



Montana Department of
ENVIRONMENTAL **Q**UALITY

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April 13, 2009

Tim Wilson
CHS Incorporated
5325 10th Avenue North
Great Falls, MT 59405

Dear Mr. Wilson:

Air Quality Permit #2842-02 is deemed final as of April 11, 2009, by the Department of Environmental Quality (Department). This permit is for a livestock feed processing facility. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

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

Ed Warner
Environmental Engineer
Air Resources Management Bureau
(406) 444-2467

VW:EW
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Air Quality Permit #2842-02

CHS Incorporated
5325 10th Avenue North
Great Falls, Montana 59405

April 11, 2009



MONTANA AIR QUALITY PERMIT

Issued To: CHS Incorporated
5325 10th Avenue North
Great Falls, MT 59405

MAQP: #2842-02
Administrative Amendment (AA)
Request Received: February 4, 2009
Department Decision on AA: March 26, 2009
Permit Final: April 11, 2009
AFS #: 013-0015

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

SECTION I: Permitted Facilities

A. Plant Location

The CHS facility is located in Section 10, Township 20 North, Range 3 East, in Cascade County, Montana.

B. Current Permit Action

On February 4, 2009, the Department of Environmental Quality – Air Resources Management Bureau (Department) received a request from CHS to change the name on MAQP #2482-01 from Land O'Lakes/Harvest States Feeds to CHS. The current permit action changes the company name and updates the permit to reflect the current language and rule references used by the Department.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. CHS shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
2. CHS 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. CHS 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. CHS shall not cause or authorize the production, handling, transportation or storage of any material unless reasonable precautions to control particulate matter are taken. Such emissions of airborne particulate matter from any stationary source shall not exceed an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.308).

5. CHS 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.4 (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 may require testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. CHS 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).

2. CHS 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 CHS as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

SECTION III: General Conditions

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

- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving CHS 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 CHS 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).

Permit Analysis
CHS Incorporated
Permit #2842-02

I. Introduction/Process Description

CHS Incorporated (CHS) owns and operates a livestock feed processing facility. The facility is located in Section 10, Township 20 North, Range 2 East, in Cascade County, Montana.

A. Permitted Equipment

The equipment used at this facility includes, but is not limited to:

1. Grain Receiving (3 pits);
2. 2 Elevator Legs (Enclosed and Vented to a Cyclone);
3. 8 Grinding Bins;
4. 29 Receiving Bins;
5. Hammermill (Vented to a baghouse);
6. Mixing Scale;
7. 2 Mixing Legs (Enclosed);
8. Block Machine;
9. Pelletizer/Cooler (Vented to a Cyclone);
10. Bulk Loadout;
11. Natural Gas Boiler; and
12. Steam Rolling Process line.

B. Source Description

This facility receives various grains and produces feed used for livestock. The grain is received via truck and railcar, then it is ground and stored for future use. From this point, it is transported to a block machine and pelletizer, then shipped out as product in bulk, bag, blocks, or pellets.

C. Permit History

On May 13, 1976, GTA Feeds (GTA) received permit #67-051376 and permit #66-051376 from the Cascade County Health Department for the operation of a grain elevator and animal feed manufacturing facility. On July 27, 1994, by order of the Board of Environmental Review, the Cascade County Air Pollution Control Program transferred its air quality permitting program to the Department of Environmental Quality (Department). The Department re-issued all Cascade County Air Quality permits as Montana Air Quality Permits (MAQP). **MAQP #2842-00** replaced any Cascade County permits held by GTA.

On June 22, 1999, the Department received a request to modify MAQP #2842-00. The modification was to transfer the facility name from GTA Feeds to Land O'Lakes/Harvest States Feeds. A steam rolling process line was also added to the facility. **MAQP #2842-01** replaced MAQP #2842-00.

D. Current Permit Action

On February 4, 2009, the Department received a request to modify MAQP #2842-01. The modification is to change the facility name from Land O'Lakes/Harvest States Feeds to CHS. The permit language and rule references are updated to reflect current Department practices. **MAQP #2842-02** replaces MAQP #2842-01.

E. Additional Information

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

II. Applicable Rules and Regulations

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

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

1. ARM 17.8.101 Definitions. This rule 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).

CHS 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

CHS 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, CHS 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.
 - a. 40 CFR 60, Subpart Dc-Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units applies to all affected facilities constructed, modified, or reconstructed after June 9, 1989 and that has maximum design heat input capacity of 100 million Btu/hr or less, but greater than 10 million Btu/hr. The Clever Brooks boiler used at this facility was manufactured prior to June 9, 1989; therefore, 40 CFR 60, Subpart Dc does not apply to this source.

- b. 40 CFR 60, Subpart DD-Standards of Performance for Grain Elevators applies to all affected facilities constructed, modified, or reconstructed after August 3, 1978, that have the capacity to store 1 million bushels of grain. This facility does not have the ability to store greater than 1 million bushels of grain; therefore, 40 CFR 60, Subpart DD does not apply to this facility.
- 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. The current permit action is considered administrative and does not require an application fee.
 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 person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year (TPY) of any pollutant. CHS has a PTE greater than 25 TPY of particulate matter (PM) and particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀); therefore, an air quality permit is required.
 3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
 4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
 5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. The current permit action is considered an administrative action; therefore, no application was required. (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. The current permit action is considered an administrative action and does not result in any change of air emissions from the facility; therefore, CHS was not required to submit a public notice.

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 CHS of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or 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.
12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

- F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

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

- G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:
1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
 - a. PTE > 100 TPY of any pollutant;
 - b. PTE > 10 TPY of any one hazardous air pollutant (HAP), PTE > 25 TPY of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 TPY of 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 #2842-02 for CHS, the following conclusions were made:
 - a. The facility's PTE is less than 100 TPY for any pollutant.
 - b. The facility's PTE is less than 10 TPY for any one HAP and less than 25 TPY 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 National Emission Standards for Hazardous Air Pollutants (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 CHS 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. CHS 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 it is considered an administrative amendment.

IV. Emission Inventory

Emission Source	TPY					
	PM	PM ₁₀	NO _x	CO	VOC	SO ₂
Natural Gas Boiler	0.03	0.03	0.45	0.38	0.02	0.00
Grain Receiving	54.09	16.34	--	--	--	--
Elevator Legs/Material Handling (4)	32.06	17.87	--	--	--	--
Hammermill	0.37	0.37	--	--	--	--
Storage Bins (facility-wide)	16.43	4.14				
Block Machine	23.62	11.83	--	--	--	--
Pelletizer/Pellet Cooler	14.19	7.10				
Rolling Process	1.87	1.04	--	--	--	--
Loadout/Shipping	0.72	0.18				
Total Emissions	143.42	58.89	0.45	0.38	0.02	0.00

NOTES:

NO_x Oxides of Nitrogen
 CO Carbon Monoxide
 VOC Volatile Organic Compounds
 SO₂ Sulfur dioxide

CALCULATIONS

Natural Gas Boiler

Maximum process rate: 9 million standard cubic feet of natural gas burned per year (MMscf/yr) (facility information)

PM Emissions:

Emission Factor: 7.6 Pounds per million British thermal units (lb/MMBtu) (AP-42, Table 1.4-2, Total PM, 7/98)

Calculation: (9 MMscf/hr)*(7.6 lb/MMBtu)*(1 ton/2000 lb)= 0.03 TPY

PM₁₀ Emissions:

Emission Factor: 7.6 lb/MMBtu (AP-42, Table 1.4-2, PM=PM₁₀, 7/98)

Calculation: (9 MMscf/hr)*(7.6 lb/MMBtu)*(1 ton/2000 lb)= 0.03 TPY

NO_x Emissions

Emission Factor: 100 lb/MMBtu (AP-42, Table 1.4-1, 7/98)

Calculation: (9 MMscf/hr)*(100 lb/MMBtu)*(1 ton/2000 lb)= 0.45 TPY

CO Emissions

Emission Factor: 84 lb/MMBtu (AP-42, Table 1.4-1, 7/98)

Calculation: (9 MMscf/hr)*(84 lb/MMBtu)*(1 ton/2000 lb)= 0.38 TPY

VOC Emissions

Emission Factor: 5.5 lb/MMBtu (AP-42, Table 1.4-2, 7/98)

Calculation: (9 MMscf/hr)*(5.5 lb/MMBtu)*(1 ton/2000 lb)= 0.02 TPY

SO₂ Emissions

Emission Factor: 0.6 lb/MMBtu (AP-42, Table 1.4-2, 7/98)

Calculation: (9 MMscf/hr)*(0.6 lb/MMBtu)*(1 ton/2000 lb)= 0.00 TPY

Grain Receiving

Maximum process rate: 50 ton per hour per dump chute (ton/hr) (facility information)
Number of chutes: 3 1 straight truck, 1 railcar, 1 truck bay (facility information)
Production rate: 8,760 hours per year (hr/yr) (unrestricted)
Maximum process rate: (50 ton/hr) * (8,760 hr/yr) = 438,000 TPY (per dump chute)

PM Emissions:

Emission Factor: 0.18 pound per ton (lb/ton) (AP-42, Table 9.9.1-1, Grain Receiving, Straight Truck, 3/03)
Emission Factor: 0.032 lb/ton (AP-42, Table 9.9.1-1, Grain Receiving, Railcar, 3/03)
Emission Factor: 0.035 lb/ton (AP-42, Table 9.9.1-1, Grain Receiving, Hopper Truck, 3/03)
Calculation: (438000 TPY)*(0.18 lb/ton + 0.032 lb/ton + 0.035 lb/ton)*(1 ton/2000 lb) = 54.09 TPY

PM₁₀ Emissions:

Emission Factor: 0.059 lb/ton (AP-42, Table 9.9.1-1, Grain Receiving, Straight Truck, 3/03)
Emission Factor: 0.0078 lb/ton (AP-42, Table 9.9.1-1, Grain Receiving, Railcar, 3/03)
Emission Factor: 0.0078 lb/ton (AP-42, Table 9.9.1-1, Grain Receiving, Hopper Truck, 3/03)
Calculation: (438000 TPY)*(0.059 lb/ton + 0.0078 lb/ton + 0.0078 lb/ton)*(1 ton/2000 lb) = 16.34 TPY

Elevator Legs/Internal Material Handling

Maximum process rate: 30 ton/hr (facility information)
Number of legs: 4 elevator legs for material handling (facility information)
Production rate: 8,760 hr/yr (unrestricted)
Maximum process rate: (30 ton/hr) * (8,760 hr/yr) * (4 legs) = 1,051,200 TPY

PM Emissions:

Emission Factor: 0.061 lb/ton (AP-42, Table 9.9.1-1, grain handling, 3/03)
Calculation: (1,051,200 ton/yr)*(0.034 lb/ton)*(1 ton/2000 lb) = 32.06 TPY

PM₁₀ Emissions

Emission Factor: 0.034 lb/ton (AP-42, Table 9.9.1-1, grain handling, 3/03)
Calculation: (1,051,200 ton/yr)*(0.034 lb/ton)*(1 ton/2000 lb) = 17.87 TPY

Hammermill

Maximum process rate: 7 ton/hr (facility information)
Production rate: 8,760 hr/yr (unrestricted)
Maximum process rate: (7 ton/hr) * (8,760 hr/yr) = 61,320 TPY

PM Emissions:

Emission Factor: 0.012 lb/ton (AP-42, Table 9.9.1-2, hammermill, baghouse, 3/03)
Calculation: (61,320 ton/yr)*(0.012 lb/ton)*(1 ton/2000 lb) = 0.37 TPY

PM₁₀ Emissions

Emission Factor: 0.012 lb/ton (AP-42, Table 9.9.1-2, hammermill, assume PM = PM₁₀, baghouse, 3/03)
Calculation: (61,320 ton/yr)*(0.012 lb/ton)*(1 ton/2000 lb) = 0.37 TPY

Storage Bins (facility-wide)

Maximum process rate: 1,314,000 TPY (based on maximum product receiving capacity distributed throughout all bins in the facility (438,000 TPY * 3 dump chutes))

PM Emissions:

Emission Factor: 0.025 lb/ton (AP-42, Table 9.9.1-1, storage bin, 3/03)
Calculation: (1,314,000 ton/yr)*(0.025 lb/ton)*(1 ton/2000 lb) = 16.43 TPY

PM₁₀ Emissions

Emission Factor: 0.0063 lb/ton (AP-42, Table 9.9.1-1, storage bin, 3/03)
Calculation: (1,314,000 ton/yr)*(0.0063 lb/ton)*(1 ton/2000 lb) = 4.14 TPY

Blocking Machine

Maximum process rate: 15 ton/hr (facility information)

Production rate: 8,760 hr/yr (unrestricted)

Maximum process rate: $(15 \text{ ton/hr}) * (8,760 \text{ hr/yr}) = 131,400 \text{ TPY}$

PM Emissions:

Emission Factor: 0.36 lb/ton (AP-42, Table 9.9.1-2, assume same as pelletizer, cyclone, 3/03)

Calculation: $(131,400 \text{ ton/yr}) * (0.36 \text{ lb/ton}) * (1 \text{ ton}/2000 \text{ lb}) = 23.65 \text{ TPY}$

PM₁₀ Emissions

Emission Factor: 0.18 lb/ton (AP-42, Table 9.9.1-2, assume same as pelletizer, cyclone, 3/03)

Calculation: $(131,400 \text{ ton/yr}) * (0.18 \text{ lb/ton}) * (1 \text{ ton}/2000 \text{ lb}) = 11.83 \text{ TPY}$

Pelletizer/Pellet Cooler

Maximum process rate: 9 ton/hr (facility information)

Production rate: 8,760 hr/yr (unrestricted)

Maximum process rate: $(9 \text{ ton/hr}) * (8,760 \text{ hr/yr}) = 78,840 \text{ TPY}$

PM Emissions:

Emission Factor: 0.36 lb/ton (AP-42, Table 9.9.1-2, pelletizer, cyclone, 3/03)

Calculation: $(78,840 \text{ ton/yr}) * (0.36 \text{ lb/ton}) * (1 \text{ ton}/2000 \text{ lb}) = 14.19 \text{ TPY}$

PM₁₀ Emissions

Emission Factor: 0.18 lb/ton (AP-42, Table 9.9.1-2, pelletizer, cyclone, 3/03)

Calculation: $(78,840 \text{ ton/yr}) * (0.18 \text{ lb/ton}) * (1 \text{ ton}/2000 \text{ lb}) = 7.10 \text{ TPY}$

Rolling Process

Maximum process rate: 7 ton/hr (facility information)

Production rate: 8,760 hr/yr (unrestricted)

Maximum process rate: $(7 \text{ ton/hr}) * (8,760 \text{ hr/yr}) = 61,320 \text{ TPY}$

PM Emissions:

Emission Factor: 0.061 lb/ton (AP-42, Table 9.9.1-1, assume grain handling, 3/03)

Calculation: $(61,320 \text{ ton/yr}) * (0.061 \text{ lb/ton}) * (1 \text{ ton}/2000 \text{ lb}) = 1.87 \text{ TPY}$

PM₁₀ Emissions

Emission Factor: 0.034 lb/ton (AP-42, Table 9.9.1-1, assume grain handling, , 3/03)

Calculation: $(61,320 \text{ ton/yr}) * (0.034 \text{ lb/ton}) * (1 \text{ ton}/2000 \text{ lb}) = 1.04 \text{ TPY}$

Loadout/Shipping

Maximum process rate: 50 ton/hr (facility information)

Production rate: 8,760 hr/yr (unrestricted)

Maximum process rate: $(50 \text{ ton/hr}) * (8,760 \text{ hr/yr}) = 438,000 \text{ TPY}$

PM Emissions:

Emission Factor: 0.0033 lb/ton (AP-42, Table 9.9.1-2, shipping, 3/03)

Calculation: $(438,000 \text{ ton/yr}) * (0.0033 \text{ lb/ton}) * (1 \text{ ton}/2000 \text{ lb}) = 0.72 \text{ TPY}$

PM₁₀ Emissions

Emission Factor: 0.0008 lb/ton (AP-42, Table 9.9.1-2, shipping, , 3/03)

Calculation: $(438,000 \text{ ton/yr}) * (0.0008 \text{ lb/ton}) * (1 \text{ ton}/2000 \text{ lb}) = 0.18 \text{ TPY}$

V. Existing Air Quality

The air quality of the proposed area of operation is considered attainment/unclassified for all pollutants. A narrow area along 10th Avenue South (bounded by 9th Avenue South on the north, 11th Avenue South on the south, 54th Street South on the east and 2nd Street South on the west) was formerly classified as a non-attainment area for CO but has been re-designated to attainment area status under a limited maintenance plan (LMP) effective on July 8, 2002. Because the current permit action is an Administrative Amendment and will not result in any change to permitted CO emissions from the CHS facility, the Department decision is that the current permit action will not result in any

impacts to the LMP CO attainment area. Further, since the current permit action does not result in any increase in emissions from the CHS facility, the Department determined that the current permit action will not result in any increased impacts to the ambient air in the area of operations.

VI. Ambient Air Impact Analysis

The Department determined that the current permit action is an Administrative Amendment and will not have any impact on the local ambient air quality. Since the issuance of MAQP #2842-01, the permittee has made a de minimis change to the facility involving the addition of a new steam rolling process line. This new equipment installation qualifies as a de minimis change because the additional potential emissions are less than 15 TPY. The emissions resulting from this new equipment has been incorporated into the updated emission inventory included in this permit.

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.

Analysis Prepared By: Ed Warner
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