



Montana Department of
ENVIRONMENTAL QUALITY

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May 26, 2010

Mr. Richard Katz,
Anchor Light Montana, LLC
3757 North Reserve Street
Missoula, MT 59808

Dear Mr. Katz:

Montana Air Quality Permit #2949-03 is deemed final as of May 26, 2010, by the Department of Environmental Quality (Department). This permit is for the Culbertson Oilseed 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

Paul Skubinna
Environmental Engineer
Air Resources Management Bureau
(406) 444-6711

VW:PS
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #2949-03

Anchor Light Montana, LLC
Culbertson Oilseed Plant
3757 North Reserve Street
Missoula, MT 59808

May 26, 2010



MONTANA AIR QUALITY PERMIT

Issued To: Anchor Light Montana, LLC
3757 North Reserve Street
Missoula, MT 59808

MAQP: #2949-03
Administrative Amendment (AA)
Request Received: 03/22/2010
Department Decision on AA: 05/10/2010
Permit Final: 05/26/2010
AFS #: 085-0005

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Anchor Light Montana, LLC (ALM), 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

ALM owns and operates an oilseed processing plant located one mile east of Culbertson, Montana on Highway 2. The legal location of this facility is the SW¹/₄ & SE¹/₄ of Section 28, Township 28 North, Range 56 East, in Roosevelt County, Montana. A complete list of the permitted equipment is contained in Section I.A of the Permit Analysis.

B. Current Permit Action

On March 22, 2010, the Department of Environmental Quality (Department) received a request from ALM for an administrative amendment to MAQP #2949-02 consisting of transfer of the permit from Montola – a Division of Sustainable Systems, LLC (Montola), to ALM. ALM's business structure consists of TOPMAST, LLC which is General Partner to ANCHOR LIGHT, LP, which is a Managing Member of ALM. The amendment was assigned MAQP #2949-03.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. ALM shall not process more than 219,000 tons per year (tpy) of oilseed on a rolling 12-month basis (ARM 17.8.749).
2. Emissions from the entire vegetable oil production process, including oilseed extractors, DTDC, and distillation system, shall not exceed the following limits on a rolling 12-month basis, except during periods of initial startup, malfunction, or shutdown (ARM 17.8.752, ARM 17.8.342, and 40 CFR 63, Subpart GGGG):
 - 0.7 gallons of solvent per ton (gal/ton) of safflower or rapeseed (canola) processed
 - 0.4 gal/ton of sunflower processed
 - Other limits in Table 1 of 40 CFR 63.2840, as applicable
3. Emissions of particulate matter with an aerodynamic diameter of less than 10 microns (PM₁₀) from the DTDC Deck will be controlled by two high efficiency desolventizer/toaster-dryer/cooler (DTDC) Deck cyclones. PM₁₀ emissions shall not exceed 0.79 pounds per hour (lb/hr) from each cyclone (ARM 17.8.752).

4. ALM shall at all times operate and maintain the facility, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions (ARM 17.8.752 and 40 CFR 63.6(e)).
5. ALM shall operate and maintain the enclosures on all grain elevator legs and conveying systems (ARM 17.8.749).
6. ALM shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
7. ALM 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).
8. ALM 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).
9. ALM 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).
10. ALM shall comply with all the applicable standards and limitations of 40 CFR 63, Subpart GGGG – National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production, as it applies to this facility, including compliance with the requirements for Initial Startup, which is limited to a cumulative total of three months during the first year of operation (ARM 17.8.342 and 40 CFR 63, Subpart GGGG).

B. Testing Requirements

1. The two DTDC Deck cyclones shall initially be tested for PM_{10} to demonstrate compliance with the emission limits specified in Section II.A.3. The initial source tests shall be conducted within 180 days of the initial start up date of the DTDC Deck (ARM 17.8.105 and ARM 17.8.749).
3. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
4. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. ALM 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). ALM 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. Types and amounts of each oilseed processed (tpy)
 - b. Amount of solvent used for each oilseed type
 - c. Range of n-hexane concentration in the solvent used
 - d. Calculated compliance ratio, by month, in conformance with Section II.C.6
2. ALM 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(1)(d) (ARM 17.8.745).
 3. All records compiled in accordance with this permit must be maintained by ALM 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).
 4. ALM shall comply with all the applicable monitoring, recordkeeping and notification requirements of 40 CFR 63, Subpart GGGG – National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production, as it applies to this facility (ARM 17.8.342 and 40 CFR 63, Subpart GGGG).
 5. ALM shall document, by month, the amount of each type of oilseed processed by the facility. By the 25th day of each month, ALM shall total the amount of each type of oilseed processed by the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.1 and II.A.2. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
 6. ALM shall document, by month, the solvent loss from the vegetable oil production process. By the 25th day of each month, ALM shall total both the gallons of solvent loss and the gallons of solvent loss per ton of oilseed for each type of oilseed processed for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.2 and 40 CFR 63 Subpart GGGG. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749 and 40 CFR 63 Subpart GGGG).
 7. ALM shall document, by month, the Hazardous Air Pollutant (HAP) compliance ratio for the facility in conformance with the requirements in 40 CFR 63, Subpart GGGG (ARM 17.8.342 and 40 CFR 63, Subpart GGGG).

SECTION III: General Conditions

- A. Inspection – ALM 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 ALM fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving ALM 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 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 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 ALM 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
Anchor Light Montana, LLC
MAQP #2949-03

I. Introduction/Process Description

Anchor Light Montana, LLC (ALM) owns and operates an oil seed processing facility. The facility is located in the SW¹/₄ & SE¹/₄ of Section 28, Township 28 North, Range 56 East, in Roosevelt County, approximately one mile east of Culbertson Montana, and is known as the Culbertson Oilseed facility.

A. Permitted Equipment

Equipment used at this facility includes:

| Description | Pollution Control Device/Practice |
|---|-----------------------------------|
| Eclipse Boiler (500 hp, 21 MMBTU/hr propane gas) - 1980 | No controls |
| Hurst Boiler (500 hp, 21 MM BTU/hr propane gas) - 2002 | No controls |
| Dixon Dowtherm Boiler (125 hp, 0.6 MMBTU/hr propane) - 1974 | No controls |
| Mineral Oil Absorption Exhaust | Mineral Oil Scrubber |
| Solvent Metering Tanks #3 & #4 | No controls |
| Bad Oil Tank #8 VO | No controls |
| Hexane Truck Unloading | No controls |
| Hexane Storage Tank | No controls |
| Hexane Purge Fan | No controls |
| Meal Silo #1 - #4 | No controls |
| Meal Warehouse #1 & #2 | No controls |
| Cooling Towers (Refinery and Solvent Plant – 800 & 1000 gpm) | No controls |
| Meal Grinder Discharge | Carter Day Cyclone |
| Seed Cleaner Discharge | Carter Day Cyclone |
| Expeller Steam Exhaust | No controls |
| Cooker Exhaust | No controls |
| Expander Steam Exhaust | No controls |
| Collet Cooler Exhaust | No controls |
| Vacuum Pump Discharges (Deodorizer and Vacuum Bleach Tank) | No controls |
| Wastewater Sump | No controls |
| Pond | No controls |
| Wastewater Lift Stations (Refinery, Solvent Plant, and Sanitary) | No controls |
| Railcar and Truck Meal Loading | Enclosure/Boots |
| Filter foot/Spent Bleaching Earth Disposal Area | No controls |
| Oilseed Unloading (Railcar and Truck) | No controls |
| Seed Storage Bins | Enclosures |
| Bucket Elevators & Conveying Systems | Enclosures |
| Fuel Tanks (diesel : 500-gal; propane: 30,000-gal, 500-gal office, 500-gal forklift, 500-gal portable) | No controls |
| 600-ton per day oilseed extractor, desolventizer/toaster-dryer/cooler with high efficiency cyclones (DTDC), and distillation system | BACT |

B. Source Description

ALM processes oilseeds: primarily sunflower, canola (rapeseed), and safflower. The process includes seed receiving, cleaning, conditioning, crushing, oil extraction, meal grinding, and storage. Also included is vegetable oil processing including refining, bleaching, dewaxing/winterizing, and deodorization.

The oilseeds used as raw material feedstock are received primarily by trucks, but are also received by railcar. The oilseeds are sampled and analyzed for moisture content, foreign matter and test weight. The oilseeds are weighed and conveyed to large metal tanks for storage prior to processing. Unloading of oilseed trucks is accomplished with bucket elevators and covered conveying systems, under building cover in an open “drive through” area. Railcar unloading is accomplished by a fixed covered conveying system outside.

The oilseeds are removed from the storage bins and cleaned of foreign material prior to conditioning. Screen cleaners are used to remove foreign materials such as sticks, stems, pods, tramp metal, sand and dirt. A Carter Day aspiration system is used to remove the empty seeds and light material from the product stream through a cyclone.

Next, the oilseeds are conveyed to a flaker where smooth cylindrical rolls press the seeds into smooth “flakes” which vary in thickness from approximately 0.010 to 0.020 inches. Flaking allows the oilseed oil cells to be exposed and the oil to be more easily extracted. The flakes are conveyed to the conditioning area where they are put through a stacked cooker and are heated to “condition” them. Physical oil extraction is then performed through the use of expellers. An expeller is a tapered screw press, which removes oil through a mechanical pressing action. All flaking, conditioning, and expeller pressing steps are performed within the Mill building on the plant site.

The expeller cake (containing approximately 15% to 20% vegetable oil) is conveyed to the Solvent Extraction Process. This process consists of washing the oil from the expeller cake with commercial grade n-hexane (a Hazardous Air Pollutant (HAP)) in a countercurrent extractor.

The flakes leaving the extractor contain up to 35 to 40% solvent and must be desolventized before use. Solvent-laden flakes are desolventized in a conventional desolventizer/toaster-dryer/cooler (DTDC), where both contact and noncontact steam are used to evaporate the hexane. In addition, the contact steam “toasts” the flakes, making them more usable for animal feeds. The desolventized and toasted flakes then pass to a cooler, where ambient air is used to reduce the temperature of the flakes. The desolventized flakes are ground for use as meal. Meal is conveyed to fixed roof storage. Meal truck loadout is accomplished under building cover.

The solvent is evaporated from the solvent/oil mixture by a distillation system. The oil is desolventized by exposing the solvent/oil mixture to steam (contact and noncontact). Then the solvent is condensed, separated from the steam condensate, and reused. Residual hexane vapor not condensed is absorbed with a mineral oil scrubber, separated from the mineral oil and steam condensate, and reused in the extraction process. The desolventized oil, called crude solvent vegetable oil, is pumped to a metering tank before being pumped to a large storage tank. All steps of the solvent extraction process are performed within the Solvent Plant Building.

Refining, bleaching, dewaxing/winterizing, and deodorization of vegetable oil is performed within the refinery and dewax refinery buildings. Refining is the neutralization of the free fatty acids in the vegetable oil through use of a caustic solution, bleaching is the color removal from the oil through use of a chilling and filtering process. Deodorization is the final processing step which removes any remaining impurities, odors, and flavors. Byproducts produced in the refinery including soapstock, spent bleaching earth, and deodorizer distillate.

The solvent extraction process is regulated under the federal Maximum Achievable Control Technology (MACT) regulation, 40 CFR 63 Subpart GGGG. Based on the MACT emission limits and ALM’s maximum annual processing rate of 219,000 tons of oilseed, ALM can potentially emit 431.5 tons per year (tpy) of Volatile Organic Compound (VOC), of which 380 tpy may be n-hexane. ALM’s Title V permit will contain more detailed requirements for monitoring, recordkeeping, and reporting, including requirements under the startup, shutdown, and malfunction plan and any leak detection programs implemented as part of this or other plans for general duty to minimize emissions.

C. Permit History

On April 6, 1997, **MAQP #2949-00** was issued to SVO Specialty Products, Inc. (SVO) to operate their Oilseed Processing and Refining plant located one mile east on Highway 2 in Culbertson, Montana. The legal description of the location is the SW 1/4 and SE 1/4 of Section 28, Township 28 North, Range 56 East, in Roosevelt County, Montana.

On May 29, 1997, Montola Growers, Inc. requested that MAQP #2949-00 be modified to reflect a change in the ownership of the facility from SVO Specialty Products, Inc. to Sheridan Electric Cooperative. The facility operated under the name Montola Growers, Inc. **MAQP #2949-01** replaced MAQP #2949-00.

On December 26, 2005, the Department of Environmental Quality (Department) received a request to transfer the permit ownership from Sheridan Electric Co-op, Inc. to Sustainable Systems, LLC. On June 15, 2006, the Department received an application for the replacement of the existing 300-ton per day (tpd) oilseed extraction equipment with a new 600-tpd extractor, DTDC, and distillation system. The facility will become a major source under the Prevention of Significant Deterioration (PSD) program, because the Potential to Emit (PTE) exceeds 250 tpy of VOC. The application was deemed complete on August 17, 2006.

Comments received from the applicant on the Preliminary Determination included a request to revise the permitted airflow from the two new DTDC cyclones from 6,000 cubic feet per minute (CFM) to 7,100 CFM, and to permit individual stack tests, rather than combined. Since the total revised new/de-bottlenecked PTE particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM₁₀) remains below the significance level of 15 tpy, the Department agreed to this request. **MAQP #2949-02** replaced MAQP #2949-01.

D. Current Permit Action

On March 22, 2010 the Department received a request from ALM for an administrative amendment to MAQP #2949-02 consisting of transfer of the permit from Montola – a Division of Sustainable Systems, LLC, to ALM. ALM's business structure consists of TOPMAST, LLC which is General Partner to ANCHOR LIGHT, LP, which is a Managing Member of ALM. The amendment was assigned MAQP #2949-03. **MAQP #2949-03** replaces MAQP #2949-02.

E. Additional Information

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

II. Applicable Rules and Regulations

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

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

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

ALM 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

ALM 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, ALM shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. (4) Commencing July 1, 1972, no person shall burn liquid or solid fuels containing sulfur in excess of 1 pound of sulfur per million Btu fired. (5) Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions. ALM will combust propane with a sulfur content of less than 0.0123%, which will meet this limitation.
7. 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.
8. 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 an NSPS affected source because it meets the definition of any NSPS subpart defined in 40 CFR Part 60 as described below.
 - 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 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 a maximum design heat input capacity of 100 million Btu/hr (MMBtu/hr) or less, but greater than 10 MMBtu/hr.
 - The Eclipse and Dixon boilers used at this facility were manufactured prior to June 9, 1989; therefore, 40 CFR 60, Subpart Dc does not apply to these sources.
 - The Hurst 21 MMBtu/hr propane boiler was constructed in 2002 and therefore is subject to 40 CFR 60 Subpart Dc. However, since the boiler fires only propane, was constructed before February 28, 2005, and is less than 30 MMBtu/hr, there are no applicable NSPS requirements for this boiler other than notification and recordkeeping.
 - c. 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. Although the facility has the ability to

store 1.2 million bushels, none of the specified equipment was modified since 1978 and none of the oilseed stored at ALM meets the definition of “grain.” Therefore, 40 CFR Part 60, Subpart DD does not apply to this facility.

- d. Subpart K, Ka, and Kb - Standards of Performance for Storage Vessels for Petroleum Liquids applies to all affected facilities constructed, modified, or reconstructed after June 11, 1973, that have the potential to store more than 40,000 gallons of petroleum liquids. This facility does not store petroleum liquid and volatile organic liquids in excess of 40,000 gallons and/or with vapor pressure in excess of 0.75 psia; therefore 40 CFR Part 60, Subparts K, Ka, and Kb do not apply to this facility.
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:
- a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to an NESHAP Subpart as listed below:
 - b. 40 CFR 63, Subpart GGGG- Solvent Extraction for Vegetable Oil Production: Affected sources under this Subpart are owners or operators of vegetable oil production process that is a major source of HAP emissions or is collocated within a plant site with other sources that are individually or collectively a major source of HAP emissions that processes any combination of Corn germ, Cottonseed, Flax, Peanut, Rapeseed (canola), Safflower, Soybean or Sunflower. ALM meets the definition an affected source under this Subpart.
- D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:
1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.
 2. ARM 17.8.402 Requirements. ALM must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP).
- E. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:
1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.
 2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit

issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

- F. 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 of any pollutant. ALM has a PTE greater than 25 tons per year of PM₁₀, oxides of nitrogen (NO_x) and 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, 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 ALM 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.
- G. 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 listed source, but emissions are greater than or equal to 250 tons per year; therefore, the facility is major. This amendment is administrative in nature therefore no emission increase will result and it does not require a New Source Review (NSR) analysis.

- 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 #2949-03 for ALM, the following conclusions were made:
 - a. The facility's PTE is greater than 100 tons/year for any pollutant.
 - b. The facility's PTE is greater than 10 tons/year for n-hexane and greater than 25 tons/year for all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is subject to a current NSPS (40 CFR 60, Subpart Dc).
 - e. This facility is subject to a current NESHAP standard (40 CFR 63, Subpart GGGG).
 - 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 ALM is subject to the Title V operating permit program.

III. BACT Determination

A BACT determination is required for each new or modified source. ALM 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

| Potential Emissions (Tons/year) | | | | | |
|---|------------------|-----------------|--------------|------------|-----------------|
| Source | PM ₁₀ | NO _x | VOC | CO | SO _x |
| Eclipse Boiler - Propane (500 HP) | 0.6 | 19.1 | 0.5 | 3.2 | 0.0 |
| Hurst Boiler – Propane (500 HP) | 0.6 | 19.1 | 0.5 | 3.2 | 0.0 |
| Dixon Dowtherm Boiler – Propane (125 HP) | 0.0 | 0.4 | 0.0 | 0.1 | 0.0 |
| Solvent Oilseed Extraction System (Extractor, DTDC, Distillation & Misc Equipm.) | 6.9 | | 431.5 | | |
| Cooling Towers | 0.0 | | * | | |
| Railcar and Truck Seed Receiving (<i>fugitive</i>) | 4.1 | | | | |
| Seed Storage Bin Loading | 0.3 | | | | |
| Seed Transfer (Bucket Elevators & Conveyors) | 1.5 | | | | |
| Seed Cleaning | 0.8 | | | | |
| Crystallizer/Precoat Tank Vent | 0.4 | | | | |
| Meal Grinding Cyclone Discharge | 6.1 | | | | |
| Meal Loadout (<i>fugitive</i>) | 4.8 | | | | |
| Haul Roads (<i>fugitive</i>) | 2.5 | | | | |
| Total | 28.6 | | | | |
| Stack | 17.2 | 38.6 | 432.5 | 6.5 | 0.0 |
| <i>Fugitive</i> | 11.4 | | | | |

*Note: VOC Emissions from the cooling towers are included with the overall hexane emissions.

1980 Eclipse Boiler (Backup) - Propane (500 HP)

2002 Hurst Boiler - Propane (500 HP)

Maximum Fuel Combustion: 21 MMBTU/hour (each unit)
Heat Content: 91500 BTU/gallon propane

PM/PM10 Emissions:

Emission Factor: 0.6 lb/1000 gal {AP-42, Table 1.5-1}
Calculations: (21 MMBTU/hr) / (91500 BTU/gal) * (0.6 lbs/1000 gal)* 1000 = 0.1377 lb/hr
0.1377 lb/hr * 8760 * 0.0005 = 0.6 tons/year

All Particulate Matter emissions can be assumed to be less than 10 microns in diameter (AP-42 Table 1.4-1, 10/96).

NOx Emissions:

Emission Factor: 19 lb/1000 gal {AP-42, Table 1.5-1}
Calculations: (21 MMBTU/hr) / (91500 BTU/gal) * (19.0 lbs/1000 gal)* 1000 = 4.36 lb/hr
4.36 lb/hr * 8760 * 0.0005 = 19.1 tons/year

VOC Emissions:

Emission Factor: 0.5 lb/1000 gal {AP-42, Table 1.5-1}
Calculations: (21 MMBTU/hr) / (91500 BTU/gal) * (0.5 lb/1000 gal) * 1000 = 0.1148 lb/hr
0.1148 lb/hr * 8760 * 0.0005 = 0.5 tons/year

CO Emissions:

Emission Factor: 3.2 lb/1000 gal {AP-42, Table 1.5-1}
Calculations: (21 MMBTU/hr) / (91500 BTU/gal) * (3.2 lb/1000 gal) * 1000 = 0.7344 lb/hr
0.7344 lb/hr * 8760 * 0.0005 = 3.2 tons/year

SOx Emissions:

Emission Factor: 0.018 lb/1000 gal {AP-42, Table 1.5-1}
Calculations: (21 MMBTU/hr) / (91500 BTU/gal) * (0.018 lb/1000 gal)* 1000 = 0.0041 lb/hr
0.0041 lb/hr * 8760 * 0.0005 = 0.02 tons/year

1974 Dixon Boiler – Propane (125 HP)

Maximum Fuel Combustion: 0.6 MMBTU/hour
Heat Content: 91500 BTU/gallon propane

PM/PM10 Emissions:

Emission Factor: 0.4 lb/1000 gal {AP-42, Table 1.5-1}
Calculations: $(0.6 \text{ MMBTU/hr}) / (91500 \text{ BTU/gal}) * (0.4 \text{ lbs/1000 gal}) * 1000 = 0.0026 \text{ lb/hr}$
 $0.0026 \text{ lb/hr} * 8760 * 0.0005 = 0.01 \text{ tons/year}$

All Particulate Matter emissions can be assumed to be less than 10 microns in diameter (AP-42 Table 1.4-1, 10/96).

NOx Emissions:

Emission Factor: 14 lb/1000 gal {AP-42, Table 1.5-1}
Calculations: $(0.6 \text{ MMBTU/hr}) / (91500 \text{ BTU/gal}) * (14.0 \text{ lb/1000 gal}) * 1000 = 0.0918 \text{ lb/hr}$
 $0.0918 \text{ lb/hr} * 8760 * 0.0005 = 0.40 \text{ tons/year}$

VOC Emissions:

Emission Factor: 0.5 lb/1000 gal (AP-42, Table 1.5-1)
Calculations: $(0.6 \text{ MMBTU/hr}) / (91500 \text{ BTU/gal}) * (0.5 \text{ lb/1000 gal}) * 1000 = 0.0033 \text{ lb/hr}$
 $0.0033 \text{ lb/hr} * 8760 * 0.0005 = 0.014 \text{ tons/year}$

CO Emissions:

Emission Factor: 1.9 lb/1000 gal {AP-42, Table 1.5-1}
Calculations: $(0.6 \text{ MMBTU/hr}) / (91500 \text{ BTU/gal}) * (1.9 \text{ lb/1000 gal}) * 1000 = 0.0125 \text{ lb/hr}$
 $0.0125 \text{ lb/hr} * 8760 * 0.0005 = 0.05 \text{ tons/year}$

SOx Emissions:

Emission Factor: 0.018 lb/1000 gal {AP-42, Table 1.5-1}
Calculations: $(0.6 \text{ MMBTU/hr}) / (91500 \text{ BTU/gal}) * (0.018 \text{ lbs/1000 gal}) * 1000 = 0.0001 \text{ lb/hr}$
 $0.0001 \text{ lb/hr} * 8760 * 0.0005 = 0.00 \text{ tons/year}$

Solvent Oilseed Extraction System – VOC Emissions

VOC Emissions from the Solvent Extraction System include the following equipment/processes:

Point Sources: Mineral Oil Absorption Exhaust Discharge

Fugitive Sources: Solvent Metering Tanks #3 & 4, Bad Oil Tank #8, Hexane Storage Tank, Hexane Truck Unloading, Hexane Purge Fan, Wastewater Sump, Pond

Maximum Amount of Solvent Used: 0.7 gal/ton of raw oilseed processed (MACT 40 CFR 63 Subpart GGGG)
Maximum Oilseed Processed: 219,000 tons/yr (unrestricted @ 600 tons per day)
Commercial Hexane: 5.63 lb/gal

Calculations:

VOC Emissions:

$219,000 \text{ ton/yr} * 0.7 \text{ gal/ton} * 5.63 \text{ lb/gal} = 863,079 \text{ lb/yr VOC}$
 $863,079 \text{ lb/yr} * 0.0005 = 431.5 \text{ ton/yr VOC}$

HAP Emissions:

$431.5 \text{ tpy VOC} * 88\% \text{ n-hexane} = 379.8 \text{ tpy n-hexane}$

Solvent Oilseed Extraction System – PM Emissions

Point Sources: DTDC Cyclones (two)
Combined air flow: 7,100 dscfm
Emission rate: 0.026 gr/dscf {RBLC and Manufacturer Info}

Calculations:

PM/PM10 Emissions: $(7,100 \text{ dscfm} * 0.026 \text{ gr/dscf} * 60 \text{ min/hr}) / 7,000 \text{ gr/lb} = 1.58 \text{ lb/hr PM/PM}_{10}$
 $1.58 \text{ lb/hr} * 8760 \text{ hr/yr} / 2000 \text{ lb/ton} = 6.93 \text{ tpy PM/PM}_{10}$

Cooling Towers

Solvent Plant Cooling Tower

Cooling Water Recirculation Rate: 1000 gal/min
Emission Factor: 0.002% drift rate {Manufacturer's Estimate}
Total Dissolved Solids (TDS): 551 ppm {Applicant water sample analysis}

Calculations:

PM/PM10 Emissions: $1000 \text{ gal/min} \times 60 \text{ min/hr} \times 8.34 \text{ lb H}_2\text{O/gal} \times 0.002\% \text{ drift} = 10.0 \text{ lb H}_2\text{O/hr}$
 $10.0 \text{ lb H}_2\text{O drift/hr} \times 551 \text{ lb PM/MM lbs H}_2\text{O} = 0.0055 \text{ lb/hr}$
 $0.0055 \text{ lb/hr} \times 8760 \text{ hr/yr} \times 1 \text{ ton/2000 lb} = 0.024 \text{ ton/yr PM}_{10}$

Refinery Cooling Tower

Cooling Water Recirculation Rate: 800 gal/min
Emission Factor: 0.002% drift rate {Manufacturer's Estimate}
Total Dissolved Solids (TDS): 551 ppm {Applicant water sample analysis}

Calculations:

PM/PM10 Emissions: $800 \text{ gal/min} \times 60 \text{ min/hr} \times 8.34 \text{ lb H}_2\text{O/gal} \times 0.002\% \text{ drift} = 8.0 \text{ lb H}_2\text{O/hr}$
 $8.0 \text{ lb H}_2\text{O drift/hr} \times 551 \text{ lb PM/MM lbs H}_2\text{O} = 0.0044 \text{ lb/hr}$
 $0.0044 \text{ lb/hr} \times 8760 \text{ hr/yr} \times 1 \text{ ton/2000 lb} = 0.019 \text{ ton/yr PM}_{10}$

VOC Emissions

VOC Emissions from the cooling towers are included with the overall hexane emissions.

Railcar and Truck Oilseed Unloading (*Fugitive*)

Tons of Oilseed Unloaded: 219,000 ton/yr

PM Emissions

Emission Factor: 0.15 lb/ton {AP-42 Section 9.11.1-1 (11/95)}
Control Efficiency: 0.0%
Calculations: $0.15 \text{ lb/ton} \times 219,000 \text{ ton/yr} = 32,850 \text{ lb/yr}$
 $32,850 \text{ lb/yr} \times 0.0005 = 16.43 \text{ tpy PM}$

PM₁₀ Emissions

Emission Factor: 0.0375 lb/ton {PM₁₀ assumed @ 25% of PM - AP-42 Section 9.9.1-1 (3/03)}
Control Efficiency: 0.0%
Calculations: $0.0375 \text{ lb/ton} \times 219,000 \text{ ton/yr} = 8,212.5 \text{ lb/yr}$
 $8,212.5 \text{ lb/yr} \times 0.0005 = 4.11 \text{ ton/yr PM}_{10}$

Oilseed Storage Bin Loading

Tons Loaded: 219,000 ton/yr
Emission Factor Adjustment: 60% reduction due to oily nature of seed {AP-42 Section 9.9.1 Background Doc page 2-44}
Number of Bins: 12 Storage Bins

PM Emissions

Emission Factor: 0.025 lb/ton {AP-42 Section 9.9.1 (5/03)}
Control Efficiency: 0
Calculations: $0.025 \text{ lb/ton} \times 219,000 = 5,475 \text{ lb/yr}$
 $5,475 \text{ lb/yr} \times (1-.60) = 2,190 \text{ lb/yr}$
 $2,190 \text{ lb/yr} \times 0.0005 = 1.10 \text{ ton/yr}$

PM₁₀ Emissions

Emission Factor: 0.0063 lb/ton {AP-42 Section 9.9.1 (5/03)}
Control Efficiency: 0
Calculations: $0.0063 \text{ lb/ton} \times 219,000 \text{ tons/year} = 1380 \text{ lb/yr}$
 $1,380 \text{ lb/yr} \times (1-.60) = 552 \text{ lb/yr}$
 $552 \text{ lb/yr} \times 0.0005 = 0.28 \text{ ton/yr}$

Seed Transfer (Bucket Elevators & Conveying Systems)

| | | | |
|----------------------------|---------|--------------------------------------|---|
| Tons Unloaded: | 219,000 | ton/yr | |
| Emission Factor Adjustment | 60% | reduction due to oily nature of seed | {AP-42 Section 9.9.1 Background Doc page 2-44} |
| PM Emissions | | | |
| Emission Factor: | 0.061 | lb/ton | {AP-42 Section 9.9.1 (3/03)} |
| Calculations | | | $0.061 \text{ lb/ton} * 219,000 = 13,359 \text{ lb/yr}$ $13,359 \text{ lb/yr} * (1-.60) = 5,344 \text{ lb/yr}$ $5,344 \text{ lb/yr} * 0.0005 = 2.67 \text{ ton/yr}$ |
| PM ₁₀ Emissions | | | |
| Emission Factor: | 0.034 | lb/ton | {AP-42 Section 9.9.1 (3/03)} |
| Calculations | | | $0.034 \text{ lb/ton} * 219,000 \text{ tons/yr} = 7,446 \text{ lb/yr}$ $7,446 \text{ lb/yr} * (1-.60) = 2,978 \text{ lb/yr}$ $2,978 \text{ lb/yr} * 0.0005 = 1.49 \text{ ton/yr}$ |

Seed Cleaning

| | | | |
|----------------------------|---------|--|--|
| Tons of Seed Cleaned: | 219,000 | ton/yr | |
| Control Efficiency: | 0.0% | cyclone considered part of the process | |
| Emission Factor Adjustment | 60% | reduction due to oily nature of seed | {AP-42 Section 9.9.1 Background Doc page 2-44} |
| PM Emissions | | | |
| Emission Factor: | 0.075 | lb/ton | {AP-42 Section 9.9.1 (5/03)} |
| Calculations: | | | $0.075 \text{ lb/ton} * 219,000 \text{ ton/yr} = 16,425 \text{ lb/yr}$ $16,425 \text{ lb/yr} * (1-.60) = 6,570 \text{ lb/yr}$ $6,570 \text{ lb/yr} * 0.0005 = 3.29 \text{ ton/yr}$ |
| PM ₁₀ Emissions | | | |
| Emission Factor: | 0.019 | lb/ton | |
| Calculations: | | | $0.019 \text{ lb/ton} * 219,000 \text{ ton/yr} = 4,161 \text{ lb/yr}$ $4,161 \text{ lb/yr} * (1-.60) = 1,664 \text{ lb/yr}$ $1,664 \text{ lb/yr} * 0.0005 = 0.83 \text{ ton/yr}$ |

Meal Grinding Cyclone Discharge

| | | | |
|----------------------------|---------|---------------------------|---|
| Tons of Oilseed Processed: | 219,000 | tpy raw oilseed processed | |
| Tons of Meal Processed: | 142,350 | tpy meal processed | {applicant estimate that 65% of oilseed is meal} |
| PM Emissions | | | |
| Emission Factor: | 0.34 | lb/ton | {AP-42 Section 9.11.1-1 (11/95)} |
| Control Efficiency: | 0.0% | | |
| Calculations: | | | $0.34 \text{ lb/ton} * 142,350 \text{ ton/yr} = 48,399 \text{ lb/yr}$ $48,399 \text{ lb/yr} * 0.0005 = 24.2 \text{ tpy PM}$ |
| PM ₁₀ Emissions | | | |
| Emission Factor: | 0.085 | lb/ton | {PM ₁₀ assumed at 25% of PM - AP-42 Section 9.9.1-1 (3/03)} |
| Control Efficiency: | 0.0% | | |
| Calculations | | | $0.085 \text{ lb/ton} * 142,350 \text{ ton/yr} = 12,100 \text{ lb/yr}$ $12,100 \text{ lb/yr} * 0.0005 = 6.05 \text{ ton/yr PM}_{10}$ |

Meal Loadout (Fugitive)

| | | | |
|----------------------------|---------|---------------------------|--|
| Tons of Oilseed Processed: | 219,000 | tpy raw oilseed processed | |
| Tons of Meal Processed: | 142,350 | tpy meal processed | {applicant estimate that 65% of oilseed is meal} |
| PM Emissions | | | |
| Emission Factor: | 0.27 | lb/ton | {AP-42 Section 9.11.1 (11/95)} |
| Control Efficiency: | 0.0% | | |
| Calculations: | | | $0.27 \text{ lb/ton} * 142,350 = 38,434.5 \text{ lb/yr}$ $38,434.5 \text{ lb/yr} * 0.0005 = 19.22 \text{ ton/yr}$ |
| PM ₁₀ Emissions | | | |
| Emission Factor: | 0.0675 | lb/ton | |
| Control Efficiency: | 0.0% | | |
| Calculations | | | $0.0675 \text{ lb/ton} * 142,350 \text{ ton/yr} = 9,608.6 \text{ lb/yr}$ $9,608.6 \text{ lb/yr} * 0.0005 = 4.80 \text{ ton/yr}$ |

Crystallizer/Precoat Tank Vent

Tons Processed: 330 ton/yr

PM Emissions

Emission Factor: 10 lb/ton {Visual estimate from applicant}
 Calculations 10.0 lb/ton * 330 ton/day * 0.0005 = 1.65 ton/yr

PM-10 Emissions

Emission Factor: 2.5 lb/ton {Based on PM10 @ 25% of PM}
 Calculations 2.5 lb/ton * 330 ton/yr * 0.0005 = 0.41 ton/yr

Haul Roads (fugitive)

Vehicle miles traveled: 2500 VMT {based on previous permit information}
 Control Efficiency: 50%

PM Emission Factor: 13.9 lb/VMT {AP-42, Section 13.2.2, Eq 1a}
 13.9 lb/VMT * 2500.0 VMT/year * 50% = 17,375 lb/year
 17,375 lb/year * 0.0005 ton/lb = 8.69 tons/year

PM-10 Emission Factor: 3.95 lb/VMT {AP-42, Section 13.2.2, Eq 1a}
 3.95 lb/VMT * 2500.0 VMT/year * 50% = 4938 lbs/year
 4938 lbs/year * 0.0005 ton/lb = 2.47 tons/year

V. Existing Air Quality

The ALM facility is located in the SW 1/4 and SE 1/4 of Section 28, Township 28 North, Range 56 East, in Roosevelt County, Montana. Roosevelt County is unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants.

VI. Ambient Air Impact Analysis

The Department determined that the impacts from this permitting action will be minor because the permitting action is administrative and does not authorize a change in emissions from the facility. The Department believes it 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)]. |
| NA | | 5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests? |
| NA | | 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? |
| | NA | 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: P. Skubinna

Date: April 14, 2010