment (AA) Request  
Received: 1/24/08  
Department's Decision on AA: 8/1/08  
Permit Final: 8/19/08  
AFS #: 777-2777

An air quality permit, 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

Knife River operates a ready mix concrete batch plant at various locations throughout Montana. However, Permit #2777-03 applies while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department) approved permitting program, those areas considered tribal lands, or those areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* An addendum to this air quality permit will be required for locations in or within 10 km of certain PM<sub>10</sub> nonattainment areas. A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

#### B. Current Permit Action

On January 24, 2008, the Department received a letter from Knife River requesting the name on Permit #2777-02 be changed from Kalispell Ready Mix to Knife River. The current permit action updates the permit to reflect the name change as well as updates rule references, format, the emission inventory, and language.

### SECTION II: Conditions and Limitations

#### A. Emission Limitations

1. Knife River shall install, operate, and maintain the fabric filter vents and all other emission control equipment specified in their application for a Montana Air Quality Permit (MAQP) and all supporting documentation (ARM 17.8.752).
2. Knife River shall maintain the particulate containment boots, at least 18 inches long, at the concrete plant, as specified in their application for a MAQP and all supporting documentation (ARM 17.8.752).
3. Knife River shall not cause or authorize to be discharged into the atmosphere from the plant:
  - a. Any vent emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.304 and ARM 17.8.752); and

- b. Any fugitive emissions from the source or from any material transfer points, including but not limited to, truck loading or unloading, which exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.308 and ARM 17.8.752).
4. Knife River shall not cause or authorize to be discharged into the atmosphere from any street, road, or parking lot any visible fugitive emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes and must take reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.752).
5. 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.3 (ARM 17.8.749).
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.4 (ARM 17.8.749).
7. 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 of Environmental Quality (Department) (ARM 17.8.749).
8. Knife River shall inspect the fabric filter vents on the cement silo every 6 months of operation and the fabric filter vent on the batch bin loading area every 1 month of operation so as to ensure that each such collector is operating at optimum efficiency as recommended by the manufacturer. Records of inspections, repairs, and maintenance shall be kept for at least 5 years.

B. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. If this concrete batch 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, based on actual emissions from the facility, 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).

### 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 (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if 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 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. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, 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. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).
- 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.

Permit Analysis  
Knife River Corporation  
Permit #2777-03

I. Introduction/Process Description

Knife River Corporation (Knife River) owns and operates a concrete batch plant in the NW¼ of Section 22, Township 29 North, Range 21 West, Flathead County, Montana.

A. Permitted Equipment

1. One 1993 McNeilus Portable Ready Mix Plant, Model - Batchmaster 12 (maximum design capacity of 62 ton/hr). Particulate emissions are to be controlled by three fabric filter vents, 7" x 72", on the cement silos and one fabric filter vent, 7" x 24", on the batch bin loading area.
2. One stationary 100' electric conveyor.
3. One sand/aggregate storage bin (320 ton).

B. Source Description

For a typical operational setup, washed coarse and fine aggregates are stored on site. The material is transferred by loader from the stockpiles to a conveyor, then into the aggregate storage bins. The bins transfer material to the mixer via internal conveyor. Finally, the cement silo transfers material into the mixer where water is added, mixed, and ultimately loaded into mixing trucks for use in construction operations.

C. Permit History

On March 22, 1993, A-1 Concrete, Inc. applied for a permit to operate a McNeilus Batchmaster 12 ready mix concrete batch plant and associated equipment, located within an existing gravel pit. **Permit #2777-00** was issued on June 1, 1993. The actual plant location was the NW¼ of Section 22, Township 29 North, Range 21 West, Flathead County, Montana. The site was approximately 2 kilometers from the Kalispell non-attainment area. The plant was designed as a portable unit and was initially permitted to operate as a temporary source.

The Department of Environmental Quality (Department) modified the previous version of the permit in response to comments from Kalispell Ready Mix Concrete (KRMC). KRMC indicated that the company could not accept the seasonal limitations on operating. (The proposed operation time was April 1 to September 30 of a given year.) KRMC also demonstrated that the emissions from the mixer loading of cement/sand/aggregate contained in the original permit were estimated too high. Implementation of the particulate containment boots located on the concrete plant resulted in higher control efficiency. After further review by the department, a control efficiency of 90% was granted for the use and proper operation of the particulate containment boots because they enclosed the emissions from the loading of the mixer. In addition to the particulate containment boots, KRMC also only transfers washed sand and aggregate to the elevated bins. This washed sand and aggregate is not only clean (reduced emissions), but also very wet. A control efficiency of 50% was applied here for processing cleaned, wet material. The plant's emissions were then modeled and it was determined that the source did not cause a significant impact at the non-attainment area boundary. **Permit #2777-01** was issued on August 30, 1993, to more accurately identify the emissions estimated from the plant and to allow for the year round operation of the concrete plant. Permit #2777-01 replaced Permit #2777-00.

In 1999, the U.S. Environmental Protection Agency (EPA) informed the Department that any condition in an air quality preconstruction permit would be considered a federally enforceable condition. However, there were certain state rules that were never intended to be federally enforceable. The Department notified all facilities holding preconstruction permits that they could request deletion of those conditions based on ARM 17.8.717 and 17.8.315. Removing either of these conditions does not relieve the facility from complying with the rule upon which the permit condition was based; removal only ensures that enforcement of the condition remains solely with the Department. The permit action removed the condition, based on ARM 17.8.717, from KRMC's permit. In addition, the permit was updated to include the proper rule citations and potentially applicable conditions.

Additionally, on May 10, 2000, the Department received a request for a name change, for Permit # 2777-01, from Polson Ready Mix Concrete, Inc. Originally, Permit #2777-01 was issued to A-1 Concrete, Inc. Later, this company was bought by Venture West, LLC, and the plant was operating as Venture West, LLC dba Kalispell Ready Mix. Polson Ready Mix purchased Venture West, LLC and the current name of the company is Polson Ready Mix Concrete, Inc., dba Kalispell Ready Mix. **Permit #2777-02** replaced Permit #2777-01.

#### D. Current Permit Action

On January 24, 2008, the Department received a letter from Knife River requesting the name on Permit #2777-02 be changed from Kalispell Ready Mix to Knife River. The current permit action updates the permit to reflect the name change as well as updates rule references, format, the emission inventory, and language. **Permit #2772-03** replaces Permit #2777-02.

#### 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 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 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
2. ARM 17.8.223 Ambient Air Quality Standard for PM<sub>10</sub>

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 17.8.310 Particulate Matter, Industrial Process. 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.
4. 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.

5. 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). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.
- 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. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.
  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 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 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); 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, alteration, 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. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative permit change.

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 altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
14. ARM 17.8.765 Transfer of Permit. (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, 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 Modification--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<sub>10</sub>) in a serious PM<sub>10</sub> nonattainment area.
  2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #2777-03 for Knife River, the following conclusions were made:
    - a. The facility's PTE is less than 100 tons/year for any pollutant.
    - 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<sub>10</sub> nonattainment area.
    - d. This facility is not subject to any current NSPS.
    - e. This facility is not subject to any current NESHAP standards.
    - f. This source is not a Title IV affected source or a solid waste combustion unit.
    - g. This source is not an EPA designated Title V source.

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

### III. BACT Determination

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

A BACT determination was not required for the current permit action because the permit change is considered an administrative permit change.

### IV. Emission Inventory

Source	Tons per year					
	PM	PM-10	SO <sub>x</sub>	NO <sub>x</sub>	VOC	CO
Aggregate Delivery to Ground Storage Bins	1.87	0.90	0.00	0.00	0.00	0.00
Sand Delivery to Ground Storage Bin	0.57	0.27	0.00	0.00	0.00	0.00
Aggregate Transfer to Conveyor	1.87	0.90	0.00	0.00	0.00	0.00
Sand Transfer to Conveyor	0.57	0.27	0.00	0.00	0.00	0.00
Aggregate Transfer to elevated storage	1.87	0.90	0.00	0.00	0.00	0.00
Sand Transfer to elevated storage	0.57	0.27	0.00	0.00	0.00	0.00
Cement Delivery to Silo	0.27	0.09	0.00	0.00	0.00	0.00
Weigh Hopper Loading	1.07	0.52	0.00	0.00	0.00	0.00
Truck Mix Loading of Cement/Aggregate & Sand	15.42	4.34	0.00	0.00	0.00	0.00
Haul Roads	12.68	3.61	0.00	0.00	0.00	0.00
<b>Total (Tons/yr)</b>	<b>36.76</b>	<b>12.07</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

#### Aggregate Delivery to Ground Storage Bins

Process Rate: 62 ton/hr  
Hours of operation: 8760 hr/yr

#### PM Emissions (controlled):

Emission Factor: 0.0069 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.0069 lb/ton \* 62 ton/hr = 0.43 lb/hr  
0.4278 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **1.87 ton/yr**

#### PM-10 Emissions (controlled):

Emission Factor: 0.0033 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.0033 lb/ton \* 62 ton/hr = 0.20 lb/hr  
0.2046 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **0.90 ton/yr**

#### Sand Delivery to Ground Storage Bin

Process Rate: 62 ton/hr  
Hours of operation: 8760 hr/yr

#### PM Emissions (controlled):

Emission Factor: 0.0021 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.0021 lb/ton \* 62 ton/hr = 0.13 lb/hr  
0.1302 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **0.57 ton/yr**

#### PM-10 Emissions (controlled):

Emission Factor: 0.00099 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.00099 lb/ton \* 62 ton/hr = 0.06 lb/hr  
0.06138 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **0.27 ton/yr**

### Aggregate Transfer to Conveyor

Process Rate: 62 ton/hr  
Hours of operation: 8760 hr/yr

#### PM Emissions (controlled):

Emission Factor: 0.0069 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.0069 lb/ton \* 62 ton/hr = 0.43 lb/hr  
0.4278 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **1.87 ton/yr**

#### PM-10 Emissions (controlled):

Emission Factor: 0.0033 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.0033 lb/ton \* 62 ton/hr = 0.20 lb/hr  
0.2046 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **0.90 ton/yr**

### Sand Transfer to Conveyor

Process Rate: 62 ton/hr  
Hours of operation: 8760 hr/yr

#### PM Emissions (controlled):

Emission Factor: 0.0021 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.0021 lb/ton \* 62 ton/hr = 0.13 lb/hr  
0.1302 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **0.57 ton/yr**

#### PM-10 Emissions (controlled):

Emission Factor: 0.00099 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.00099 lb/ton \* 62 ton/hr = 0.06 lb/hr  
0.06138 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **0.27 ton/yr**

### Aggregate Transfer to elevated storage

Process Rate: 62 ton/hr  
Hours of operation: 8760 hr/yr

#### PM Emissions (controlled):

Emission Factor: 0.0069 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.0069 lb/ton \* 62 ton/hr = 0.43 lb/hr  
0.4278 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **1.87 ton/yr**

#### PM-10 Emissions (controlled):

Emission Factor: 0.0033 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.0033 lb/ton \* 62 ton/hr = 0.20 lb/hr  
0.2046 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **0.90 ton/yr**

### Sand Transfer to elevated storage

Process Rate: 62 ton/hr  
Hours of operation: 8760 hr/yr

#### PM Emissions (controlled):

Emission Factor: 0.0021 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.0021 lb/ton \* 62 ton/hr = 0.13 lb/hr  
0.1302 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **0.57 ton/yr**

PM-10 Emissions (controlled):

Emission Factor: 0.00099 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.00099 lb/ton \* 62 ton/hr = 0.06 lbs/hr  
0.06138 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **0.27 ton/yr**

**Cement Delivery to Silo**

Process Rate: 62 ton/hr  
Hours of operation: 8760 hr/yr

PM Emissions (controlled):

Emission Factor: 0.00099 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.00099 lb/ton \* 62 ton/hr = 0.06 lb/hr  
0.06138 lb/hr \* 62 ton/hr \* 0.0005 ton/lb = **0.27 ton/yr**

PM-10 Emissions (controlled):

Emission Factor: 0.00034 lb/ton (AP-42 Table 11.12-2, 6/06)  
Calculations: 0.00034 lb/ton \* 62 ton/hr = 0.02 lb/hr  
0.02108 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **0.09 ton/yr**

**Weigh Hopper Loading**

Process Rate 31 yd<sup>3</sup>/hr (AP-42 assumption of 1 yd<sup>3</sup> = 4024 lb or 2.012 ton)  
Hours of operation: 8760 hr/yr

PM Emissions (controlled):

Emission Factor: 0.0079 lb/ yd<sup>3</sup> (AP-42 Table 11.12-5, 6/06)  
Calculations: 0.0079 lb/ yd<sup>3</sup>\* 31 yd<sup>3</sup>/hr = 0.24 lb/hr  
0.2449 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **1.07 ton/yr**

PM-10 Emissions (controlled):

Emission Factor: 0.0038 lb/ yd<sup>3</sup> (AP-42 Table 11.12-5, 6/06)  
Calculations: 0.0038 lb/ yd<sup>3</sup>\* 31 yd<sup>3</sup>/hr = 0.12 lb/hr  
0.1178 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **0.52 ton/yr**

**Truck Mix Loading of Cement/Aggregate & Sand**

Process Rate 62 ton/hr  
Hours of operation: 8760 hr/yr

PM Emissions (controlled):

Emission Factor: 0.0568 lb/ton (AP-42 Table 11.12-5, 6/06)  
Calculations: 0.0568 lb/ton \* 62 ton/hr = 3.52 lb/hr  
3.5216 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **15.42 ton/yr**

PM-10 Emissions (controlled):

Emission Factor: 0.016 lb/ton (AP-42 Table 11.12-5, 6/06)  
Calculations: 0.016 lb/ton \* 62 ton/hr = 0.99 lb/hr  
0.992 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = **4.34 ton/yr**

**Haul Roads**

Vehicle miles traveled (estimate): 5 VMT/day  
Control Efficiency is included in Emission Factor

PM Emissions (controlled):

Emission Factor (Rated Load Capacity <50 tons): 13.90 Lbs/VMT (AP-42 Chapter 13.2.2, 11/2006)

Calculations:  $5 \text{ VMT/day} * 13.90 \text{ Lbs/VMT} = 69.50 \text{ lb/day}$   
 $69.50 \text{ lb/day} * 365 \text{ day/yr} * 0.0005 \text{ ton/lb} = \mathbf{12.68 \text{ ton/yr}}$

PM-10 Emissions (controlled):

Emission Factor (Rated Load Capacity <50 tons): 3.95 Lbs/VMT (AP-42 Chapter 13.2.2, 11/2006)

Calculations:  $5 \text{ VMT/day} * 3.95 \text{ Lbs/VMT} = 19.76 \text{ lb/day}$   
 $19.76 \text{ lb/day} * 365 \text{ day/yr} * 0.0005 \text{ tons/lb} = \mathbf{3.61 \text{ ton/yr}}$

## V. Existing Air Quality

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for particulate matter with an aerodynamic diameter of 10 microns or less (PM-10). Due to exceedances of the national standards for PM-10, the city of Kalispell and the nearby Evergreen area have been designated by EPA as non-attainment for PM-10. As a result of this designation, EPA required the Department of Health and Environmental Sciences and the Flathead City-County Health Department to submit the Kalispell PM-10 State Implementation Plan (SIP) to EPA in November, 1991. The SIP consisted of an emission control plan that controlled fugitive dust emissions from roads, parking lots, construction, and demolition, since technical studies determined these sources to be the major contributors to PM-10 emissions.

Knife River is located approximately 2 kilometers from the Kalispell PM-10 non-attainment area. However, emissions from this facility have been modeled to show that the impacts at the non-attainment area boundary will not be significant.

## VI. Air Quality Impacts

This permit contains conditions and limitations that would protect air quality for the site and surrounding area. Based on the information provided, the Department believes that the amount of emissions generated by this facility will not exceed any set ambient air quality standard. In addition, this facility is a portable source that will operate on an intermittent and temporary basis at a given location, so any impacts to air quality will be minor and short-lived.



VII. 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)].
		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?
		7a. Is the impact of government action direct, peculiar, and significant?
		7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
		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

This permitting action will not result in an increase of emissions from the facility and is considered an administrative action; therefore, an environmental assessment is not required.

Analysis Prepared By: Trista Glazier

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