



March 6, 2017

Superior Pellet Mill, Inc.
480 Diamond Road
P.O. Box 128
Superior, MT 59872

Dear Mr. Coons:

Montana Air Quality Permit #3039-03 is deemed final as of March 4, 2017, by the Department of Environmental Quality (Department). 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,

A handwritten signature in cursive script that reads "Julie A. Merkel".

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

A handwritten signature in cursive script that reads "Craig Henrikson".

Craig Henrikson, P.E.
Environmental Engineer
Air Quality Bureau
(406) 444-6711

JM:CH
Enclosures

Montana Department of Environmental Quality
Air, Energy & Mining Division

Montana Air Quality Permit #3039-03

Superior Pellet Mill, Inc.
480 Diamond Road
P.O. Box 128
Superior, MT 59872

March 4, 2017



MONTANA AIR QUALITY PERMIT

Issued To: Superior Pellet Mill, Inc.
480 Diamond Road
P.O. Box 128
Superior, MT 59872

MAQP: #3039-03
Administrative Amendment (AA)
Request Received: 4/20/16
Department's Decision on AA: 2/16/17
Permit Final: 3/4/2017
AFS #: 061-0006

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

SECTION I: Permitted Facilities

A. Plant Location

SPM operates a wood product pelletizing plant and the associated equipment. The facility is located in the SW¹/₄ of Section 13, Township 16 North, Range 26 West, in Mineral County, Montana. The list of permitted equipment can be found in Section I.A of the Permit Analysis.

B. Current Permit Action

The Montana Department of Environmental Quality (Department) is administratively amending the permit to reflect the change in ownership from Eureka Pellet Mills, Inc. to Superior Pellet Mill, Inc. In addition, the permit was updated to reflect the current permit language and rule references used by the Department.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. SPM shall not cause or authorize to be discharged into the atmosphere, from any equipment used in conjunction with this facility, including, but not limited to, screens, rotary dryer, dryer target box, dryer stack, process and storage bins, cyclones, pellet mills, or any material conveyance device, any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304, 17.8.308 and 17.8.752).
2. SPM shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

3. SPM 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).
4. SPM shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.3 (ARM 17.8.749).

B. Testing Requirements

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

C. Operational Reporting Requirements

1. SPM 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 to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505). SPM shall submit the following information annually to the Department by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

- a. annual production information
2. SPM 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).
3. All records compiled in accordance with this permit must be maintained by SPM as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the

Department, and must be submitted to the Department upon request. These records may be stored at a location other than the plant site upon approval by the Department (ARM 17.8.749).

SECTION III: General Conditions

- A. Inspection – SPM 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 such as Continuous Emission Monitoring Systems (CEMS) or Continuous Emission Rate Monitoring Systems (CERMS), or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if SPM fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving SPM 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 action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department’s decision on the application is final 16 days after the Department’s decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by SPM 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).

Montana Air Quality Permit (MAQP) Analysis
Superior Pellet Mill, Inc.
MAQP #3039-03

I. Introduction/Process Description

SPM operates a wood product pelletizing plant. The SPM facility is located in the SW¼ of Section 13, Township 16 North, Range 26 West, in Mineral County, Montana.

A. Permitted Equipment

1. Screen
2. Dry Feed Bin
3. Propane Fired Rotary Dryer
4. Dryer Target Box
5. Dryer Stack
6. Dryer Cyclone
7. Dryer Storage Bin
8. Dried Compost Storage Bin
9. Pellet Mill Feed Bin
10. Pellet Cooler Cyclone
11. Pellet Mills (2)
12. Pellet Cooler
13. Pellet Shaker
14. Pellet Conveyor
15. Pellet Storage Bins
16. Pellet Bagging Line
17. Trailer Dump
18. Negative Draw Cyclone (in-line with dryer exhaust)
19. McConnell Burner
20. Triple Pass Dryer
21. Burner Cyclone

B. Source Description

The SPM facility, that manufactures residential and industrial wood pellets, first sizes the raw material (wood products). The feed material is then sent to a propane fired rotary dryer to remove most of the moisture. The dried feed stock is then transferred by auger to the pellet mills. The pellets are cooled and sent to a shaker prior to being conveyed to storage bins. The final step in the process is a bagging line.

The raw material is stored in outdoor piles near the process equipment. The mill and bagging line are indoors. Primary emission points, for the purposes of this air quality permit, are the screen, rotary dryer stack, dryer target box, dryer cyclone, the pellet cooler cyclone, the trailer dump, and the negative draw cyclone that is in line with the dryer exhaust. Material handling before the drying step generates minimal particulate emissions because of the moisture content. All dried material is conveyed to surge or storage bins. Bagged product is distributed widely through various outlets to multiple markets.

C. Permit History

The Department of Environmental Quality (Department) received a permit application from Nature's Superior Products (NSP) on December 22, 1998. The Department determined that the application was incomplete in a letter to NSP on January 20, 1999. The application was submitted with inadequate process detail and incomplete emission information. The applicant responded with faxed information and followed up with a mailing on January 27, 1999. The permit application was deemed complete on February 23, 1999, when NSP submitted the remaining portion of their permit application fee. **Permit #3039-00** became final on March 27, 1999.

On September 4, 2001, NSP requested a modification of Permit #3039-00. NSP requested to change the name on Permit #3039-00 from NSP to Eureka Pellet Mills, Inc. (EPM). In addition, NSP submitted several de minimis requests that were approved by the Department including the addition of a cyclone, the installation of a trailer dump for unloading incoming raw materials, and running 100% wood products for the pelletizing operation. Permit #3039-00 was updated to change the name on the permit from Nature's Superior Products to Eureka Pellet Mills, Inc., add the Department approved de minimis changes into the permit, and update the emission inventory to reflect the de minimis changes. In addition, the permit change removed the hammer mill from the permit, since it was no longer operated at the facility. **Permit #3039-01** replaced Permit #3039-00.

EPM requested that Permit #3039-01 be altered to facilitate the installation and operation of a McConnell Burner, a Triple Pass Dryer, and a Burner Cyclone to the list of permitted equipment at the facility. The proposed McConnell wood fired burner provides heat to the existing dryer and to the additional proposed dryer. The material from these dryers was routed to a common dry bin that feeds dried material into the pellet operation. **Permit #3039-02** replaced Permit #3039-01.

D. Current Permit Action

On April 20, 2016, the Montana Department of Environmental Quality (Department) received signed authorization from both parties to transfer ownership of the MAQP from Eureka Pellet Mills, Inc. to Superior Pellet Mill, Inc. However, the Department postponed acting upon the request until the resolution of outstanding annual fee payments and failure to submit multiple years of annual production information associated with this facility. The outstanding annual fee payments have since been paid in full and the missed submissions of annual production information have been provided. On January 17, 2017, Eureka Pellet Mills, Inc., and Superior Pellet Mill, Inc., signed a "Stipulation to Dismiss" agreement before the Board of Environmental Review and have agreed to transfer Montana Air Quality Permit (MAQP) #3039-02 to Superior Pellet Mill, Inc. The Department is administratively amending the permit to reflect the change in ownership and updates the permit to reflect current permit language and rule references. **MAQP #3039-03** replaces MAQP #3039-02.

II. Applicable Rules and Regulations

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

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

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

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

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to 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 Air Quality Standard for PM10](#)
11. [ARM 17.8.230 Fluoride in Forage](#)

SPM must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. [ARM 17.8.304 Visible Air Contaminants](#). This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. [ARM 17.8.308 Particulate Matter, Airborne](#). (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, SPM 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](#). This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
6. [ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products](#). (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
7. [ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources](#). This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.

8. ARM 17.8.341 Emission Standards for Hazardous Air Pollutants. This source shall comply with the standards and provisions of 40 CFR Part 61, as appropriate. This facility is not subject to 40 CFR Part 61.
 9. 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: This facility is not currently subject to 40 CFR Part 63.
- 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 fee is not required for the current action because it is considered an administrative permit action.
 2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.
- E. ARM 17.8, 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 facility to obtain an air quality permit or permit alteration if they construct, alter, or use any air contaminant sources that have the potential to emit more than 25 tons per year of any pollutant. SPM has the potential to emit more than 25 tons per year of particulate matter (PM); PM with an aerodynamic diameter of 10 microns or less (PM₁₀), oxides of nitrogen (NO_x), and carbon monoxide (CO) therefore, a permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. A permit application was not required for the current permit action because the permit change is considered an administrative permit change. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. 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 SPM 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 modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
 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.
 16. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the Department for incineration facilities subject to 75-2-215, Montana Code Annotated (MCA).
- F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications-
-Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

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

- G. ARM 17.8, Subchapter 9 – Permit Requirements for Major Stationary Sources or Major Modifications Locating Within Nonattainment Areas, including, but not limited to:

The facility is not a major source nor considered a major modification.

- H. ARM 17.8, Subchapter 10 – Preconstruction Permit Requirements for Major Stationary Sources of Modifications Located Within Attainment or Unclassified Areas, including, but not limited to:

ARM 17.8.1004 When Air Quality Preconstruction Permit Required. This current permit action does not constitute a major modification. Therefore, the requirements of this subchapter do not apply.

- I. 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 particulate matter with an aerodynamic diameter of 10 microns or less (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 #3093-03 for SPM, the following conclusions were made:

- a. The facility's PTE is less than 100 tons/year for any pollutant.
- b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.
- c. This source is not located in a serious PM₁₀ nonattainment area.
- d. This facility is not subject to any current NSPS.
- e. This facility is not subject to any current NESHAP standards.

- f. This source is not a Title IV affected source, or a solid waste combustion unit.
- g. This source is not an EPA designated Title V source.

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

III. BACT Determination

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

TOTAL EMISSIONS

Source	Ton/Year (TPY)					
	PM	PM-10	NO _x	VOC	CO	SO ₂
01 Raw Material Handling	13.5	4.90				
02 Screen (Ball Mill)	13.5	4.90				
03 Rotary Dryer (Propane)	0.40	0.40	13.93	0.50	1.89	0.09
04 Rotary Dryer (raw material)	8.76	3.50				
05 Compost Dryer Cyclone	8.76	3.50				
06 Pellet Cooler Cyclone	8.76	3.50				
07 Dryer Exhaust Cyclone	8.76	3.50				
08 McConnell Burner			22.78		77.44	2.73
09 Triple Pass Dryer	14.8	14.8		4.82		
10 Burner Cyclone	8.76	3.5				
TOTAL EMISSIONS	86.0	31.20	36.71	5.32	79.33	2.82

FACILITY INFORMATION

maximum production capacity 60,000 ton/year
 maximum hours of operation 8760 hour/year
 maximum production 6.85 ton/hour
 raw material moisture content 35-55% H₂O
 maximum wood waste processed 100000.00 ton/year
 maximum wood waste feed rate 11.42 ton/hour
 dryer exhaust 20,000-24,000 CFM

CALCULATIONS

Source #01 - Raw Material Handling/Storage (includes trailer dump) - Control Efficiency=55%

The Feed Moisture Content offers some particulate emission reduction. Because the moisture content is assumed to be between 35% and 55%, take an average of 45% and assume 55% control efficiency. $(100-55) / 100 = 0.45$

PM Emission Factor: 1.0 lb/ton {Fire v. 5.0 SCC 30700803}

$$0.45 * 60,000.00 \text{ ton/year} * 1 \text{ lb/ton} * 0.0005 \text{ ton/lb} = 13.5 \text{ ton/year}$$

PM10 Emission Factor: 0.36 lb/ton {Fire v. 5.0 SCC 30700803}

$$0.45 * 60,000.00 \text{ ton/year} * 0.36 \text{ lb/ton} * 0.0005 \text{ ton/lb} = 4.9 \text{ ton/year}$$

Source #02 - Screen (Ball Mill) - Control Efficiency=55% raw material moisture

PM Emission Factor: 1.0 lb/ton {Fire v. 5.0 SCC 30700803}

$$0.45 * 60,000.00 \text{ ton/year} * 1 \text{ lb/ton} * 0.0005 \text{ ton/lb} = 13.5 \text{ ton/year}$$

PM10 Emission Factor: 0.36 lb/ton {Fire v. 5.0 SCC 30700803}

$$0.45 * 60,000.00 \text{ ton/year} * 0.36 \text{ lb/ton} * 0.0005 \text{ ton/lb} = 4.9 \text{ ton/year}$$

Source #03 - Rotary Dryer (Propane Fuel) - Control Efficiency=0.0%

Gallons of Propane = 954 lb/hr * 1 gal/4.2 lb * 8760 hr/year = 1,989,771.4 gal/year
(1 gal = 4.2 lbs @ 60 F)

PM (Propane) Emission Factor: 0.4 lb/1000 gal {Fire v. 6.1 SCC 39001089}

$$1 \text{ ton}/2000 \text{ lb} * 1,989,771.4 \text{ gal/year} * 0.4 \text{ lb}/1000 \text{ gal} = 0.40 \text{ ton/year}$$

PM10 (Propane) Emission Factor: 0.4 lb/1000 gal {Fire v. 6.1 SCC 39001089}

$$1 \text{ ton}/2000 \text{ lb} * 1,989,771.4 \text{ gal/year} * 0.4 \text{ lb}/1000 \text{ gal} = 0.40 \text{ ton/year}$$

SOx (Propane) Emission Factor: 0.095 lb/1000 gal {Fire v. 5.0 SCC 10500110, pg EF-8}

$$1 \text{ ton}/2000 \text{ lbs} * 1,989,771.4 \text{ gal/year} * 0.095 \text{ lb}/1000 \text{ gal} = 0.09 \text{ ton/year}$$

NOx (Propane) Emission Factor: 14.0 lb/1000 gal {Fire v. 6.1 SCC 39001089}

$$1 \text{ ton}/2000 \text{ lb} * 1,989,771.4 \text{ gal/year} * 14 \text{ lb}/1000 \text{ gal} = 13.93 \text{ ton/year}$$

VOC (Propane) Emission Factor: 0.5 lb/1000 gal {Fire v. 6.1 SCC 39001089}

$$1 \text{ ton} / 2000 \text{ lb} * 1,989,771.4 \text{ gal/year} * 0.5 \text{ lb}/1000 \text{ gal} = 0.50 \text{ ton/year}$$

CO (Propane) Emission Factor: 1.9 lb/1000 gal {Fire v. 6.1 SCC 39001089}

$$1 \text{ ton}/2000 \text{ lb} * 1,989,771.4 \text{ gal/year} * 1.9 \text{ lb}/1000 \text{ gal} = 1.89 \text{ ton/year}$$

Source #04 - Rotary Dryer (Raw Material)

Assume the separation device (target box) has a control efficiency similar to that of a cyclone.

PM Emission Factor: 2.0 lb/hr {Fire v. 5.0 SCC 30700803}

$$8760 \text{ hour/year} * 2 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb} = 8.76 \text{ ton/year}$$

PM10 Emission Factor: 0.8 lb/hr {Fire v. 5.0 SCC 30700803}

$$8760 \text{ hour/year} * 0.8 \text{ lb/hr} * 1 \text{ ton} / 2000 \text{ lb} = 3.50 \text{ ton/year}$$

Source #05 - Compost Dryer Cyclone

PM/TSP Emission Factor: 2 lb/hour of operation {Fire v. 6.1 SCC 30700808}

$$8760 \text{ hours/year} * 2 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb} = 8.76 \text{ ton/year}$$

PM10 Emission Factor: 0.8 lb/hour of operation {Fire v. 6.1 SCC 30700808}

$$8760 \text{ hour/year} * 0.8 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb} = 3.50 \text{ ton/year}$$

Source #06 - Pellet Cooler Cyclone

PM/TSP Emission Factor: 2 lb/hour of operation {Fire v. 6.1 SCC 30700808}

$$8760 \text{ hour/year} * 2 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb} = 8.76 \text{ ton/year}$$

PM10 Emission Factor: 0.8 lb/hour of operation {Fire v. 6.1 SCC 30700808}

$$8760 \text{ hour/year} * 0.8 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb} = 3.50 \text{ ton/year}$$

Source #07 - Dryer Exhaust Cyclone (Negative Draw)

PM/TSP Emission Factor: 2 lb/hour of operation {Fire v. 6.1 SCC 30700808}

$$8760 \text{ hour/year} * 2 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb} = 8.76 \text{ ton/year}$$

PM10 Emission Factor: 0.8 lb/hour of operation {Fire v. 6.1 SCC 30700808}

$$8760 \text{ hour/year} * 0.8 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb} = 3.50 \text{ ton/year}$$

Source #08 - McConnell Burner - Control Efficiency=0.0%

SOx Emission Factor: .62lb/hr {AP-42}

$$1 \text{ ton}/2000 \text{ lbs} * .62 \text{ lb/hr} * 8760 \text{ hr/yr} = 2.73 \text{ ton/year}$$

NOx Emission Factor: 5.2 lb/hr {AP-42}

$$1 \text{ ton}/2000 \text{ lb} * 5.2 \text{ lb/hr} * 8760 \text{ hr/yr} = 22.78 \text{ ton/year}$$

CO Emission Factor: 17.68 lb/hr {AP-42}

$$1 \text{ ton}/2000 \text{ lb} * 17.68 \text{ lb/hr} * 8760 \text{ hr/yr} = 77.44 \text{ ton/year}$$

Source #09 - Triple Pass Dryer

Assume the separation device (target box) has a control efficiency similar to that of a cyclone.

PM Emission Factor: 3.4 lb/hr {Fire v. 5.0 SCC 30700803}

$$8760 \text{ hr/yr} * 3.47 \text{ lb/hr} * 1 \text{ ton} / 2000 \text{ lb} = 14.8 \text{ ton/year}$$

PM10 Emission Factor: 3.4 lb/hr {Fire v. 5.0 SCC 30700803}

$$8760 \text{ hr/yr} * 3.47 \text{ lb/hr} * 1 \text{ ton} / 2000 \text{ lb} = 14.8 \text{ ton/year}$$

VOC Emission Factor: 1.1 lb/hr {Fire v. 5.0 SCC 30700803}

$$8760 \text{ hr/yr} * 1.1 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb} = 4.82 \text{ ton/yr}$$

Source #10 - Burner Cyclone

PM Emission Factor: 2 lb/hour of operation {Fire v. 6.1 SCC 30700808}

$$8760 \text{ hours/year} * 2 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb} = 8.76 \text{ ton/year}$$

PM10 Emission Factor: 0.8 lb/hour of operation {Fire v. 6.1 SCC 30700808}

$$8760 \text{ hour/year} * 0.8 \text{ lb/hr} * 1 \text{ ton}/2000 \text{ lb} = 3.50 \text{ ton/year}$$

V. Existing Air Quality

The current permit action is administrative and does not result in any impact to existing and permitted air pollutant emissions; therefore, the current permit action will not further impact existing air quality in the affected area of operations.

VI. Ambient Air Impact Analysis

The Department determined that the impacts from this permitting action will be minor because this permitting action is considered an administrative action. Therefore, the Department believes this action will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

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

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	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.

VIII. 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.

Permit Analysis Prepared By: Craig Henrikson

Date: February 1, 2017