



Brian Schweitzer, Governor

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February 21, 2012

Tracy Hodik
Century Construction Company, Inc.
P.O. Box 739
Lewistown, MT 59457

Dear Ms. Hodik:

Montana Air Quality Permit #2526-03 is deemed final as of February 18, 2012, by the Department of Environmental Quality (Department). This permit is for the operation of an asphalt batch plant. All conditions of the Department's decision remain the same. Enclosed is a copy of your permit with the final date attached.

For the Department,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-9741

Craig Henrikson, PE
Environmental Engineer
Air Resources Management Bureau
(406)-444-6711

VW:CH
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #2526-03

Century Construction Company, Inc.
P.O. Box 739
Lewistown, MT 59457

February 18, 2012



MONTANA AIR QUALITY PERMIT

Issued To: Century Companies, Inc.
39 Industrial Way
P.O. Box 579
Lewistown, MT 59457

MAQP: #2526-03
Administrative Amendment (AA) Request
Received: 01/06/2012
Department's Decision on AA: 2/2/2012
Permit Final: 02/18/2012
AFS #: 777-2526

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Century Companies, Inc. (Century), pursuant to Section 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

Century operates a portable parallel flow rotary drum-mix asphalt plant with attached venturi scrubber and associated equipment. The initial site location has been identified as Section 21, Township 16 North, Range 17 East, in Fergus County, Montana. A list of permitted equipment is included in Section I.A of the Permit Analysis.

MAQP #2526-03 applies while operating in any location in the state of Montana, except within 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 (PM₁₀) nonattainment areas other than the current location. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* An addendum will be required for locations in or within 10 km of certain PM₁₀ nonattainment areas if Century moves from the current location.

B. Current Permit Action

On January 6, 2012, the Department received an application for administrative amendment under the Department's S source project, indicating Century's participation in the program as described within Section I.C of the permit analysis. Century's MAQP was amended to incorporate limits and conditions to maintain permit allowable emissions below 80 tons per year (tpy). In addition, the permit updates the rule references, permit format, and the emissions inventory. **MAQP #2526-03** replaces MAQP #2526-02.

Section II: Limitations and Conditions

A. Emission Limitations

1. Asphalt plant particulate matter (PM) emissions shall be limited to 0.04 grains per dry standard cubic foot (gr/dscf) (ARM 17.8.749, ARM 17.8.752, and 40 Code of Federal Regulations (CFR) 60, Subpart I).
2. Century shall not cause or authorize to be discharged into the atmosphere from the asphalt plant stack, any visible emissions that exhibit opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304, ARM 17.8.752, and 40 CFR 60, Subpart I).

3. Century shall not cause or authorize to be discharged into the atmosphere from 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 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. Century 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. Century 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 and ARM 17.8.752).
6. Century shall install, operate, and maintain a wet scrubber for PM air pollution control. A device to measure the pressure drop (magnehelic gauge, manometer, etc.) must be installed and maintained. Pressure drop must be measured in inches of water. Temperature indicators at the control device inlet and outlet must be installed and maintained (ARM 17.8.749 and ARM 17.8.752).
7. 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 17.8.749).
8. Asphalt production shall not exceed 1,066,000 tons of asphalt during any rolling 12-month period (ARM 17.8.749).
9. Operation of the asphalt plant shall not exceed 5,330 hours (including each diesel-fire generator engine) during any rolling 12-month time period (ARM 17.8.749).
10. Century shall not operate or have on-site more than one primary diesel-fired generator engine. The maximum rated design capacity of the engine shall not exceed 485 hp (ARM 17.8.749).
11. Century shall not operate or have on-site more than one secondary diesel-fired generator engine where the rated design capacity of the engine shall not exceed 80 hp. The engine driving the secondary generator shall be Tier 3 certified or higher under 40 CFR Part 89 (ARM 17.8.749).
12. Century shall comply with all applicable standards and limitations, and the 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).
13. Century shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart III, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart III; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

14. If the permitted equipment is used in conjunction with any other equipment owned or operated by Century, 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).

B. Testing Requirements

1. EPA Methods 1-5, and 9 source tests must be performed on the asphalt plant every four years after the initial source test to demonstrate compliance with the conditions specified in Sections II.A.1, II.A.2, and II.A.3 (ARM 17.8.105 and ARM 17.8.749).
2. Pressure drop on the control device and temperatures must be recorded during the test and reported as part of the test results (ARM 17.8.749).
3. Pressure drop on the control device and temperature must be recorded daily and kept on site according to Section II.C.2 (ARM 17.8.749).
4. Since asphalt production will be limited to the average production rate during the test, it is suggested the test be performed at the highest production rate practical (ARM 17.8.749).
5. Century may retest at any time in order to achieve a higher allowable production rate (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 asphalt plant is moved to another location, an Intent to Transfer form must be sent to the Department. In addition, 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. This Change of Location notice must be published at least 15 days prior to the move. The Intent to Transfer form and the proof of publication (affidavit) of the Change of Location Form must be submitted to the Department prior to the move. These forms are available from the Department. Once the asphalt plant is moved to another location, the facility shall not operate in the new location for longer than one year. (ARM 17.8.749 and ARM 17.8.765).
2. Century shall maintain on-site records showing daily hours of operation, daily production rates, and daily pressure drop and temperature readings for the last 12 months. The records compiled in accordance with this permit shall be maintained by Century as a permanent business record for at least 5 years following the date of the measurement, shall be available for inspection by the Department, and shall be submitted to the Department upon request (ARM 17.8.749).

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

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

4. Century 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).
5. Century shall document, by month, the production from the asphalt plant. By the 25th day of each month, Century shall calculate the monthly production of asphalt during the previous 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).
6. Century shall document, by month, the hours of operation of the asphalt plant and each associated generator engine. By the 25th day of each month, Century shall calculate the hours of operation for the asphalt plant for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.9. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
7. Century 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, and the annual certification shall be submitted with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

Section III: General Conditions

- A. Inspection – Century shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (Continuous Emissions Monitoring System (CEMS), Continuous Emissions Rate Monitoring System (CERMS)) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Century fails to appeal as indicated below.

- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Century 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. Air Quality Operation Fees – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Century 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. Century shall comply with the conditions contained in this permit while operating in any location in Montana, except within those areas that have a Department-approved permitting program or areas considered tribal lands.

Montana Air Quality Permit (MAQP) Analysis
Century Companies, Inc.
MAQP #2526-03

I. Introduction/Process Description

A. Permitted Equipment

Century Companies, Inc. (Century) operates a portable parallel flow rotary drum-mix asphalt plant which includes, but is not limited to, the following equipment:

- 1985 ADM S7228P rotary drum dryer-mix asphalt plant (maximum capacity 200 tons per hour (TPH) of asphalt production). 45.6 Million British Thermal Units per hour (MMBtu/hr) propane fired dryer with venturi wet scrubber for particulate control.
- Childer D100 Diesel-fired asphalt oil heater (1.27 MMBtu/hr) with 12,000 gallon hot oil tank.
- Hydrated lime storage silo with baghouse particulate control.
- Asphalt storage silo.
- MTU DS40D6S Diesel fired 80 horsepower (hp) engine generator [EPA Tier 3 Certified].
- Detroit Diesel 8083-7300 diesel fired 485 hp engine generator
- Aggregate handling equipment.
- Associated equipment (Bin feeder, shaker screen, conveyors, etc.).

B. Process Description

For a typical operational set-up, aggregate materials are taken from the on-site aggregate stockpiles and dumped via a front end loader into a 3-bin cold aggregate feeder. The cold aggregate is then transferred from the cold aggregate feed bin via conveyor to the drum mixer, where the aggregate is dried and heated. Mineral filler and asphalt oil are then introduced into the drum mixer. Mineral filler is delivered from a storage silo to the drum via an enclosed feed auger system. Particulate emissions from the mineral filler storage and feeder system are routed to a baghouse for control. The raw materials are introduced into the drum mixer and continuously mixed and heated by the drum mixer until desired properties are obtained.

After heating and mixing is complete, the asphalt product is transferred from the drum mixer to the asphalt product silo via a slat conveyor. The asphalt remains in the asphalt silo until it is loaded into trucks for transport. The operation is powered from the on-site diesel-fired engine generators.

C. Permit History

MAQP #2526-00 was issued to Century on April 6, 1989, to operate a 1956 Pioneer portable asphalt plant.

On May 6, 2009, the Montana Department of Environmental Quality (Department) received a complete MAQP application to add the horsepower rating of two diesel generator engines, and to remove the current Drum Mixer and replace it with a 1985 Parallel Flow ADM Asphalt Drum Mixer fitted with a new Hawk Burner. The new Drum Mixer will be equipped with a Venturi-Wet Scrubber emissions control unit. The current

MAQP action updates the permit to include that equipment, to update the emissions inventory, and to reflect the current permit language, format, and rule references used by the Department. **MAQP #2526-01** replaced MAQP #2526-00.

On June 27, 2011, the Department received a notification from Century proposing the replacement of the secondary 55 hp diesel engine generator with an 80 hp diesel engine generator. Century has requested that restrictions be placed on the new diesel fired engine generator to require the use of a Tier 3 certified engine, whereby maintaining the potential to emit increase below the 5 tons per year (tpy) de minimis threshold. The permit action updated the MAQP to include the requested change, incorporates current permit language and rule references used by the Department, and updates the emission inventory. **MAQP #2526-02** replaced MAQP #2526-01.

D. Current Permit Action

On January 6, 2012, the Department received an application for administrative amendment under the Department's S source project. The Department undertook this project in the last quarter of 2011 to reduce the number of sources subject to the Compliance Monitoring Strategy (CMS) program; whereby reducing the Department's burden associated with maintaining the CMS program. Sources eligible for participation in this program were those with MAQP's containing federally enforceable permit limitations to remain a minor source of emissions with respect to Title V and that had permit allowable emissions at or above 80 tpy. These sources were provided the option to amend their permits to allow incorporation of permit limits to maintain allowable emissions below 80 tpy. The current permit action amends Century's MAQP to incorporate these limits, additionally this action updates rule references, permit format, and the emissions inventory. **MAQP #2526-03** replaces MAQP #2526-02.

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 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 is a list of applicable definitions used in this sub-chapter, unless indicated otherwise in a specific sub-chapter.
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.

Century 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 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:

1. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide (CO)
4. ARM 17.8.213 Ambient Air Quality Standard for Ozone
5. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter (PM)
6. ARM 17.8.221 Ambient Air Quality Standard for Visibility
7. ARM 17.8.223 Ambient Air Quality Standard for Particulate Matter with an Aerodynamic Diameter of Ten Microns or Less (PM₁₀)

Century must comply 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 states that no person may cause or authorize emissions to be discharged to an 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 section, Century 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 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. The rules requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.
6. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 Code of Federal Regulations (CFR) 60, Standards of Performance for New Stationary Sources (NSPS). The owner or operator of any stationary source or modification, as defined and applied in 40 CFR Part 60, shall comply with the standards and provisions of 40 CFR Part 60.

Based on the information submitted by Century, the portable asphalt plant and associated equipment are subject to NSPS (40 CFR Part 60), as follows:

- 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. Owners and operators of hot mix asphalt facilities that commence construction or modification after June 11, 1973, are subject to the requirements of this subpart. Based on the information submitted by Century, the portable asphalt plant is currently subject to provisions of this subpart as the plant meets the definition of an affected facility under 40 CFR Part 60, Subpart I.
- c. 40 CFR 60, Subpart III - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE). Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart.

Based on information provided by Century, the engines associated used in conjunction with MAQP #2526-03 are potentially subject to 40 CFR 60, Subpart III, as the secondary engine must be Tier 3 certified and therefore likely manufactured after April 1, 2006. Applicability of the primary diesel engine generator is dependent upon the engine utilized.

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

- a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a NESHAPs Subpart as listed below.
- b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. Based on the information submitted by Century, the RICE equipment to be used under MAQP #2526-03 is potentially subject to this subpart as the engines powering the generators are reciprocating internal combustion engines operating at an area source of HAP emissions.

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. Century shall 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. This air quality operation fee is based on the actual or estimated 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 alteration to construct, alter or use any asphalt plant, crusher, or screen that has the Potential to Emit (PTE) greater than 15 tpy of any pollutant. Century has a PTE greater than 15 tpy of PM, PM₁₀, Particulate Matter with an Aerodynamic Diameter of Two and One-Half Microns or Less (PM_{2.5}), nitrogen oxides (NO_x), CO, and volatile organic compounds (VOC); therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that 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 Century 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 one 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, 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 Federal Clean Air Act (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 listed and does not have the potential to emit 250 tpy or more (excluding fugitive emissions) of any air pollutant.

G. ARM 17.8, Sub-Chapter 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
- c. Sources with the PTE > 70 tons/year of PM₁₀ in a serious PM₁₀ non-attainment area

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. 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 #2526-03 for Century, the following conclusions were made:

- a. Century requested that federally-enforceable permit operating limits be established to maintain the facility's PTE to less than the 100 tpy threshold for any pollutant. The latest permit revision limits operating hours to achieve less than 80 tpy.
- 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 potentially subject to a current NSPS (40 CFR 60, Subpart I and Subpart III).
- e. This facility is potentially subject to the area source provisions of a current NESHAP standard (40 CFR 63, Subpart ZZZZ).
- 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.

Century 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. Best Available Control Technology (BACT)

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

Emission Source	Emissions Tons/Year [PTE]						
	PM	PM ₁₀	PM _{2.5}	CO	NOx	SO ₂	VOC
ADM S7228P Hot-Mix Asphalt Plant w/ Venturi Scrubber (AP42)	23.99	13.25	13.25	69.29	13.86	1.81	17.06
Childer Asphalt Oil Heater	0.08	0.05	0.04	0.12	0.47	5.72	0.01
Aggregate Handling & Storage Piles	5.30	2.51	0.38	--	--	--	--
Aggregate Screening & Conveying	1.32	0.44	0.04	--	--	--	--
Lime Silo transfer & Conveying	0.05	0.02	0.01	--	--	--	--
Asphalt Storage & Handling	0.31	0.31	0.31	0.63	--	--	6.50
Asphalt Load-Out	0.28	0.28	0.28	0.72	--	--	2.22
Detroit Diesel 8083-7300 Diesel Engine Generator 485 hp	2.84	2.84	0.50	8.63	40.07	2.65	3.25
MTU DS40D6S Diesel Engine Generator 80 hp	0.07	0.07	0.07	0.38	1.50	0.44	0.54
Unpaved Roadways	10.98	3.03	0.30	--	--	--	--
TOTAL EMISSIONS >	45.22	22.80	15.19	79.77	55.90	10.62	29.57

a. Emission Inventory reflects enforceable limits on hours of operation and production output to keep allowable emissions below the Title V threshold as well as below 80 tpy level.

CO, carbon monoxide
 NO_x, oxides of nitrogen
 PM, particulate matter
 PM₁₀, particulate matter with an aerodynamic diameter of 10 microns or less
 PM_{2.5}, particulate matter with an aerodynamic diameter of 2.5 microns or less
 SO₂, oxides of sulfur
 TPY, tons per year
 VOC, volatile organic compounds

1988 AEDCO Rotary Drum Mix Asphalt Plant with Venturi Scrubber [SCC 3-05-002-55]

Production Rate: 200 Tons/Hour (Maximum) 1752000 tons/year (Maximum)
 1066000 tons/year (Restricted Maximum)
 Operating Schedule: 5330 Hours/Year (Restricted Maximum)

Dryer fuel Configuration: Propane [45.6 MMBtu/hr]
 Power Plant: 485 hp Diesel Generator (Asphalt Plant)
 80 hp Diesel Generator (Supplemental Power)
Note: Asphalt Plant May Operate On Utility/commercial Power

Stack Test Data: [December 3, 2010]
 Air Flow[Volume] 15,932.40 dscfm [corrected]
 Stack Test Results 0.0365 gr/dscf
 Test Throughput Demonstrated N/A tons/hour

Particulate Emissions: Dryer Stack NSPS Based

PM Emissions (controlled):

Emission Rate 0.04 gr/dscf [40 CFR NSPS, Subpart I Limit]
 Calculations $(0.04 \text{ gr/dscf}) * (15932.4 \text{ dscfm}) * (60 \text{ min/hr}) * (0.000143 \text{ lb/gr}) = 5.46 \text{ lbs/hr}$
 $(5.46 \text{ lbs/hr}) * (5330 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) = 14.56 \text{ TPY}$

Particulate Emissions: Emission Factor Determination

PM Emissions (controlled):

Emission Factor 0.045 lbs/ton Processed [AP-42 Table 11.1-3, 3/04]
 Calculations $(0.045 \text{ lbs/ton}) * (200 \text{ tons/hour}) = 9.00 \text{ lbs/hr}$
 $(9.00 \text{ lbs/hr}) * (5330 \text{ hours/year}) * (0.0005 \text{ tons/lbs}) = 23.99 \text{ TPY}$

PM₁₀ Emissions (controlled):

Emission Factor 0.023 lbs/ton Processed [AP-42 Table 11.1-3, 3/04 Used PM10 for Fabric Filter]
 Calculations $(0.023 \text{ lbs/ton}) * (200 \text{ tons/hour}) = 4.60 \text{ lbs/hr}$
 $(4.60 \text{ lbs/hr}) * (5330 \text{ hours/year}) * (0.0005 \text{ tons/lbs}) = 12.26 \text{ TPY}$
 13.25 (Corrected to Match PM_{2.5} Calculation)
 (Since PM_{2.5} cannot exceed PM₁₀)

Filterable PM (Controlled)

Emission Factor 0.026 lbs/ton Processed [AP-42 Table 11.1-3, 3/04]
 Calculations $(0.026 \text{ lbs/ton}) * (200 \text{ tons/hour}) = 5.20 \text{ lbs/hr}$
 $(5.20 \text{ lbs/hr}) * (5330 \text{ hours/year}) * (0.0005 \text{ tons/lbs}) = 13.86 \text{ TPY}$

Condensable PM (Controlled)

Emission Factor 0.0194 lbs/ton Processed [AP-42 Table 11.1-3, 3/04]
 Calculations $(0.0194 \text{ lbs/ton}) * (200 \text{ tons/hour}) = 3.88 \text{ lbs/hr}$
 $(3.88 \text{ lbs/hr}) * (5330 \text{ hours/year}) * (0.0005 \text{ tons/lbs}) = 10.34 \text{ TPY}$

PM_{2.5} Emissions (controlled): = (21 Percent of Filterable Plus Condensables) 21% From Fabric Filter Table 11.1-4 even though this has a scrubber

Emission Factor	0.02486 lbs/ton Processed	[AP-42 Table 11.1-3, 3/04]	
Calculations	(0.02486 lbs/ton) * (200 tons/hr) =		4.97 lbs/hr
	(4.97 lbs/hr) * (5330 hours/year) * (0.0005 tons/lb) =		13.25 TPY

CO Emissions:

Emission Factor	0.13 lbs/ton processed	[AP-42 Table 11.1-7, 3/04; EF based on N.G.]	
Calculations	(0.13 lbs/ton) * (200 tons/hr) =		26.00 lbs/hr
	(26.00 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		69.29 TPY

NO_x Emissions:

Emission Factor	0.026 lbs/ton processed	[AP-42 Table 11.1-7, 3/04; EF based on N.G.]	
Calculations	(0.026 lbs/ton) * (200 tons/hr) =		5.20 lbs/hr
	(5.20 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		13.86 TPY

SO₂ Emissions:

Emission Factor	0.0034 lbs/ton processed	[AP-42 Table 11.1-7, 3/04; EF based on N.G.]	
Calculations	(0.0034 lbs/ton) * (200 tons/hr) =		0.68 lbs/hr
	(0.68 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		1.81 TPY

VOC Emissions:

Emission Factor	0.032 lbs/ton processed	[AP-42 Table 11.1-8, 3/04; EF based on N.G.]	
Calculations	(0.032 lbs/ton) * (200 tons/hr) =		6.40 lbs/hr
	(6.40 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		17.06 TPY

Childer Asphalt Heater [SCC 3-05-002-06]

Fuel Type:	Diesel Fuel		
Burner Firing Rate:	1.27 MMBtu/hr	Diesel Fuel at Lower Heating Capacity of 19,300 BTU/lb	
	8.9 Gal/Hour	[Estimated]	
Operating Hours:	5330 hrs/year		

Particulate Emissions:

Filterable PM Emissions:

Emission Factor	2.0 lbs/10 ³ gallons	[AP-42 Table 1.3-1, 5/10]	
Calculations	(2.0 lbs/1000 gal) * (8.9 gal/hr) =		0.02 lbs/hr
	(0.018 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		0.05 TPY

Condensable PM Emissions:

Emission Factor	1.3 lbs/10 ³ gallons	[AP-42 Table 1.3-1, 5/10]	
Calculations	(1.3 lbs/1000 gal) * (8.9 gal/hr) =		0.01 lbs/hr
	(0.012 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		0.03 TPY

PM₁₀ Emissions:

Emission Factor	1.9 lbs/10 ³ gallons	[AP-42 Table 1.3-6, 5/10 Using 30% Filterable plus condensables]	
Calculations	(1.9 lbs/1000 gal) * (8.9 gal/hr) =		0.02 lbs/hr
	(0.017 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		0.05 TPY

PM_{2.5} Emissions:

Emission Factor	1.72 lbs/10 ³ gallons	[AP-42 Table 1.3-6, 5/10] Using 21% of Filterables Plus condensable	
Calculations	(1.72 lbs/1000 gal) * (8.9 gal/hr) =		0.015 lbs/hr
	(0.015 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		0.04 TPY

CO Emissions:

Emission Factor	5.0 lbs/ 1000 gallons	[AP-42 Table 1.3-1, 5/10]	
Calculations	(5.0 lbs/1000 gallons) * (8.9 gal/hr) =		0.04 lbs/hr
	(0.044 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		0.12 TPY

NO_x Emissions:

Emission Factor	20 lbs/10 ³ gallons	[AP-42 Table 1.3-1, 5/10]	
Calculations	(20.0 lbs/1000 gal) * (8.9 gal/hr) =		0.18 lbs/hr
	(0.18 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		0.47 TPY

SO₂ Emissions:

Emission Factor	142 *(S) lbs/10 ³ gallons*	[AP-42 Table 1.3-1, 5/10]	
Calculations	(142.0 lbs/1000 gal) * (1.7% S) * (8.9 gal/hr) =		2.15 lbs/hr
	(2.15 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		5.72 TPY
	<i>* Based on maximum allowable sulfur content under ARM 17.8.322 @ 1.7% [wgt] This is 1 lb Sulfur/million Btu fired converted to weight percent</i>		

VOC Emissions:

Emission Factor	0.556 lbs/10 ³ gallons	[AP-42 Table 1.3-3, 5/10]	
Calculations	(0.556 lbs/1000 gal) * (8.9 gal/hr) =		0.005 lbs/hr
	(0.005 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		0.013 TPY

Aggregate Handling & Storage Piles

Process Rate:	200 tons/hour
Number of Piles:	2 pile Transfers [Pile formation Load-in & Pile Load-out to bins]
Operating Hours:	5330 hour/year

Particulate Emissions:

Emission Factor	$EF = k (0.0032) * (U/5)^{1.3} / (M / 2)^{1.4}$	[AP-42 13.2.4, 11/06]
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where: EF, Emission Factor = lbs Emitted / ton Processed
k, Dimensionless Particle Size Multiplier PM = 0.74 [AP-42 13.2.4, 11/06]
k, Dimensionless Particle Size Multiplier PM₁₀ = 0.35 [AP-42 13.2.4, 11/06]
=

k, Dimensionless Particle Size Multiplier PM_{2.5} = 0.053 [AP-42 13.2.4, 11/06]
 U, Mean Wind Speed (mph) = 9.3 [estimate]
 M, Material Moisture Content (%) = 2.1 [AP-42 13.2.4-1, 11/06]

PM Emissions:

Emission Factor $EF = 0.74 * (0.0032) * (9.3/5)^{1.3} / (2.1 / 2)^{1.4} = 0.0050$ lbs/ton
 Calculations $(0.0050 \text{ lbs/ton}) * (200 \text{ tons/hr}) * (2 \text{ pile}) = 1.99$ lbs/hr
 $(1.99 \text{ lbs/hr}) * (5330 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) = 5.30$ TPY

PM₁₀ Emissions:

Emission Factor $EF = 0.35 * (0.0032) * (9.3/5)^{1.3} / (2.1 / 2)^{1.4} = 0.0024$ lbs/ton
 Calculations $(0.0024 \text{ lbs/ton}) * (200 \text{ tons/hr}) * (2 \text{ pile}) = 0.94$ lbs/hr
 $(0.94 \text{ lbs/hr}) * (5330 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) = 2.51$ TPY

PM_{2.5} Emissions:

Emission Factor $EF = 0.053 * (0.0032) * (9.3/5)^{1.3} / (2.1 / 2)^{1.4} = 0.0004$ lbs/ton
 Calculations $(0.0004 \text{ lbs/ton}) * (200 \text{ tons/hr}) * (2 \text{ pile}) = 0.14$ lbs/hr
 $(0.14 \text{ lbs/hr}) * (5330 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) = 0.38$ TPY

Aggregate Screening [SCC 3-05-020-02]

Process Rate: 200 tons/hour
 Operating Hours: 5330 hours/year

PM Emissions (controlled):

Emission Factor 0.0022 lbs/ton transferred [AP-42 Table 11.19.2-2, 8/04]
 Calculations $(0.0022 \text{ lbs/ton}) * (200 \text{ tons/hr}) = 0.44$ lbs/hr
 $(0.44 \text{ lbs/hr}) * (5330 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) = 1.17$ TPY

PM₁₀ Emissions (controlled):

Emission Factor 0.00074 lbs/ton transferred [AP-42 Table 11.19.2-2, 8/04]
 Calculations $(0.00074 \text{ lbs/ton}) * (200 \text{ tons/hr}) = 0.15$ lbs/hr
 $(0.15 \text{ lbs/hr}) * (5330 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) = 0.39$ TPY

PM_{2.5} Emissions (controlled):

Emission Factor 0.00005 lbs/ton transferred [AP-42 Table 11.19.2-2, 8/04]
 Calculations $(0.00005 \text{ lbs/ton}) * (200 \text{ tons/hr}) = 0.01$ lbs/hr
 $(0.01 \text{ lbs/hr}) * (5330 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) = 0.03$ TPY

Aggregate Conveying [SCC 3-05-020-06]

Process Rate: 200 tons/hour
 Number of Transfers: 2 Conveyor Transfers [Based on process flow diagram]
 Operating Hours: 5330 hours/year

PM Emissions (controlled):

Emission Factor	0.00014 lbs/ton transferred	[AP-42 Table 11.19.2-2, 8/04]		
Calculations	(0.00014 lbs/ton) * (200 tons/hr) * (2 Transfers) =		0.06 lbs/hr	
	(0.06 lbs/hr) * (5330 hrs/year) * (0.0005 lbs/ton) =		0.15	TPY

PM₁₀ Emissions (controlled):

Emission Factor	0.00005 lbs/ton transferred	[AP-42 Table 11.19.2-2, 8/04]		
Calculations	(0.000046 lbs/ton) * (200 tons/hr) * (2 Transfers) =		0.02 lbs/hr	
	(0.02 lbs/hr) * (5330 hrs/year) * (0.0005 lbs/ton) =		0.05	TPY

PM_{2.5} Emissions (controlled):

Emission Factor	0.00001 lbs/ton transferred	[AP-42 Table 11.19.2-2, 8/04]		
Calculations	(0.000013 lbs/ton) * (200 tons/hr) * (2 Transfers) =		0.01 lbs/hr	
	(0.01 lbs/hr) * (5330 hrs/year) * (0.0005 lbs/ton) =		0.01	TPY

Lime Silo Product transfer & Conveying [SCC 3-05-016-24]

Process Rate: 200 tons/hour
Operating Hours: 5330 hours/year

Particulate Emissions:

PM Emissions (controlled):

Emission Factor	0.000088 lbs/ton material transferred	[AP-42 Table 11.17-4, 2/98]		
Calculations	(0.000088 lbs/ton) * (200 tons/hr) =		0.018 lbs/hr	
	(0.02 lbs/hr) * (5330 hrs/year) * (0.0005 lbs/ton) =		0.05	TPY

PM₁₀ Emissions (controlled):

Emission Factor	0.000044 lbs/ton material transferred	[AP-42 Table 11.17-4, 2/98] 50% of PM		
Calculations	(0.000044 lbs/ton) * (200 tons/hr) =		0.009 lbs/hr	
	(0.01 lbs/hr) * (5330 hrs/year) * (0.0005 lbs/ton) =		0.02	TPY

PM_{2.5} Emissions (controlled):

Emission Factor	0.000026 lbs/ton material transferred	[AP-42 Table 11.17-4, 2/98] 30% of PM		
Calculations	(0.000026 lbs/ton) * (200 tons/hr) =		0.01 lbs/hr	
	(0.01 lbs/hr) * (5330 hrs/year) * (0.0005 lbs/ton) =		0.01	TPY

Asphalt Storage & Silo Filling [SCC 3-05-002-13]

Process Rate: 200 tons/hour
Operating Schedule: 5330 tons/year

Particulate Emissions:

Emission Factor $EF = 0.000332 + 0.00105(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]

where: EF, Emission Factor = lbs emitted / ton HMA produced
 V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
 T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]

PM Emissions:

Emission Factor $EF = 0.000332 + 0.00105 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.00059$ lbs/ton HMA
 Calculations $(0.00059 \text{ lbs/ton}) * (200 \text{ tons/hr}) = 0.12$ lbs/hr
 $(0.12 \text{ lbs/hr}) * (5330 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.31$ TPY

PM₁₀ Emissions:

Emission Factor $EF = 0.000332 + 0.00105 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.00059$ lbs/ton HMA
 Calculations $(0.00059 \text{ lbs/ton}) * (200 \text{ tons/hr}) = 0.12$ lbs/hr
 $(0.12 \text{ lbs/hr}) * (5330 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.31$ TPY

PM_{2.5} Emissions:

Emission Factor $EF = 0.000332 + 0.00105 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.00059$ lbs/ton HMA
 Calculations $(0.00059 \text{ lbs/ton}) * (200 \text{ tons/hr}) = 0.12$ lbs/hr
 $(0.12 \text{ lbs/hr}) * (5330 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.31$ TPY

CO Emissions:

Emission Factor $EF = 0.00488(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]

where: EF, Emission Factor = lbs Emitted / ton Processed
 V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
 T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]

Emission Factor $EF = 0.00488 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.0012$ lbs/ton HMA
 Calculations $(0.0012 \text{ lbs/ton}) * (200 \text{ tons/hr}) = 0.24$ lbs/hr
 $(0.24 \text{ lbs/hr}) * (5330 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.63$ TPY

VOC Emissions:

Emission Factor $EF = 0.0504(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]

where: EF, Emission Factor = lbs Emitted / ton Processed
 V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
 T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]

Emission Factor $EF = 0.0504 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.0122$ lbs/ton HMA
 Calculations $(0.0122 \text{ lbs/ton}) * (200 \text{ tons/hr}) = 2.44$ lbs/hr
 $(2.44 \text{ lbs/hr}) * (5330 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 6.50$ TPY

Asphalt Plant Load-Out [SCC 3-05-002-14]

Process Rate: 200 tons/hour
 Operating Schedule: 5330 hours/year

Particulate Emissions:

Emission Factor $EF = 0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]

where: EF, Emission Factor = lbs emitted / ton HMA produced
 V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
 T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]

PM Emissions:

Emission Factor $EF = 0.000181 + 0.00141 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.00052$ lbs/ton HMA
 Calculations $(0.00052 \text{ lbs/ton}) * (200 \text{ tons/hr}) = 0.10$ lbs/hr
 $(0.10 \text{ lbs/hr}) * (5330 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.28$ TPY

PM₁₀ Emissions:

Emission Factor $EF = 0.000181 + 0.00141 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.00052$ lbs/ton HMA
 Calculations $(0.00052 \text{ lbs/ton}) * (200 \text{ tons/hr}) = 0.10$ lbs/hr
 $(0.10 \text{ lbs/hr}) * (5330 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.28$ TPY

PM_{2.5} Emissions:

Emission Factor $EF = 0.000181 + 0.00141 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.00052$ lbs/ton HMA
 Calculations $(0.00052 \text{ lbs/ton}) * (200 \text{ tons/hr}) = 0.10$ lbs/hr
 $(0.10 \text{ lbs/hr}) * (5330 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.28$ TPY

CO Emissions:

Emission Factor $EF = 0.00558(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]

where: EF, Emission Factor = lbs Emitted / ton Processed
 V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
 T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]

CO Emissions:

Emission Factor $EF = 0.00558 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.00135$ lbs/ton HMA
 Calculations $(0.00135 \text{ lbs/ton}) * (200 \text{ tons/hr}) = 0.27$ lbs/hr
 $(0.27 \text{ lbs/hr}) * (5330 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.72$ TPY

VOC Emissions:

Emission Factor $EF = 0.0172(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]

where: EF, Emission Factor = lbs Emitted / ton Processed
 V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
 T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]

VOC Emissions:

Emission Factor	$EF = 0.0172 * (0.05) * e ((0.0251) * (325 + 460) - 20.43) =$	0.00416	lbs/ton HMA produced
Calculations	$(0.00416 \text{ lbs/ton}) * (200 \text{ tons/hr}) =$	0.83	lbs/hr
	$(0.83 \text{ lbs/hr}) * (5330 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$	2.22	TPY

Diesel Engines:

Primary Diesel Engine Generator Detroit Diesel 8083-7300 485 Diesel Engine Generator

Engine Rating:	485	hp
Fuel Input:	3.40	MMBtu/hr
	24.8	gallons/hour [Estimated]
Hours of Operation:	5330	hours/year

Particulate Emissions:

PM Emissions:

Emission Factor	0.0022	lb/hp-hr	[AP-42 3.3-1, 10/96]
Calculations	$(0.0022 \text{ lb/hp-hr}) * (485 \text{ hp}) =$	1.07	lbs/hr
	$(1.07 \text{ lbs/hr}) * (5330 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$	2.84	TPY

PM₁₀ Emissions:

Emission Factor	0.0022	lb/hp-hr	[AP-42 3.3-1, 10/96]
Calculations	$(0.0022 \text{ lb/hp-hr}) * (485 \text{ hp}) =$	1.07	lbs/hr
	$(1.07 \text{ lbs/hr}) * (5330 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$	2.84	TPY

PM_{2.5} Emissions (filterable):

Emission Factor	0.0479	lb/MMBtu	[AP-42 3.4-2, 10/96]
Calculations	$(0.0479 \text{ lb/MMBtu}) * (0.00 \text{ MMBtu/hr}) =$	0.16	lbs/hr
	$(0.16 \text{ lbs/hr}) * (5330 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$	0.43	TPY

PM_{2.5} Emissions (condensable):

Emission Factor	0.0077	lb/MMBtu	[AP-42 3.4-2, 10/96]
Calculations	$(0.0077 \text{ lb/MMBtu}) * (3.395 \text{ MMBtu/hr}) =$	0.03	lbs/hr
	$(0.03 \text{ lbs/hr}) * (5330 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$	0.07	TPY

CO Emissions:

Emission Factor	0.00668	lb/hp-hr	[AP-42 3.3-1, 10/96]
Calculations	$(0.00668 \text{ lb/hp-hr}) * (485 \text{ hp}) =$	3.24	lbs/hr
	$(3.24 \text{ lbs/hr}) * (5330 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$	8.63	TPY

NOx Emissions:

Emission Factor	0.031	lb/hp-hr	[AP-42 3.3-1, 10/96]
Calculations	$(0.031 \text{ lb/hp-hr}) * (485 \text{ hp}) =$	15.04	lbs/hr
	$(15.04 \text{ lbs/hr}) * (5330 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$	40.07	TPY

SO₂ Emissions:

Emission Factor 0.00205 lb/hp-hr [AP-42 3.3-1, 10/96]
Calculations (0.0021 lb/hp-hr) * (485 hp) = 0.99 lbs/hr
(0.99 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) = 2.65 TPY

VOC Emissions:

Emission Factor 0.002514 lb/hp-hr [AP-42 3.3-1, 10/96]
Calculations (0.0025 lb/hp-hr) * (485 hp) = 1.22 lbs/hr
(1.22 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) = 3.25 TPY

Secondary Diesel Engine Generator: MTU DS40D6S 80 hp Diesel Engine Generator [EPA Tier 3 Certified]

Engine Rating: 80 hp
Fuel Input: 0.56 MMBtu/hr
4.1 gallons/hour [Estimated]
Hours of Operation: 5330 hours/year

Particulate Emissions:

PM Emissions:

PM₁₀ Emissions:

Emission Factor 0.15 g/hp-hr [Manufacturer Emission Data]
Calculations (0.15 g/hp-hr) * (80 hp) * (0.002205 lbs/grams) = 0.03 lbs/hr
(0.03 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) = 0.07 TPY

PM_{2.5} Emissions:

Emission Factor 0.15 g/hp-hr [Manufacturer Emission Data]
Calculations (0.15 g/hp-hr) * (80 hp) B463* (0.002205 lbs/grams) = 0.03 lbs/hr
(0.03 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) = 0.07 TPY

CO Emissions:

Emission Factor 0.80 g/hp-hr [Manufacturer Emission Data]
Calculations (0.8 g/hp-hr) * (80 hp) * (0.002205 lbs/grams) = 0.14 lbs/hr
(0.14 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) = 0.38 TPY

NO_x Emissions:

Emission Factor 3.20 g/hp-hr [Manufacturer Emission Data]
Calculations (3.2 g/hp-hr) * (80 hp) * (0.002205 lbs/grams) = 0.56 lbs/hr
(0.56 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) = 1.50 TPY

SO₂ Emissions:

Emission Factor 0.00205 lb/hp-hr [AP-42 3.3-1, 10/96]
Calculations (0.0021 lb/hp-hr) * (80 hp) = 0.16 lbs/hr
(0.16 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) = 0.44 TPY

VOC Emissions:

Emission Factor	0.002514 lb/hp-hr	[AP-42 3.3-1, 10/96]	
Calculations	(0.0025 lb/hp-hr) * (80 hp) =		0.20 lbs/hr
	(0.20 lbs/hr) * (5330 hrs/yr) * (0.0005 tons/lb) =		0.54 TPY

Unpaved Roadways (Haul Roads)

Miles Travelled: 5 Miles/Day [Estimate]
 Vehicle Weight: < 50 Tons

Emission Factor	EF = $k(s/12)^a * (W/3)^b$	[AP-42 13.2.2.2, 11/06]
where:	EF, Emission Factor = lbs Emitted Per Vehicle Mile Traveled (VMT)	
	k, Empirical Constant PM = 4.9	[AP-42 Table 13.2.2-2, 11/06]
	k, Empirical Constant PM ₁₀ = 1.5	[AP-42 Table 13.2.2-2, 11/06]
	k, Empirical Constant PM _{2.5} = 0.15	[AP-42 Table 13.2.2-2, 11/06]
	s, Surface Material Silt Content (%) = 7.1	[AP-42 Table 13.2.2-1, 11/06]
	W, Mean Vehicle Weight (tons) = 50	[Provided Data]
	a, Empirical Constant PM = 0.7	[AP-42 Table 13.2.2-2, 11/06]
	a, Empirical Constant PM ₁₀ / PM _{2.5} = 0.9	[AP-42 Table 13.2.2-2, 11/06]
	b, Empirical Constant PM - PM _{2.5} = 0.45	[AP-42 Table 13.2.2-2, 11/06]

PM Emissions:

Emission Factor	EF = $4.9 * (7.1/12)^{0.7} * (50/3)^{0.45}$	12.04 lbs/VMT
Calculations	(12.04 lbs/VMT) * (5 miles/day) =	60.18 lbs/day
	(60.18 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =	10.98 TPY

PM₁₀ Emissions:

Emission Factor	EF = $1.5 * (7.1/12)^{0.9} * (50/3)^{0.45}$	3.32 lbs/VMT
Calculations	(3.32 lbs/VMT) * (5 miles/day) =	16.59 lbs/day
	(16.59 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =	3.03 TPY

PM_{2.5} Emissions:

Emission Factor	EF = $0.15 * (7.1/12)^{0.9} * (50/3)^{0.45}$	0.33 lbs/VMT
Calculations	(0.33 lbs/VMT) * (5 miles/day) =	1.66 lbs/day
	(1.66 lbs/day) * (365 days/yr) * (0.0005 tons/lb) =	0.30 TPY

V. Existing Air Quality

This permit is for a portable asphalt plant to originally be located in Section 21, Township 16 North, Range 17 East, in Fergus County, Montana. Fergus County and those areas for which this facility is permitted to operate has been designated unclassified/attainment with all ambient air quality standards and there are no major air pollution sources in the surrounding area.

VI. Air Quality Impacts

MAQP #2526-03 covers operation of this portable drum mix asphalt plant while operating in areas within Montana that are classified as being in attainment with federal ambient air quality standards and areas not yet classified, excluding counties that have a Department-approved permitting program and areas that are tribal lands. This permit contains conditions and limitations that would protect air quality for the site and surrounding area, and that would limit the facility’s emissions below the major source threshold. Based on the information provided, the amount of controlled emissions generated by this facility will not exceed any ambient air quality standard.

VII. Ambient Air Impact Analysis

The Department determined that the impact from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VIII. Taking or Damaging Implication Analysis

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

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		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

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

Analysis prepared by: Craig Henrikson
Date: January 12, 2012