



Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

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January 6, 2011

Jeff Briggs
Ash Grove Cement Company
100 Highway 518
Clancy, MT 59638

Dear Mr. Briggs:

Montana Air Quality Permit #2005-09 is deemed final as of January 6, 2011, by the Department of Environmental Quality (Department). This permit is for a Portland Cement 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) 444-9741

Julie A. Merkel
Air Quality Specialist
Air Resources Management Bureau
(406) 444-3626

VW:JM
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #2005-09

Ash Grove Cement Company
100 Highway 518
Clancy, MT 59634

January 6, 2011



MONTANA AIR QUALITY PERMIT

Issued to: Ash Grove Cement Company
100 Highway 518
Clancy, MT 59634

MAQP #2005-09
Administrative Amendment (AA)
Application Received: 4/21/10
Department Decision on AA: 12/21/10
Permit Final: 01/06/11
AFS# 30-043-0001

A Montana Air Quality Permit (MAQP), with conditions, is granted to Ash Grove Cement Company (Ash Grove) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA) as amended, and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

Section I: Permitted Facilities

A. Plant Location

All existing sources of emissions at Ash Grove's Portland cement manufacturing facility located approximately 5 kilometers south of East Helena and approximately 1.8 kilometers east of the Highway 518 and I-15 interchange near Montana City, Montana. The plant's legal location is Sections 12 and 13, Township 9 North, Range 3 West in Jefferson County. The old quarry and silos are located in Sections 7 and 18 of Township 9 North, Range 2 West in Jefferson County. The quarry is located in Sections 9, 10, 15, and 16 of Township 9 North, Range 3 West, in Jefferson County.

B. Current Permitting Action

On April 21, 2010, the Department of Environmental Quality (Department) received a request from Ash Grove for an administrative amendment to MAQP #2005-08. Ash Grove requested the removal of the hourly crusher throughput limit and to identify that the crusher has a maximum rated throughput of 400 tons per hour (ton/hr). Because the potential to emit (PTE) was calculated based on emissions from the baghouse operated continuously for 8760 hours per year, and the baghouse operation will not change, removal of the limit will not result in a change to the PTE of the facility. In addition, when using updated AP-42 emission factors, the uncontrolled PTE for the primary crusher is significantly lower at 400 ton/hr than when originally permitted at 300 ton/hr.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. Ash Grove shall operate and maintain all emission control equipment as specified in their application for their MAQP and all subsequent revisions (ARM 17.8.749).
2. Ash Grove shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over a 6-minute period (ARM 17.8.304).
3. Ash Grove shall not 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 a 6-minute period (ARM 17.8.304).

4. Ash Grove shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
5. Ash Grove 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 (ARM 17.8.752).
6. Particulate emissions from the dust collection systems DA-1, DA-9 (East and West), DA-19, and DA-20 shall each be limited to 0.02 grains per dry standard cubic foot (gr/dscf) (ARM 17.8.752).
7. The amount of post-consumer recycled glass used by Ash Grove Cement Company in the cement kiln shall be limited to 250 tons during any rolling 12-month period (ARM 17.8.752).
8. Ash Grove Cement Company shall not cause or authorize to be discharged into the atmosphere from the cement kiln any stack emissions that:
 - a. Contain particulate matter in excess of the amount allowed by the following equations (ARM 17.8.752).
 - i. If the process weight rate of the kiln is less than or equal to 30 tons per hour, then the emission limit shall be calculated using the following equation:

$$E = 4.10P^{0.67}$$
 - ii. If the process weight rate of the kiln is greater than 30 tons per hour, then the emission limit shall be calculated using the following equation:

$$E = 55.0P^{0.11} - 40$$

where E = rate of emissions in pounds per hour and
P = process weight rate in tons per hour
 - b. Exhibit an opacity of 40% or greater averaged over 6 consecutive minutes (ARM 17.8.752).
9. Ash Grove shall install, operate, and maintain a baghouse to control emissions from the high efficiency air separator (ARM 17.8.752).
10. Ash Grove shall not cause or authorize to be discharged into the atmosphere, from the high efficiency air separator baghouse stack:
 - a. Particulate matter in excess of 0.01 gr/dscf (ARM 17.8.752) and
 - b. Visible emissions that exhibit an opacity of 10% or greater (ARM 17.8.340 and 40 CFR 60, Subpart F).
11. Ash Grove shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements of 40 CFR 60, Subpart F as it applies to bucket elevator 6 (BE-6), belt conveyor 0 (BC-0), the high efficiency air separator, and any other affected facility to which Subpart F is applicable (ARM 17.8.340 and 40 CFR 60, Subpart F).

12. Ash Grove shall not cause or authorize to be discharged into the atmosphere, from each portable generator stack:
 - a. Nitrous Oxides (NO_x) in excess of 42.2 pounds per hour (lb/hr) (ARM 17.8.752);
 - b. Carbon Monoxide (CO) in excess of 0.61 lb/hr (ARM 17.8.752); and
 - c. Visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

B. Testing Requirements

1. Ash Grove shall demonstrate compliance with the opacity limit in Section II.A.10.b for the high efficiency air separator within 180 days of installation of the system. Ash Grove Cement Company shall conduct additional visible emission observations as requested by the Department thereafter (ARM 17.8.105 and ARM 17.8.340).
2. The Department may require additional testing (ARM 17.8.105).
3. All compliance source tests must be completed in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

C. Operational Reporting Requirement

1. Ash Grove shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and to verify compliance with permit limitations (ARM 17.8.505).

2. Ash Grove shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745(1) that would include ***the addition of a new emissions unit***, a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1) (ARM 17.8.745).
3. Ash Grove shall document, by month, the amount of recycled glass used in the kiln. By the 25th day of each month, Ash Grove shall calculate the amount of recycled glass used in the kiln the prior month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.8. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

4. The records compiled in accordance with this MAQP shall be maintained by Ash Grove as a permanent business record for at least 5 years following the date of the measurement, shall be submitted to the Department upon request, and shall be available at the plant site for inspection by the Department (ARM 17.8.749).
- D. Ash Grove shall comply with the conditions contained in Attachment 1 - B (ARM 17.8.749).

Section III: General Conditions

- A. Inspection - Ash Grove 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 MAQP.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if Ash Grove fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this MAQP shall be construed as relieving Ash Grove 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 therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.
- F. Permit Inspection -- As required by ARM 17.8.755, Inspection of Permit, a copy of the MAQP 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, failure to pay the annual operation fee by Ash Grove 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).

ATTACHMENT 1 - B
AMBIENT AIR MONITORING PLAN
ASH GROVE CEMENT COMPANY
Revised 5/24/88

1. This ambient air monitoring plan is required by MAQP #2005-09, which applies to Ash Grove's Portland cement plant near Montana City, Montana. This monitoring plan may be changed from time to time by the Department, but all current requirements of this plan are also considered conditions of the permit.
2. Ash Grove has operated sulfur dioxide (SO₂) monitor(s) near their facility from December 1986 through March 1989. The monitor(s) have shown relatively low readings except during July 1987, when exceedances occurred. Due to SO₂ redesignation requirements for nonattainment areas, two additional quarters (April 1989 through September 1989) from the Highway 518 site need to be collected. ASARCO, Incorporated, has agreed to operate this site as part of their SO₂ network for this time period. This relieves Ash Grove from operating this site.
3. The Department may require Ash Grove to conduct additional ambient monitoring if exceedances of the SO₂ standard are observed in the area or if additional data is required for the SO₂ State Implementation Plan redesignation process.

Montana Air Quality Permit (MAQP) Analysis
Ash Grove Cement Company
MAQP #2005-09

I. Introduction

A. Facility Description

Ash Grove Cement Company (Ash Grove) is currently permitted under MAQP #2005-06 and operates a Portland cement manufacturing facility located approximately 5 kilometers south of East Helena and approximately 1.8 kilometers east of the Highway 518 and I-15 interchange near Montana City, Montana. The plant's legal location is Sections 12 and 13, Township 9 North, Range 3 West in Jefferson County. The old quarry and silos are located in Sections 7 and 18 of Township 9 North, Range 2 West in Jefferson County. The quarry is located in Sections 9, 10, 15, and 16 of Township 9 North, Range 3 West in Jefferson County.

B. Facility History

MAQP #2005-00 was issued to Kaiser Cement & Gypsum Company for a coke/coal-fired cement kiln on July 11, 1986. Shortly thereafter, Kaiser Cement & Gypsum Company was purchased by Ash Grove.

On July 13, 1991, Ash Grove applied for **MAQP #2005-01** to allow the facility to use hazardous waste-derived fuel in the kilns. This application was subsequently withdrawn on November 15, 1995.

On June 16, 1996, Ash Grove was issued **MAQP #2005-02** for several construction projects at the facility. This MAQP allowed Ash Grove to alter their existing primary crusher by replacing the 1962 Traylor, Blake-Type jaw component rated at 345 tons per hour (ton/hr) with a 1988 Hazemag horizontal impact component rated at 300 ton/hr. During this project, Ash Grove also proposed to upgrade their dust collector DA-1. This upgrade would consist of replacing the existing Norblo reverse air shakerless dust collector with a BHA pulse jet conversion package. The flow through the baghouse would increase from approximately 5500 cubic feet per minute (cfm) to 11,000 cfm as a result of this upgrade. In addition, Ash Grove also proposed to alter the crusher discharge belt system during this project. A channel from belt conveyor designated FB-1 would be installed to transport material leaving the primary crusher to the existing BC-1 conveyor. Drag conveyor #1 had been abandoned and removed. Emissions from both the primary crusher and FB-1 are controlled by dust collector DA-1.

Ash Grove upgraded the finish mill dust collection system (DA-9). This project replaced the existing Norblo DA shakerless dust collector with a BHA pulse jet conversion package. Two of the five compartments of this dust collection system had been dedicated to providing dust control to auxiliary equipment (DA-9 East), while the three remaining compartments had been dedicated to controlling emissions from the mill sweep function (DA-9 West). The existing 9200-cfm booster fan had been utilized as the DA-9 East discharge fan while an existing 14,300-cfm fan had been retained, modified, and used as the DA-9 West discharge fan. This modification resulted in a flow increase of 9200 cfm.

Ash Grove installed a new mixing system for cement kiln dust (CKD) management. This project was known as the turbulator project. This project consisted of a 5-ton/hr turbulator that was used to wet CKD prior to its transport to the CKD monofill. This project would result in a decrease in emissions because the CKD would now be wet prior to transport and the number of vehicle trips to the monofill per day would decrease.

Ash Grove modified the petroleum coke feed system. This project involved installation of a 50-ton/hr Gundlach lump breaker in the existing coke hopper. The Gundlach lump breaker did not crush the coke, but rather it contained rollers that would separate the aggregated coke into individual coke nodules. There would not be an increase in emissions as a result of this project.

Ash Grove installed a second cement cooler in a parallel configuration to the existing cooler. This unit would provide the facility with 100% standby capability if the primary cooler failed or was out of service for extended maintenance. The cooler system was sized so that either cooler #1 or cooler #2 could handle the entire process throughput of the upstream air separator independently. Both coolers are operated, simultaneously, at reduced rates, to improve product cooling efficiency. There would not be an increase in production or emissions as a result of this project and both coolers are controlled by mill room dust collector DA-9 East.

Ash Grove installed a bucket elevator (BE-6) as a stand-by clinker transport method in the event drag conveyor DC-3 or apron conveyor AC-4 failed. BE-6 may also be used for railcar loading of clinker in response to production shortages to other Ash Grove plants. In addition, BE-6 may be used to transfer clinker to outdoor clinker storage piles in the winter during low shipping periods. BE-6 is capable of operating at 55 ton/hr and would be controlled by a new dust collector. The new dust collector would be called DA-19 and is a W.W. Sly model with a BHA pulse jet conversion. DA-19 would be operated at 2500 cfm. This project would result in a slight increase in emissions of approximately 0.18 tons/yr.

In addition, this permitting action incorporated **MAQP #853**, originally issued to Kaiser Cement and Gypsum Corporation for the renewal of the permit for the coal grinding plant at the facility, into MAQP #2005-02. MAQP #2005-02 replaced MAQP #853 and MAQP #2005-00.

On August 10, 1996, Ash Grove was issued **MAQP #2005-03** to install a 1980 belt conveyor (BC-0) rated at 200 ton/hr to remove clinker or crushed limestone from existing Storage Bin #3 or #5. Crushed limestone transported on this conveyor would be loaded into trucks for in-plant usage or customer sale. Clinker transported on this conveyor would either be loaded into trucks for stockpiling outside or loaded into railcars for customer shipments. A 1000-cfm pulse jet baghouse (DA-20) would be used to control particulate emissions from the conveyor-to-truck material transfer point. This alteration would result in an increase in particulate emissions of 0.75 tons per year (TPY). MAQP #2005-03 replaced MAQP #2005-02.

On July 25, 1996, Ash Grove applied for **MAQP #2005-04** to install a portable crusher at their Clark's Gulch Quarry. On September 12, 1996, Department of Environmental Quality (Department) staff met with Ash Grove to discuss the application. The Department had prepared an emission inventory for this project and the initial determination by the Department indicated that the proposal increased emissions of particulate matter in an amount that appeared to exceed the PSD significance levels. The application was withdrawn on July 15, 1997.

On July 22, 1997, Ash Grove was issued **MAQP #2005-05** to use 250 TPY of post-consumer recycled container glass as a raw material substitute in the cement kiln. Ash Grove cannot use more than 250 TPY of the glass because it may cause quality problems with the cement product. The Department determined that this activity met the statutory definition of an incinerator contained in Montana Code Annotated 75-2-103 and the

intent of House Bill 380; therefore, Ash Grove was required to demonstrate that this activity posed no more than a negligible risk to human health and the environment. This permitting action resulted in an increase in minor amounts (<2 pound per year (lb/year)) of hazardous air pollutants emitted from the kiln.

In addition, as part of this permitting action, the Department identified the Standards of Performance for New Stationary Sources (NSPS) notification requirements for BC-0 and BE-6. These requirements were inadvertently left out of the previous MAQP. MAQP #2005-05 replaced MAQP #2005-03.

On November 11, 1998, **MAQP #2005-06** was issued to Ash Grove. The permit allowed the replacement of the existing Raymond air separator in the finish cement circuit with a new high efficiency separator. A 35,850 dry cubic feet per minute (dscfm) pulse jet dust collector was added to control particulate emissions from the separator and to collect "on-spec" product. The product is forwarded on to cement cooler #2. The controlled emission rate from the air separator is approximately 6.75 tons per year of particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀). MAQP #2005-06 replaced MAQP #2005-05.

Ash Grove submitted a complete permit application on December 20, 2000, for the installation and operation of seven temporary, diesel-fired generators at their facility. This application was assigned **MAQP #2005-07**. These generators were necessary because the high cost of electricity forced Ash Grove to curtail operations at their facility. The operation of the generators did not occur beyond 2 years and was not expected to last for an extended period of time, but rather only for the length of time necessary for Ash Grove to acquire a permanent, more economical supply of power.

Because these generators were only to be used when commercial power is too expensive to obtain, the amount of emissions expected during the actual operation of these generators was minor. In addition, the installation of these generators qualified as a "temporary source" under the Prevention of Significant Deterioration (PSD) permitting program because the permit limited the operation of these generators to a time period of less than 2 years. Therefore, Ash Grove did not need to comply with Administrative Rule of Montana (ARM) 17.8.804, 17.8.820, 17.8.822, and 17.8.824. Even though the portable generators were considered temporary, the Department required compliance with Best Available Control Technology (BACT) and public notice requirements; therefore, compliance with ARM 17.8.819 and 17.8.826 was ensured. In addition, Ash Grove was responsible for complying with all applicable ambient air quality standards. MAQP #2005-07 replaced MAQP #2005-06.

Ash Grove submitted an application for an administrative amendment to MAQP #2005-07 for the replacement of the existing reverse-air type Dust Collector DA-2 to a pulse-jet cleaning style. The proposed dust collector will reduce particulate matter emissions by half. The project was part of a Supplemental Environmental Project (SEP) required by Administrative Order on Consent Docket Number AQ-07-10. The Department determined the change could be accomplished under the provisions of ARM 17.8.745(1) because the project did not cause or contribute to a violation of any ambient air quality standard and the potential emissions of the project were less than the 15 tons per year de minimis threshold. The dust collector is an insignificant emitting unit listed in Ash Grove's Title V Operating Permit #OP2005-05. **MAQP #2005-08** replaced MAQP #2005-07.

C. Current Permit Action

On April 21, 2010, the Department received a request from Ash Grove for an administrative amendment to MAQP #2005-08. Ash Grove requested the removal of the hourly crusher throughput limit and to identify that the crusher has a maximum rated throughput of 400 ton/hr. Because the potential to emit (PTE) was calculated based on emissions from the baghouse operated continuously for 8760 hours per year, and the baghouse operation will not change, removal of the limit will not result in a change to the PTE of the facility. In addition, when using updated AP-42 emission factors, the uncontrolled PTE for the primary crusher is significantly lower at 400 ton/hr than when originally permitted at 300 ton/hr. **MAQP #2005-09** replaces MAQP #2005-08.

D. Additional Information

Additional information, such as applicable rules and regulations, BACT/Reasonable 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 ARM and are available, upon request, from the Department. Upon request, the Department will provide references for locations 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).

Ash Grove 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. No person shall cause or permit the installation or use of any device or any means which, 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 that a public nuisance is created.

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

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Standards for PM₁₀

Ash Grove 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 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Ash Grove shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. (4) Commencing July 1, 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 Standards of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, NSPS. Ash Grove 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 Conditions apply to all equipment or facilities subject to an NSPS Subpart listed below.
 - b. 40 CFR 60, Subpart F - Standards of Performance for Portland Cement Plants does not apply to the coke lump breaker or the cement cooler because they are not affected facilities under Subpart F. However, Subpart F does apply to BE-6, BC-0, and the air separator.
 - c. 40 CFR 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants does not apply to the crusher or the conveyors that were constructed, reconstructed, or modified prior to August 31, 1983. However, Subpart OOO does apply to belt conveyor 1 (FB-1).

7. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:
 - a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a National Emission Standards for Hazardous Air Pollutants (NESHAPs) Subpart as listed below:
 - b. 40 CFR 63, Subpart LLL - NESHAPs from the Portland Cement Manufacturing Industry. Ash Grove must comply with all applicable requirements of this Subpart.

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 application was not required for the current permit action because it is considered an administrative 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; and 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 which pro-rate the required fee amount.

- E. ARM 17.8, Subchapter 7 - Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:
1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
 2. ARM 17.8.743 Montana Air Quality Permits – When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the PTE greater than 25 tons per year of any pollutant. Ash Grove has the PTE greater than 25 tons per year of carbon monoxide (CO), oxides of nitrogen (NO_x), PM₁₀, particulate matter (PM), and sulfur oxides (SO_x); 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 When Permit Required—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. Ash Grove was not required to submit a permit application for the current permit action because it is considered an administrative action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Ash Grove was not required to submit a public notice for the current permit action because it is considered an administrative action.
 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 which 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 Ash Grove of the responsibility for complying with any applicable federal or Montana statute, rule or standard, except as specifically provided in ARM 17.8.140, *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. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

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

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications – Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

Ash Grove is defined as a "major stationary source" because it is a listed source and does have the potential to emit more than 100 tons of any pollutant. However, this permitting action is considered an administrative action and therefore, is not subject to PSD permitting requirements.

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 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 PM₁₀ in a serious PM₁₀ nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #2005-09, the following conclusions were made:
 - a. The facility's PTE is greater than 100 tons/year for several pollutants.
 - b. The facility's PTE is less than 10 tons/year of any one HAP and less than 25 tons/year of all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is subject to a current NSPS standard (40 CFR 60, Subpart F and Subpart OOO).
 - e. This facility is subject to a current NESHAP standard (40 CFR 63, Subpart A and Subpart LLL).
 - f. This source is not a Title IV affected source.
 - g. This source is an EPA designated Title V source.

Based on these facts, the Department has determined that Ash Grove is a major source of emissions as defined under Title V. Title V Operating Permit #OP2005-04 was issued final and effective on April 7, 2007.

III. Best Available Control Technology Analysis

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

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

IV. Emission Inventory

Ash Grove's history of permitting actions allowed for emissions inventories to be included in the MAQP only for the respective permit action. Therefore, there is not a complete emissions inventory for MAQP #2005. However, any emissions inventories completed for previous

permitting actions are contained in the analysis of the respective permits and can be found in Department files.

The following table (and calculations) shows the reduction in uncontrolled potential emissions from the primary crusher with the correct throughput of 400 TPH and updated emission factors as compared to the calculations with the lower throughput value and emission factors that were used at the time the crusher was originally permitted.

Total PTE (tons/year)			
Primary Crusher Scenario	PM	PM₁₀	PM_{2.5}
Uncontrolled 300 ton/hr crusher (outdated emission factors)	23.65	23.65	---
Uncontrolled 400 ton/hr crusher (updated emission factors)	2.10	0.95	0.18

Primary Crusher (300 TPH, as previously permitted)

Process Rate: 300 tons/hr
 Hours of operation: 8760 hr/yr

PM Emissions (uncontrolled):

Emission Factor: 0.018 lbs/ton (AP-42 Table 11.19.2-2 8/2004)
 Calculations: 0.018 lbs/ton * 300 tons/hr = **5.4 lbs/hr**
 5.4 lbs/hr * 8760 hr/yr * 0.0005 ton/lb = **23.65 tons/yr**

PM₁₀ Emissions (uncontrolled):

Emission Factor: 0.018 lbs/ton (AP-42 Table 11.19.2-2, 8/2004)
 Calculations: 0.018 lbs/ton * 300 tons/hr = **5.4 lbs/hr**
 5.4 lbs/hr * 8760 hr/yr * 0.0005 ton/lb = **23.65 tons/yr**

Primary Crusher (400 TPH, as permitted for this action)

Process Rate: 400 tons/hr
 Hours of operation: 8760 hr/yr

PM Emissions (uncontrolled):

Emission Factor: 0.0012 lbs/ton (AP-42 Table 11.19.2-2 8/2004)
 Calculations: 0.0012 lbs/ton * 400 tons/hr = **0.48 lbs/hr**
 0.48 lbs/hr * 8760 hr/yr * 0.0005 ton/lb = **2.10 tons/yr**

PM₁₀ Emissions (uncontrolled):

Emission Factor: 0.00054 lbs/ton (AP-42 Table 11.19.2-2, 8/2004)
 Calculations: 0.00054 lbs/ton * 400 tons/hr = **0.22 lbs/hr**
 0.22 lbs/hr * 8760 hr/yr * 0.0005 ton/lb = **0.95 tons/yr**

PM_{2.5} Emissions (uncontrolled):

Emission Factor: 0.0001 lbs/ton (AP-42 Table 11.19.2-2, 8/2004)
 Calculations: 0.0001 lbs/ton * 400 tons/hr = **0.04 lbs/hr**
 0.04 lbs/hr * 8760 hr/yr * 0.0005 ton/lb = **0.18 tons/yr**

V. Air Quality Impacts

The proposed project will not result in an increase in emissions at the Ash Grove facility. Therefore, the Department does not believe this project will result in a violation of any ambient air quality standard or increment.

VI. 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?
	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.

VII. 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: Julie Merkel
Date: 12/2/10