Mr. Jack Ewart
Agricor, Inc.
P.O. Box 807
Marion, Indiana 46952

Re: 053-12323-00052
First Significant Revision to
FESOP053-7235-00052

Dear Mr. Ewart:

Agricor, Inc. was issued a FESOP on July 8, 1998 for a dry corn milling operation. A letter requesting changes to this permit was received on May 26, 2000. Pursuant to the provisions of 326 IAC 2-8-11.1 a significant permit revision to this permit is hereby approved as described below

The permit revision consists of the construction of the following equipment.

New Equipment:

(1) Milling line, which consists of three (3) roller mills, eight (8) aspirators, two (2) sifters, one (1) hammermill and conveying equipment. The PM emissions from this equipment is controlled by fabric filters P-1, MVSA, HM-1, and FC-1.

(2) New steam dryers; one (1) meal rotary dryer with cyclone D-4; one (1) grits rotary dryer with cyclone D-5; one (1) cones rotary dryer with cyclone D-6. Their combined PM emission are controlled by cyclone D-7. The steam supplied for these dryers comes from the existing boilers, listed in Section A.3 Insignificant activities of the FESOP.

(3) New line coolers; one (1) meal cooler, C4, with PM emissions controlled by cyclone and bag filter C-4; one (1) grit cooler, C5, with PM emissions controlled by cyclone and bag filter C-5; and one (1) cones cooler, C6, with PM emissions controlled by cones cooler filter C-6.

(4) Grain handling and cleaning equipment, which is controlled by the Cleaninghouse Filter, CH-1.

The expansion will also involve utilizing the existing equipment:

(5) Receiving pit, to handle additional throughput.

(6) Product Storage, loading and shipping equipment.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

Changes to the FESOP (changes are bolded and deletions are struck-through for emphasis):

(1) Section D.1 of the FESOP is revised to incorporate the new proposed equipment and the additional throughput.

SECTION D.1 FACILITY OPERATION CONDITIONS

Existing Equipment:

(1) Receiving pit with a maximum capacity of 156,800 lbs/hr.
(2) **Five** ~~Four~~ (**5** ~~4~~) bins to store corn each with a capacity of 560,000 lbs.
(3) Precleaning/handling equipment with a max. throughput rate of 25,760 lbs/hr.
(4) Cleaning equipment with a max. throughput rate of 25,760 lbs/hr, **controlled by filter A/B.**
(5) Milling equipment with a max. throughput rate of 25,760 lbs/hr, **controlled by filters C asp, A/B asp, A plf, B plf, C plf, and A/B feed.**
(6) **Meal drying operation:**
  (a) Three (3) rotary dryers identified as meal, grits and cones dryers with a combined rate of 25,760 lbs./hr and particulate emissions from each of the dryers controlled by multiple cyclones **identified as D-1, D-2 and D-3**.
(7) **Cooling operation**:
  (a) Three (3) coolers identified as ~~flour~~ **meal,** grits and cones coolers with a combined rate of 25,760 lbs/hr, **controlled by filters C-1, C-2, and C-3.**
(8) Three (3) bins to store product each with a capacity of 120,000 lbs.
(9) Fifteen (15) bins to store product each with a capacity of 50,000 lbs.
(10) One (1) bin to store product with a capacity of 20,000 lbs.
(11) Loading/shipping equipment with a maximum rate of 25,760 lbs/hr.
(12) Line 1 Sifting equipment with a maximum product rate of 16,016 lbs/hr.
(13) Line 1 Grinding equipment with a maximum product rate of 16,016 lbs/hr.
(14) Line 1 Aspiration equipment with a maximum capacity of 3500 acfm.
~~(12) Three (3) baghouses grouped together as M-1, two(2) baghouses grouped as M-2 and three(3) baghouses grouped as M-3 controlling particulate emissions from Precleaning and Handling, Cleaning, Milling and Cooling operations respectively.~~
~~(13) Three multicyclone systems identified as D-1, D-2 and D-3 controlling particulate emissions from the drying operation~~

New Equipment:

(1) Milling line, which consists of three (3) roller mills, eight (8) aspirators, two (2) sifters, one (1) hammermill and conveying equipment. The PM emissions from this equipment is controlled by fabric filters P-1, MVSA, HM-1, and FC-1.
(2) New steam dryers; one (1) meal rotary dryer with cyclone D-4; one (1) grits rotary dryer with cyclone D-5; one (1) cones rotary dryer with cyclone D-6. Their combined PM emission are controlled by cyclone D-7. The steam supplied for these dryers comes from the existing boilers.
(3) New line coolers; one (1) meal cooler, C4, with PM emissions controlled by cyclone and bag filter C-4; one (1) grit cooler, C5, with PM emissions controlled by cyclone and bag filter C-5; and one (1) cones cooler, C6, with PM emissions controlled by cones cooler filter C-6.
(4) Grain handling and cleaning equipment, which is controlled by the Cleaninghouse Filter, CH-1.

The expansion will also involve utilizing the existing equipment:

(5) Receiving pit, to handle additional throughput.
(6) Product Storage, loading and shipping equipment.

(2) The following condition (numbered D.1.1) to limit the PM10 is added in the FESOP, since the original permit did not contain one:

D.1.1 Particulate Matter Less Than Ten Microns (PM10) [326 IAC 2-8]
The sourcewide PM10 emission rate shall be limited as follows:

Facility	Air Flow Rate Limit (cfm)	Grain Loading (gr/dscf)	PM Limit (lbs/hour)	PM10 Limit (lbs/hour)
New Process Line:				
Receiving from Existing Line and New Line	**Fugitive**			**1.2**
Grain Handling & Cleaning (Cleaninghouse Filter CH-1)	**20340**	**0.02**	**11.6**	**3.5**
Milling: **Pneumatic Lift Filter, P-1** **Hammermill Filter, HM-1** **Aspirator Filter, MVSA** **Feed Collection Filter, FC-1**	 **6200** **900** **11000** **3800**	 **0.02** **0.02** **0.02** **0.02**	 **3.6** **0.52** **6.3** **2.2**	 **1.06** **0.15** **1.88** **0.65**
Meal Dryer Cyclone, D-4 **Grit Dryer Cyclone, D-5** **Cones Dryer Cyclone, D-6 (ALL CONTROLLED BY CYCLONE D-7)**	**1440** **1440** **1400** **5520**	**0.041** **0.041** **0.041**	**0.82** **0.82** **0.82**	**1.9**
Meal Cooler Filter, C4	**3270**	**0.02**	**1.5**	**0.5**
Grit Cooler Filter, C5	**3270**	**0.02**	**1.5**	**0.5**
Cones Cooler, C6	**2450**	**0.02**	**1.4**	**0.72**
Loading/Shipping For Both Lines			**0.80**	**0.25**
Existing Process Line:				
Grain Handling & Cleaning (Cleaninghouse Filter A/B ch)	**9000**	**0.02**	**5.2**	**1.5**
Milling: **Pneumatic Lift Filter, A** **Pneumatic Lift Filter, B** **Pneumatic Lift Filter, C** **Aspirator Filter, A/B asp** **General Aspiration, C asp** **Feed Filter, A/B feed**	 **2940** **1500** **1900** **7000** **5500** **2600**	 **0.02** **0.02** **0.02** **0.02** **0.02** **0.02**	 **1.7** **0.86** **1.09** **4.0** **3.15** **1.5**	 **0.50** **0.25** **0.32** **1.2** **0.90** **0.40**
Meal Dryer Cyclone, D1 **Grit Cyclone, D2** **Cones Cyclone, D3** **(ALL CONTROLLED BY CYCLONE D-8)**	**4034**	**0.103**	**2.28**	**3.6**
Meal Cooler Filter, C1	**4000**	**0.02**	**2.28**	**0.68**
Grit Cooler Filter, C2	**3500**	**0.02**	**2.0**	**0.6**
Cones Cooler Filter, C3	**1500**	**0.02**	**0.86**	**0.27**

Compliance with the PM and PM10 emission limits will make 326 IAC 2-2 Prevention of Significant Deterioration (PSD) and 40 CFR 52.21 not applicable. Compliance with the PM10 emission limits will make 326 IAC 2-7 (Part 70 Permit Program) not applicable.

(3) Condition D.1.1 in the original FESOP is renumbered D.1.2 and revised as follows:

D.1.~~1~~ **2** Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the above listed equipment of the dry corn milling operation **shall be limited as follows:** ~~not exceed 22.7 pounds per hour, a grain process weight rate of 25,760 pounds per hour.~~

Process/Facility	PM Emission Limit (lbs/hr)
New Process Line:	
Receiving (New & Existing Lines)	36.0
Grain Cleaning & Handling	22.7
Milling Line - aspirators, roller mills, hammermill and receivers	22.7
Sifter	16.5
Meal Drying - three dryers	10.88 each
Meal Cooling- three coolers	10.88 each
Existing Process Line:	
Grain Cleaning & Handling	22.7
Milling- aspirators, roller mills, hammermills and receivers	22.7
Meal Drying - three dryers	10.88 each
Meal Cooling- three coolers	10.88 each
Existing Sifter	16.5
Existing Grinding operation	16.5
Loading/Shipping (New & Existing Lines)	36.0

The above pounds per hour limitation**s** s**hall be** calculated using the following equation:

$E = 4.10\ P^{0.67}$ where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

(4) The following condition was added under Compliance Determination and numbered D.1.4:

D.1.4 Baghouses/Dust Collectors, Cyclones and Filters

Baghouses/dust collectors and filters P-1, MVSA, HM-1, FC-1, CH-1, C-1 through C-6, C asp, A/B asp, A plf, B plf, C plf, A/B feed, D-1 through D-6, shall operate at all times the process being controlled is in operation.

(5) Testing Requirements was added in the FESOP and numbered D.1.5, since the PM and PM10 potential emissions are at levels above 250 tons per year, and control equipment is used to stay below the PSD threshold.

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

An initial compliance stack tests shall be performed for representative baghouses/dust collectors MVSA, CH-1, C-4, and D-4 to determine compliance with the PSD limit in Condition D.1.1 and to establish each pressure drop range that correspond to the PM and PM10 limit in D.1.1 and D.1.2, utilizing methods as approved by the Commissioner. These tests shall be conducted within 60 days after the new equipment has achieved the maximum production rate, but no later than 180 days after the (new equipment) initial start-up.

(6) Condition D.1.3 Visible Emissions Notations in the original FESOP was revised to specify the facility and included the new equipment dust collector and cyclones since their PM uncontrolled emissions are at levels greater than 250 tons/yr.

D.1.3 ~~3~~ **6** Visible Emissions Notations

(a) ~~Daily~~ ~~v~~ **V**isible emission notations **of P-1, MVSA, HM-1, FC-1, CH-1, C-1 through C-6, C asp, A/B asp, A plf, B plf, C plf, A/B feed, D-1 through D-6, exhausts, including building openings/vents shall be performed once per shift** during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

(7) Condition D.1.4 Parametric Monitoring in the original FESOP was revised to include the new dust collector and cyclones, since their PM allowable emissions are at levels greater than 10 lb/hr, *which will require Compliance Monitoring and compliance stack test*:

D.1.4 ~~4~~ **7** Parametric Monitoring for Baghouses**/dust collectors and cyclones** ~~M—1, M—2, M—3~~

The Permittee shall record the total static pressure drop across the **baghouses/dust collectors and cyclones identified as P-1, MVSA, HM-1, FC-1, C asp, A/B asp, A plf, B plf, C plf, A/B feed, CH-1, C-1 through C-6, D-1 through D-6** used in conjunction with the milling operation, at least once weekly when the milling equipment is in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across each of

the following baghouses **P-1, MVSA, HM-1, FC-1, C asp, A/B asp, A plf, B plf, C plf, A/B feed, CH-1, C-1 through C-6** shall be maintained within the range of 0.**5** and 4.0 inches of water or a range established **during the latest stack test**. **The pressure drop for cyclones D-1 through D-6 shall be maintained within the range of 2.0 and 4.0 inches of water or a range established during the latest stack test.** The Compliance Response Plan for these units shall contain troubleshooting contingency and ~~corrective actions~~ **response steps** for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

An inspection shall be performed each calender quarter of all bags controlling the milling operation. All defective bags shall be replaced.

Subsequent Section D.1 conditions are re-numbered accordingly.

(8) As requested by the source, Section D.2 was deleted on page 29 of 34 of the issued FESOP and instead was combined with Section D.1.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Aida De Guzman, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call at (800) 451-6027, press 0 and ask for (Aida De Guzman) or extension (3-4972), or dial (317) 233-4972.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
APD
cc: File -Grant County
U.S. EPA, Region V
Grant County Health Department
Air Compliance Section Inspector - Jim Thorpe
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) OFFICE OF AIR QUALITY

Agricor, Inc.
1626 South Joaquin Drive
Marion, Indiana 46952

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 and 326 IAC 2-1-3.2, as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F053-7235-00052	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: July 8, 1998
1st Significant Permit Revision No.: 053-12323-00052	Pages Affected: 4, 5, 26, 27, 28, 29, 30 Pages Added: 28a, 28b
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date:

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) and presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a dry corn milling operation with a maximum grain process rate of 12.88 tons per hour or 460 bushels per hour.

Responsible Official:	Jack Ewart
Source Address:	1626 South Joaquin Drive, Marion Indiana
Mailing Address:	P. O. Box 807, Marion, Indiana IN 46952
SIC Code:	2041
County Location:	Grant
County Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD Rules;

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

Existing Equipment:

(1) Receiving pit with a maximum capacity of 156,800 lbs/hr.
(2) Five (5) bins to store corn each with a capacity of 560,000 lbs.
(3) Precleaning/handling equipment with a max. throughput rate of 25,760 lbs/hr.
(4) Cleaning equipment with a max. throughput rate of 25,760 lbs/hr, controlled by filter A/B.
(5) Milling equipment with a max. throughput rate of 25,760 lbs/hr, controlled by filters C asp, A/B asp, A plf, B plf, C plf, and A/B feed.
(6) Meal drying operation:
    (a) Three (3) rotary dryers identified as meal, grits and cones dryers with a combined rate of 25,760 lbs./hr and particulate emissions from each of the dryers controlled by multiple cyclones identified as D-1, D-2 and D-3.
(7) Cooling operation:
    (a) Three (3) coolers identified as meal, grits and cones coolers with a combined rate of 25,760 lbs/hr, controlled by filters C-1, C-2, and C-3.
(8) Three (3) bins to store product each with a capacity of 120,000 lbs.
(9) Fifteen (15) bins to store product each with a capacity of 50,000 lbs.
(10) One (1) bin to store product with a capacity of 20,000 lbs.
(11) Loading/shipping equipment with a maximum rate of 25,760 lbs/hr.
(12) Line 1 Sifting equipment with a maximum product rate of 16,016 lbs/hr.
(13) Line 1 Grinding equipment with a maximum product rate of 16,016 lbs/hr.
(14) Line 1 Aspiration equipment with a maximum capacity of 3500 acfm.

New Equipment:

(1) Milling line, which consists of three (3) roller mills, eight (8) aspirators, two (2) sifters, one (1) hammermill and conveying equipment. The PM emissions from this equipment is controlled by fabric filters P-1, MVSA, HM-1, and FC-1.
(2) New steam dryers; one (1) meal rotary dryer with cyclone D-4; one (1) grits rotary dryer with cyclone D-5; one (1) cones rotary dryer with cyclone D-6. Their combined PM emission are controlled by cyclone D-7. The steam supplied for these dryers comes from the existing boilers, listed in Section A.3 Insignificant activities of the FESOP.

(3) New line coolers; one (1) meal cooler, C4, with PM emissions controlled by cyclone and bag filter C-4; one (1) grit cooler, C5, with PM emissions controlled by cyclone and bag filter C-5; and one (1) cones cooler, C6, with PM emissions controlled by cones cooler filter C-6.
(4) Grain handling and cleaning equipment, which is controlled by the Cleaninghouse Filter, CH-1.

The expansion will also involve utilizing the existing equipment:

(5) Receiving pit, to handle additional throughput.
(6) Product Storage, loading and shipping equipment.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(1) One (1) natural gas fired boiler, identified as B1, with a rated capacity of 1.67 mmBtu/hr.
(2) One (1) natural gas fired boiler, identified as B2, with a rated capacity of 4.185mmBtu/hr.
(2) Propane or liquified petroleum gas, or butane-fired combustion sources with heat input equal to or less than six (6,000,000) Btu per hour.
(3) Combustion source flame safety purging on startup.
(4) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 230, 000 gallons per month.
(5) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughput less than 12,000 gallons.
(6) Vessels storing lubricating oils, hydraulic oils, machining oils and machining fluids.
(7) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6
(8) The following equipment related to manufacturing activities not resulting in the emissions of HAP's: brazing equipment, cutting torches, soldering equipment, welding equipment.
(9) Closed loop heating and cooling systems.
(10) Solvent recycling systems with batch capacity less than equal to 100 gallons.
(11) Blow down for the any of the following: sight glass; boiler; compressors; pumps; and cooling waters.
(12) Farm operations

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).

SECTION D.1 FACILITY OPERATION CONDITIONS

Existing Equipment:

(1) Receiving pit with a maximum capacity of 156,800 lbs/hr.
(2) Five (5) bins to store corn each with a capacity of 560,000 lbs.
(3) Precleaning/handling equipment with a max. throughput rate of 25,760 lbs/hr.
(4) Cleaning equipment with a max. throughput rate of 25,760 lbs/hr, controlled by filter A/B.
(5) Milling equipment with a max. throughput rate of 25,760 lbs/hr, controlled by filters C asp, A/B asp, A plf, B plf, C plf, and A/B feed.
(6) Meal drying operation:
    (a) Three (3) rotary dryers identified as meal, grits and cones dryers with a combined rate of 25,760 lbs./hr and particulate emissions from each of the dryers controlled by multiple cyclones identified as D-1, D-2 and D-3.
(7) Cooling operation:
    (a) Three (3) coolers identified as meal, grits and cones coolers with a combined rate of 25,760 lbs/hr, controlled by filters C-1, C-2, and C-3.
(8) Three (3) bins to store product each with a capacity of 120,000 lbs.
(9) Fifteen (15) bins to store product each with a capacity of 50,000 lbs.
(10) One (1) bin to store product with a capacity of 20,000 lbs.
(11) Loading/shipping equipment with a maximum rate of 25,760 lbs/hr.
(12) Line 1 Sifting equipment with a maximum product rate of 16,016 lbs/hr.
(13) Line 1 Grinding equipment with a maximum product rate of 16,016 lbs/hr.
(14) Line 1 Aspiration equipment with a maximum capacity of 3500 acfm.

New Equipment:

(1) Milling line, which consists of three (3) roller mills, eight (8) aspirators, two (2) sifters, one (1) hammermill and conveying equipment. The PM emissions from this equipment is controlled by fabric filters P-1, MVSA, HM-1, and FC-1.
(2) New steam dryers; one (1) meal rotary dryer with cyclone D-4; one (1) grits rotary dryer with cyclone D-5; one (1) cones rotary dryer with cyclone D-6. Their combined PM emission are controlled by cyclone D-7. The steam supplied for these dryers comes from the existing boilers, listed in Section A.3 Insignificant activities of the FESOP.
(3) New line coolers; one (1) meal cooler, C4, with PM emissions controlled by cyclone and bag filter C-4; one (1) grit cooler, C5, with PM emissions controlled by cyclone and bag filter C-5; and one (1) cones cooler, C6, with PM emissions controlled by cones cooler filter C-6.
(4) Grain handling and cleaning equipment, which is controlled by the Cleaninghouse Filter, CH-1.

The expansion will also involve utilizing the existing equipment:

(5) Receiving pit, to handle additional throughput.
(6) Product Storage, loading and shipping equipment.

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Particulate Matter Less Than Ten Microns (PM10) [326 IAC 2-8]

The sourcewide PM10 emission rate shall be limited as follows:

Facility	Air Flow Rate Limit (cfm)	Grain Loading (gr/dscf)	PM Limit (lbs/hour)	PM10 Limit (lbs/hour)
New Process Line:				
Receiving from Existing Line and New Line	Fugitive			1.2
Grain Handling & Cleaning (Cleaninghouse Filter CH-1)	20340	0.02	11.6	3.5
Milling: Pneumatic Lift Filter, P-1 Hammermill Filter, HM-1 Aspirator Filter, MVSA Feed Collection Filter, FC-1	 6200 900 11000 3800	 0.02 0.02 0.02 0.02	 3.6 0.52 6.3 2.2	 1.06 0.15 1.88 0.65
Meal Dryer Cyclone, D-4 Grit Dryer Cyclone, D-5 Cones Dryer Cyclone, D-6 (ALL CONTROLLED BY CYCLONE D-7)	1440 1440 1400 5520	0.041 0.041 0.041	0.82 0.82 0.82	1.9
Meal Cooler Filter, C4	3270	0.02	1.5	0.5
Grit Cooler Filter, C5	3270	0.02	1.5	0.5
Cones Cooler, C6	2450	0.02	1.4	0.72
Loading/Shipping For Both Lines			0.80	0.25
Existing Process Line:				
Grain Handling & Cleaning (Cleaninghouse Filter A/B ch)	9000	0.02	5.2	1.5
Milling: Pneumatic Lift Filter, A Pneumatic Lift Filter, B Pneumatic Lift Filter, C Aspirator Filter, A/B asp General Aspiration, C asp Feed Filter, A/B feed	 2940 1500 1900 7000 5500 2600	 0.02 0.02 0.02 0.02 0.02 0.02	 1.7 0.86 1.09 4.0 3.15 1.5	 0.50 0.25 0.32 1.2 0.90 0.40
Meal Dryer Cyclone, D1 Grit Cyclone, D2 Cones Cyclone, D3 (ALL CONTROLLED BY CYCLONE D-8)	4034	0.103	2.28	3.6
Meal Cooler Filter, C1	4000	0.02	2.28	0.68
Grit Cooler Filter, C2	3500	0.02	2.0	0.6
Cones Cooler Filter, C3	1500	0.02	0.86	0.27

Compliance with the PM and PM10 emission limits will make 326 IAC 2-2 Prevention of Significant Deterioration (PSD) and 40 CFR 52.21 not applicable. Compliance with the PM10 emission limits will make 326 IAC 2-7 (Part 70 Permit Program) not applicable.

D.1.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the above listed equipment of the dry corn milling operation shall be limited as follows:

Process/Facility	PM Emission Limit (lbs/hr)
New Process Line:	
Receiving (New & Existing Lines)	36.0
Grain Cleaning & Handling	22.7
Milling Line - aspirators, roller mills, hammermill and receivers	22.7
Sifter	16.5
Meal Drying - three dryers	10.88 each
Meal Cooling- three coolers	10.88 each
Existing Process Line:	
Grain Cleaning & Handling	22.7
Milling- aspirators, roller mills, hammermills and receivers	22.7
Meal Drying - three dryers	10.88 each
Meal Cooling- three coolers	10.88 each
Existing Sifter	16.5
Existing Grinding operation	16.5
Loading/Shipping (New & Existing Lines)	36.0

The above pounds per hour limitations shall be calculated using the following equation:

$E = 4.10\ P^{0.67}$ where: E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

D.1.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B.13 - Preventive Maintenance Plan, of this permit, is required for the above equipment and their control devices.

Compliance Determination Requirements

D.1.4 Baghouses/Dust Collectors, Cyclones and Filters

Baghouses/dust collectors and filters P-1, MVSA, HM-1, FC-1, CH-1, C-1 through C-6, C asp, A/B asp, A plf, B plf, C plf, A/B feed, D-1 through D-6, shall operate at all times the process being controlled is in operation.

D.1.5 Testing Requirements [326 IAC 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

An initial compliance stack tests shall be performed for representative baghouses/dust collectors MVSA, CH-1, C-4, and D-4 to determine compliance with the PSD limit in Condition D.1.1 and to establish each pressure drop range that correspond to the PM and PM10 limit in D.1.1 and D.1.2,

utilizing methods as approved by the Commissioner. These tests shall be conducted within 60 days after the new equipment has achieved the maximum production rate, but no later than 180 days after the (new equipment) initial start-up.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.6 Visible Emissions Notations

(a) Visible emission notations of P-1, MVSA, HM-1, FC-1, CH-1, C-1 through C-6, C asp, A/B asp, A plf, B plf, C plf, A/B feed, D-1 through D-6, exhausts, including building openings/vents shall be performed once per shift during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.7 Parametric Monitoring for Baghouses/dust collectors and cyclones

The Permittee shall record the total static pressure drop across the baghouses/dust collectors and cyclones identified as P-1, MVSA, HM-1, FC-1, C asp, A/B asp, A plf, B plf, C plf, A/B feed, CH-1, C-1 through C-6, D-1 through D-6 used in conjunction with the milling operation, at least once weekly when the milling equipment is in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across each of the following baghouses P-1, MVSA, HM-1, FC-1, C asp, A/B asp, A plf, B plf, C plf, A/B feed, CH-1, C-1 through C-6 shall be maintained within the range of 0.5 and 4.0 inches of water or a range established during the latest stack test. The pressure drop for cyclones D-1 through D-6 shall be maintained within the range of 2.0 and 4.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

An inspection shall be performed each calender quarter of all bags controlling the milling operation. All defective bags shall be replaced.

D.1.8 Broken Bag or Failure Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. For single compartment baghouses, failed units and the associated process will be shut down immediately until failed units have been repaired or replaced.

(b) Within eight (8) hours of the determination of failure, response steps according to the

timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.

D.1.9 Meal Coolers and Dryers Cyclones D-1, D-2, D-3

(a) Visual inspection to verify that the fans are running shall be performed two (2) times every shift.

(b) Inspection for leaks in ductwork and multicyclone shall be done on weekly basis.

D.1.10 Receiving Pit

Visual inspection by corn grader to verify that bin is used when receiving corn from dump trucks, whenever corn is received from dump trucks.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.11 Record Keeping Requirements

(a) To document compliance with Condition D.1.6 the Permittee shall maintain records of visible emission notations per shift of all the dust collector exhausts, cyclone exhausts and building openings/vents.

(b) To document compliance with Condition D.1.7, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) Records shall also be kept to demonstrate compliance with conditions D.1.8, D.1.9 and D.1.10.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Section D.2 has been combined with Section D.1

Section D.2 has been combined with Section D.1

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the
Technical Support Document for 1st Significant FESOP Permit Revision

Agricor, Inc.
1626 South Joaquin Drive
Marion, Indiana 46952

1st Significant Permit Revision 053-12323-00052

On December 8, 2000, the Office of Air Quality (OAQ) had a notice published in the Marion Chronicle Tribune, Marion Indiana, stating that Agricor, Inc. had applied for a significant permit revision to construct and operate a new process line that will handle the additional production capacity with baghouses to control the PM and PM10 emissions. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On January 5, 2001, Agricor, Inc. submitted comments on the proposed FESOP. The summary of the comments is as follows (changes are bolded and deletions are struck-through for emphasis):

Comment 1: Condition D.1.1- The list of new equipment should describe filter C6 as the “cones cooler filter, C-6".

Response 1: A change was made in the final permit by describing filter C6 as “cones cooler filter, C-6". This change was also reflected in Section A.2(3), Section D.1 description table, and in the letter. Change is as follows:

(3) New line coolers; one (1) meal cooler, C4, with PM emissions controlled by cyclone and bag filter C-4; one (1) grit cooler, C5, with PM emissions controlled by cyclone and bag filter C-5; and one (1) cones cooler, C6, with PM emissions controlled by ~~cyclone and bag~~ **cones cooler** filter C-6.

Comment 2: Section A.2 and Section D.1 - The description for the first item under New Equipment provides an air flow rate for the aspirators. Agricor suggests deleting this reference, as 1) it is not clear whether this reference is for the aspirators and roller mills combined or for the aspirators only, and 2) air flow rates are not provided for any other new emission units in this section. Air flow rates for all units are provided under Condition D.1.1.

Response 2: The referenced air flow rate in Sections A.2 and D.1 is for the aspirators, however for consistency, it was deleted in Section A.2 and D.1 as follows:

New Equipment:
(1) Milling line, which consists of three (3) roller mills, eight (8) aspirators~~, with a total maximum air flow rate of 11,000 acfm; and~~ two (2) sifters, one (1) hammermill and conveying equipment. The PM emissions from this equipment is controlled by fabric filters P-1, MVSA, HM-1, and FC-1.

Comment 3: Condition D.1.5 - This condition establishes stack testing requirements for several emission units at the Agricor facility. Agricor has several concerns regarding this

requirement:

(1) The requirement states that stack tests must be performed for a total of 23 emission points, but then indicates that "representative dust collectors, baghouses, filters and cyclones may be tested, but tests plan must be submitted to IDEM, OAQ for approval". Agricor is concerned that this condition does not provide guidance on how to judge whether one emission unit is "representative" of another, and does not establish an upper bound for number of tests that must be performed. The cost of performing 23 PM and PM-10 tests would be prohibitive for a company of Agricor's size.

(2) Most of the emission units listed in this condition are set up to exhaust within the plant much of the year and only directed outside the plant when high temperature causes Agricor to direct exhausts outside to maintain a tolerable work environment. These exhausts are not "stacks" but are merely ducts that exit the side of dust collectors or out the side of Agricor's milling building. These exhausts are typically flush with the building and have no ductwork in which ports may be located. Considerable effort and modification of Agricor's equipment would be required in order to allow stack tests to be performed on this equipment.

(3) The emission units identified in this condition include many that already exist at the Agricor facility, and for which IDEM investigated the feasibility of stack testing at the time the original FESOP was issued. Following this investigation, IDEM agreed that stack testing of these units was not feasible and eliminated this requirement from the FESOP. As a result of current modifications at the plant, IDEM is now including equipment that was previously exempted from stack testing into such requirements.

(4) The filters and cyclones used by Agricor on its operations are typical of the controls that would be used on other grain milling operations. Agricor believes that visual observation and pressure drop requirements should be sufficient to establish whether equipment is operating as required or not.

In view of Agricor's concerns of this condition and its implications for its operations, Agricor suggests that this condition be reworded as follows:

D.1.5 Agricor shall provide IDEM, OAQ with a plan outlining the manner in which compliance with PM and PM-10 emission limits shall be assured for baghouses/dust collectors P-1, MVSA, HM-1, FC-1, CH-1, C-1 through C-6, C asp, A/B asp, A plf, B plf, C plf and A/B feed, and cyclones D-1 through D-6. This plan shall address the feasibility of stack testing for representative units, and may include the use of other information that Agricor believes may be pertinent, including workplace particulate sampling results. This plan must be submitted to IDEM, OAQ within 60 days after the new equipment has achieved the maximum production rate.

Response 3: IDEM, OAQ has deleted the stack testing requirements under Condition D.1.5 for the **existing units**, because the "FESOP Test Criteria" does not apply to them. However, the "New Construction Test Criteria" will apply for each of the new units that has potential PM and PM10 emissions before control greater than the 40 tons per year which utilizes control equipment to stay below the 250 tons per year, PSD threshold level. IDEM has required the following representative baghouses to be stack tested. Condition D.1.5 is therefore revised as follows:

D.1.5 Testing Requirements [326 IAC 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

An initial compliance stack tests shall be performed for **representative** baghouses/dust collectors ~~P-1~~, MVSA, ~~HM-1, FC-1,~~ CH-1, C-**4** ~~1, through C-6, C asp, A/B asp, A plf, B~~

~~plf, C plf, and A/B feed, and cyclones~~ D-~~1~~ **4** ~~through D-6~~ **to determine compliance with the PSD limit in Condition D.1.1** and to establish each pressure drop range that correspond to the PM and PM10 limit in D.1.1 and D.1.2, **utilizing methods as approved by the Commissioner**. ~~Representative duct collectors, baghouse, filters and cyclones may be tested, but tests plan must be submitted to IDEM, OAM for approval~~. These tests shall be conducted within 60 days after the new equipment has achieved the maximum production rate, but no later than 180 days after the (new equipment) initial start-up.

Relative to the stack testing revision, a PSD limit in pounds of PM per hour has been added in Condition D.1.1. Condition D.1.1 is revised as follows:

D.1.1 Particulate Matter Less Than Ten Microns (PM10) [326 IAC 2-8]

The sourcewide PM10 emission rate shall be limited as follows:

Facility	Air Flow Rate Limit (cfm)	Grain Loading (gr/dscf)	**PM Limit (lbs/hour)**	PM10 Limit (lbs/hour)
New Process Line:				
Receiving from Existing Line and New Line		Fugitive		1.2
Grain Handling & Cleaning (Cleaninghouse Filter CH-1)	20340	0.02	**11.6**	3.5
Milling: Pneumatic Lift Filter, P-1 Hammermill Filter, HM-1 Aspirator Filter, MVSA Feed Collection Filter, FC-1	 6200 900 11000 3800	 0.02 0.02 0.02 0.02	 **3.6** **0.52** **6.3** **2.2**	 1.06 0.15 1.88 0.65
Meal Dryer Cyclone, D-4 Grit Dryer Cyclone, D-5 Cones Dryer Cyclone, D-6 (ALL CONTROLLED BY CYCLONE D-7)	1440 1440 1400 5520	0.041 0.041 0.041	**0.82** **0.82** **0.82**	1.9
Meal Cooler Filter, C4	3270	0.02	**1.5**	0.5
Grit Cooler Filter, C5	3270	0.02	**1.5**	0.5
Cones Cooler, C6	2450	0.02	**1.4**	0.72
Loading/Shipping For Both Lines			**0.80**	0.25
Existing Process Line:				
Grain Handling & Cleaning (Cleaninghouse Filter A/B ch)	9000	0.02	**5.2**	1.5
Milling: Pneumatic Lift Filter, A Pneumatic Lift Filter, B Pneumatic Lift Filter, C Aspirator Filter, A/B asp General Aspiration, C asp Feed Filter, A/B feed	 2940 1500 1900 7000 5500 2600	 0.02 0.02 0.02 0.02 0.02 0.02	 **1.7** **0.86** **1.09** **4.0** **3.15** **1.5**	 0.50 0.25 0.32 1.2 0.90 0.40
Meal Dryer Cylone, D1 Grit Cyclone, D2 Cones Cyclone, D3 (ALL CONTROLLED BY CYCLONE D-8)	4034	0.103	**2.28**	3.6
Meal Cooler Filter, C1	4000	0.02	**2.28**	0.68
Grit Cooler Filter, C2	3500	0.02	**2.0**	0.6
Cones Cooler Filter, C3	1500	0.02	**0.86**	0.27

Methodology: Facility PM limit = Facility air flow rate/sourcewide air flow rate * 249 tons/yr * 2000 lb/ton * yr/8760 hrs

Compliance with the PM and PM10 emission limits will make 326 IAC 2-2 Prevention of Significant Deterioration (PSD) and 40 CFR 52.21 not applicable. Compliance with the ~~These~~ PM10 emission limits ~~shall not exceed a total of 22.6 pounds per hour. Compliance with these limits~~ will make 326 IAC 2-7 (Part 70 Permit Program) ~~and 326 IAC 2-2, Prevention of Significant Deterioration (PSD) and 40 CFR 52.21~~ not applicable.

IDEM-OAQ has decided to make the following changes (changes are bolded and deletions are struck-through for emphasis):

(1) Indiana Department of Environmental Management, Office of Air Management has changed its name to Indiana Department of Environmental Management, Office of Air Quality. Therefore, all the documents in the proposed permit which referenced to the old name were revised to reflect the new name.

(2) For practical purposes the emissions from the milling process which includes the aspirator, Hammermill, pneumatic lift, and feed collection units are re-calculated individually using the baghouse grain loading and air flow rate information, instead of the combined emission factor in the AP-42 for the milling operation that was used in the proposed permit. Calculation for these processes is revised as follows:

MILLING

~~The emission factor for this operation is obtained from wheat and rye milling operations emission factors given in FIRE Version 5.0, SCC# 3-02-007-24 and 3-02-007-34. The milling operation includes aspirating, hammermilling and rollermilling. (See process rate and detailed calculation in the TSD Confidential Version)~~

~~Uncontrolled PM emissions = Grain milling rate * emission factor, 70 lbs/ton of grain~~
~~= 3949 tons/yr~~

~~Controlled PM emissions = Uncontrolled PM emissions * (1- cont. eff.)~~
~~= 3949 * (1- 99.9%)~~
~~= 3.94 tons/yr~~

~~Uncontrolled PM10 emissions = Grain milling rate * emission factor, 42.7 lbs/ton of grain~~
~~= 2409 tons/yr~~

~~Controlled PM10 emissions = Uncontrolled PM10 emissions * (1- cont. eff.)~~
~~= 2409 * (1- 99.9%)~~
~~= 2.41 tons/yr~~

Milling Operation ID/baghouse ID	Air Flow Rate (cubic feet/minute)	Grain Loading (grain/dry standard cubic foot)	Particulate Matter		Particulate Matter Less Than Ten Microns	
			Before Control	After Control	Before Control	After Control
8 Aspirators/ MVSA	11,000 total	0.02	825	8.25	503	5.03
Hammermil, HM-1	900	0.02	67	0.67	40.9	0.41
Pneumatic Lift, P-1	6,200	0.02	465	4.65	283	2.84
Feed Collection, FC-1	3,800	0.02	285	2.85	173.8	1.7

Note: PM10 will be 61% of PM (based on AP-42 emission factor where PM = 70 lb/ton of grain, PM10 = 42.7 lb/ton of grain)
Each baghouse has a 99% efficiency.

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a 1st Significant Federally Enforceable Operating Permit (FESOP) Revisions

Source Background and Description

Source Name:	Agricor, Inc.	
Source Location:	1626 South Joaquin Drive, Marion, Indiana 46952	
County:	Grant	
SIC Code:	2041	
Operation Permit No.:	F053-7235-00052	Issuance Date: July 8, 1998
1st Significant Permit Revisions:	053-12323-00052	
Permit Reviewer:	Aida De Guzman	

The Office of Air Management (OAM) has reviewed a FESOP application from Agricor, Inc. relating to the expansion of its dry corn milling operation, which will involve the construction of a new process line that includes the following emission units and control devices:

(1) Existing Equipment:
(1) Receiving pit with a maximum capacity of 156,800 lbs/hr.
(2) Five (5) bins to store corn each with a capacity of 560,000 lbs.
(3) Precleaning/handling equipment with a max. throughput rate of 25,760 lbs/hr.
(4) Cleaning equipment with a max. throughput rate of 25,760 lbs/hr, controlled by filter A/B.
(5) Milling equipment with a max. throughput rate of 25,760 lbs/hr, controlled by filters C asp, A/B asp, A plf, B plf, C plf, and A/B feed.
(6) Meal drying operation:
  (a) Three (3) rotary dryers identified as meal, grits and cones dryers with a combined rate of 25,760 lbs./hr and particulate emissions from each of the dryers controlled by multiple cyclones identified as D-1, D-2 and D-3.
(7) Cooling operation:
  (a) Three (3) coolers identified as meal, grits and cones coolers with a combined rate of 25,760 lbs/hr, controlled by filters C-1, C-2, and C-3.
(8) Three (3) bins to store product each with a capacity of 120,000 lbs.
(9) Fifteen (15) bins to store product each with a capacity of 50,000 lbs.
(10) One (1) bin to store product with a capacity of 20,000 lbs.
(11) Loading/shipping equipment with a maximum rate of 25,760 lbs/hr.
(12) Line 1 Sifting equipment with a maximum product rate of 16,016 lbs/hr.
(13) Line 1 Grinding equipment with a maximum product rate of 16,016 lbs/hr.
(14) Line 1 Aspiration equipment with a maximum capacity of 3500 acfm.

New Equipment:
(1) Milling line, which consists of three (3) roller mills, eight (8) aspirators, with a total maximum air flow rate of 11,000 acfm; and two (2) sifters, one (1) hammermill and conveying equipment. The PM emissions from this equipment is controlled by fabric filters P-1, MVSA, HM-1, and FC-1.
(2) New steam dryers; one (1) meal rotary dryer with cyclone D-4; one (1) grits rotary dryer with cyclone D-5; one (1) cones rotary dryer with cyclone D-6. Their combined PM

emission are controlled by cyclone D-7. The steam supplied for these dryers comes from the existing boilers, listed in Section A.3 Insignificant activities of the FESOP.

(3) New line coolers; one (1) meal cooler, C4, with PM emissions controlled by cyclone and bag filter C-4; one (1) grit cooler, C5, with PM emissions controlled by cyclone and bag filter C-5; and one (1) cones cooler, C6, with PM emissions controlled by cyclone and bag filter C-6.

(4) Grain handling and cleaning equipment, which is controlled by the Cleaninghouse Filter, CH-1.

The expansion will also involve utilizing the existing equipment:

(5) Receiving pit, to handle additional throughput.

(6) Product Storage, loading and shipping equipment.

The source also requested that Section D.2 be combined in Section D.1 to avoid confusion.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
Feed	Feed	24	1.166	3,800	ambient
Dryer	Dryer	24	1.5	5,520	110
Aspirator	Aspirator	62	2	11,000	ambient
Cooling	Cooling	62	1	3,270	ambient
Pneumatic lift	Pneumatic lift	62	1.66	6,200	ambient
Cleaning house	Cleaning house	62	2.5	20,340	ambient
Cooling	Cooling	62	1.166	4,200	ambient
Cooling	Cooling	62	1	3,270	ambient
Aspiration	Aspiration	62	2.166	8.760	ambient
Milling	Milling	15	0.83	900	ambient

Existing Approvals

The source has been issued the following approvals as revisions to the FESOP F053-7235-00052, that was issued on July 8, 1998.

(a) 053-12323I-00052, Interim Permit issued on June 14, 2000; and

(b) 053-12013-00052, Administrative Amendment issued on April 6, 2000.

Recommendation

The staff recommends to the Commissioner that the FESOP be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 26, 2000 with additional

information received on June 27, 2000 and October 3, 2000.

Emission Calculations

Agricor, Inc. submitted an application which involves the construction and operation of an expansion to its existing dry corn milling operation, which will include the following operations and equipment: receiving; grain cleaning; handling; milling drying; aspirating, cooling and shipping.

The emission factors used in the calculations were taken from the AP-42, and FIRE Version 5.0; PM 10 emission factors were estimated by taking 50% of the filterable PM emission factor as directed in AP-42 Table 9.9.1-2. (See TSD Confidential Version for the process operation's detailed emission calculations).

Fugitive Emissions From Vehicular Traffic
Fugitive emissions from vehicular traffic is estimated using the equation given below:

Ef = k*5.0*(s/12)* (S/30)*(W/3)^0.7*(w/4)^0.5*((365-p)/365)

where,	Ef	=	Emission factor (lb/mile)
	k	=	0.8 (particle size multiplier)
	s	=	8.9 (% silt content of unpaved roads)
	p	=	125 days of rain greater than or equal to 0.01 inches.
	S	=	5 miles/hr vehicle speed
	W	=	average vehicle weight (36.5 tons)
	w	=	number of wheels on the vehicle (18)

Emissions are estimated from taking a worst case scenario of operation of different kinds of vehicles.

Ef = 0.8 * 5.0 * (8.9/2) * (5/30) * (36.5/3)^0.7 * (18/4)^0.5 * ((365-125)/365)
= 0.8 * 5.0 * 4.45 * 0.167 * 5.75 * 2.12 * 0.657
= 23.8 lbs/mile

Total distance traveled = 0.5 trips/hr * 0.228 miles/trip * 8760 hrs/yr
= 998.64 miles per year

Fugitive emissions = 998.64 miles/yr * 23.8 lbs / mile
from vehicular traffic = 23767.6 lbs/yr * ton/2000 lbs
= **11.88 tons/yr**

Process/Equipment	Particulate Matter (PM)		Particulate Matter Less Than Ten Microns (PM10)	
	Uncontrolled	Controlled	Uncontrolled	Controlled
Receiving	10.15	10.15	3.3	3.3
Precleaning	0.0	0.0	0.0	0.0
Internal Handling	3.44	0.0	1.9	0.0
Grain Cleaning	338	4.2	169.0	2.1
Milling- aspirating, roller mill, hammermill	3,949	3.94	2,409	2.41

Sifting	5.26	0.005	2.63	0.002
Meal Drying	201	10.07	105	5.07
Cooling	101.5	10.7	62.02	0.062
Loading/Shipping	15.23	7.6	2.25	1.11
Vehicular Traffic Fugitive Emissions	11.88	0.0*	11.88	0.0*
TOTAL	4,630	46.7	2,764	14.05

* Fugitive emissions are not counted towards PSD applicability.

Potential To Emit Before Revision

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	4,630
PM-10	2,764
SO_2	0.0
VOC	0.1
CO	2.2
NO_x	2.6

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

Justification for Modification

The FESOP is being modified through a Significant Permit Revision. This revision is being performed pursuant to 326 IAC 2-8-11.1(f)(1)(E), because particulate matter (PM) or particulate matter less than ten microns (PM10) are each emitted at levels greater than 25 tons per year (see above table).

County Attainment Status

The source is located in Grant County.

Pollutant	Status (attainment, maintenance attainment, or unclassifiable; severe, moderate, or marginal nonattainment)
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	not determined

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Grant County has been designated as attainment or unclassifiable for ozone.

Source Status

Existing Source PSD (based on the FESOP/ENSR -F053-7235-00052, issued to the source on July 8, 1998. This was the only new source review done and issued for the source):

Pollutant	Emissions (tons/year)
PM	170.5
PM-10	99.0
SO_2	0.0
VOC	0.1
CO	2.2
NOx	2.6

PM potential emissions in FESOP/ENSR -F053-7235-00052 = 4788 tons/yr
PM10 potential emissions in FESOP/ENSR -F053-7235-00052 = 2780 tons/yr

PM10 = limited to 99 tons/yr
PM = 99 ton/yr * 4788tons/yr / 2780 tons/yr
= 170.5 tons/yr

(a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.

Potential to Emit After the Modification

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Federally Enforceable State Operating Permit.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
Receiving	10.15	3.3	0.0	0.0	0.0	0	0.0
Precleaning	0.0	0.0	0.0	0.0	0.0	0	0.0
Internal Handling	0.0	0.0	0.0	0.0	0.0	0	0.0
Grain Cleaning	4.2	2.1	0.0	0.0	0.0	0	0.0
Milling	3.94	2.41	0.0	0.0	0.0	0	0.0

Meal Drying	10.07	5.07	0.0	0.0	0.0	0	0.0
Sifting	0.005	0.002	0.0	0.0	0.0	0	0.0
Cooling	10.7	0.062	0.0	0.0	0.0	0	0.0
Loading/Shipping	7.6	1.11	0.0	0.0	0.0	0	0.0
Total Emissions	46.7	14.05**	0.0	0.0	0.0	0	0.0

** The sourcewide PM10 emissions will still be limited to 99 tons per year

Federal Rule Applicability

(a) 40 CFR Part 60.300, Subpart DD- Standards of Performance for Grain Elevators.

This rule applies to grain terminal elevators with a permanent storage capacity of 2.5 million bushels; or any grain elevator located at any wheat flour mill, wet corn mill, dry corn mill, rice mill, or soybean oil extraction plant which has a permanent grain storage capacity of 1 million bushels.

Agricor, Inc. is a dry corn mill, which has a permanent grain storage capacity (50,000 bushels) of less than 1 million bushels. Therefore, it is not subject to this NSPS.

(b) There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(c) National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 14, (40 CFR 63.

There are no NESHAP applicable to this dry corn mill operation.

State Rule Applicability - Entire Source

(a) 326 IAC 2-6 (Emission Reporting)
This source is not subject to 326 IAC 2-6 because its potential to emit VOC are less than 100 tons per year, nor it is located in one of the counties listed in the rule that has PTE of VOC or NOx of 10 tons per year.

(b) 326 IAC 5-1 (Visible Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(1) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

(a) 326 IAC 2-8 (FESOP)
The source ‘s limit of less than 100 tons of PM10 per year (22.8 lbs/hr) will stay the

same with the addition of a new process line. The PM10 limit for the whole source will be re-calculated and prorated based on each facility emission. Some of these emissions were adjusted so that the actual emissions (based on grain loading and air flow rate) will not exceed each individual limit, as long as the sourcewide limit does not exceed 100 tons of PM10 per year.

Facility	Grain Loading (gr/dscf)	PM10 Limit (tons/year)	PM10 Limit (lbs/hour)	Air Flow Rate Limit (cfm)
New Process Line:				
Receiving from Existing Line and New Line		5.46	1.2	
Grain Handling & Cleaning (Cleaninghouse Filter CH-1)	0.02	15.3	3.5	20340
Milling: Pneumatic Lift Filter, P-1 Hammermill Filter, HM-1 Aspirator Filter, MVSA Feed Collection Filter, FC-1	 0.02 0.02 0.02 0.02	 4.6 0.66 8.2 2.85	 1.06 0.15 1.88 0.65	 6200 900 11000 3800
Meal Dryer Cyclone, D-4 Grit Dryer Cyclone, D-5 Cones Dryer Cyclone, D-6 (ALL CONTROLLED BY CYCLONE D-7)	0.041 0.041 0.041	8.5	1.9	5520
Meal Cooler Filter, C4	0.02	2.4	0.5	3270
Grit Cooler Filter, C5	0.02	2.4	0.5	3270
Cones Cooler, C6	0.02	3.15	0.72	4200
Loading/Shipping For Both Lines		1.11	0.25	
Existing Process Line:				
Grain Handling & Cleaning (Cleaninghouse Filter A/B ch)	0.02	6.7	1.5	9000
Milling: Pneumatic Lift Filter, A Pneumatic Lift Filter, B Pneumatic Lift Filter, C Aspirator Filter, A/B asp General Aspiration, C asp Feed Filetr, A/B feed	 0.02 0.02 0.02 0.02 0.02 0.02	 2.4 1.0 1.4 5.2 3.9 1.75	 0.50 0.25 0.32 1.2 0.90 0.40	 2940 1500 1900 7000 5500 2600
Meal Dryer Cylone, D1 Grit Cyclone, D2 Cones Cyclone, D3 (ALL CONTROLLED BY CYCLONE D-8)	0.103	15.8	3.6	4034
Meal Cooler Filter, C1	0.02	3	0.68	4000
Grit Cooler Filter, C2	0.02	2.6	0.6	3500
Cones Cooler Filter, C3	0.02	1.2	0.27	1500
TOTAL		99.38	22.6	

The source is in compliance using control equipment to control emissions.

Methodology:
Facility PM10 Limit = Facility PM10 controlled emissions, tons/yr * PM10 limit 99 tons/yr
Total Sourcewide PM10 controlled emissions, tons/yr

(b) 326 IAC 6-3-2 (Process Operations)
Pursuant to 326 IAC 6-3, the PM emissions from the facilities shall be limited as follows:

Process/Facility	PM Emission Limit (lbs/hr)
New Process Line:	
Receiving (New & Existing Lines)	36.0
Grain Cleaning & Handling	22.7
Milling Line - aspirators, roller mills, hammermill and receivers	22.7
Sifter	16.5
Meal Drying - three dryers	10.88 each
Meal Cooling- three coolers	10.88 each
Existing Process Line:	
Grain Cleaning & Handling	22.7
Milling- aspirators, roller mills, hammermills and receivers	22.7
Meal Drying - three dryers	10.88 each
Meal Cooling- three coolers	10.88 each
Existing sifters	16.5
Existing Grinding operation	16.5
Loading/Shipping (New & Existing Lines)	36.0

* The throughput can't be separated out between the existing and the new addition. Hence, the PM limits are for the whole source.

The above PM emission limits were determined using the following equation:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The dust filters and cyclones shall be in operation at all times the process being controlled is in operation, in order to comply with these limits .

(c) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
Fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Plan submitted by the source on December 6, 1996. The plan consists of:

(1) Wet suppression of dust from unpaved roadways on an as needed basis;
(2) Keeping the truck speed within five (5) miles per hour by posting limit sign.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

1. The corn milling operation has applicable compliance monitoring conditions as specified below:
   (a) Daily visible emissions notations of the shall be performed for exhausts P-1; MVSA; HM-1; FC-1; C-4; C-5; C-6; D-4; D-5; D-6; CH-1, filters C asp, A/B asp, A plf, B plf, C plf, and A/B feed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

   (b) The Permittee shall record the total static pressure drop across each of the baghouse/ dust filter used in conjunction with each milling operation, at least once per shift when the process being controlled is in operation and venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse/dust filter shall be maintained within the range of 0.5 and 4.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

   The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM and shall be calibrated at least once every six (6) months.

These monitoring conditions are necessary in order for the particulate matter emissions (PM) and particulate matter less than ten microns (PM10) stay below the Prevention of Significant Deterioration (PSD) threshold of 250 tons per year and particulate matter less than ten microns (PM10) stay below 100 tons/year.

Conclusion

The operation of this dry corn milling operation shall be subject to the conditions of the attached proposed **Significant FESOP Revision No.: 053-12323-00052.**