



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 072010-003 Project Number: 2009-11-047

Parent Company: Monsanto Company

Parent Company Address: 800 North Lindbergh Blvd., St. Louis, MO 63167

Installation Name: Monsanto Company

Installation Number: 143-0079

Installation Address: 2992 State Highway V, Matthews, MO 63867

Location Information: New Madrid County, S3, T24N, R14E

Application for Authority to Construct was made for:
Installation of four color sorters and two surge bins. These units were installed in 2006 without a permit. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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- Standard Conditions (on reverse) are applicable to this permit.
- Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

JUL 12 2010

EFFECTIVE DATE



DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Monsanto Company
New Madrid County, S3, T24N, R14E

1. Emission Limitation
 - A. Monsanto Company shall emit less than 15.0 tons of particulate matter less than ten (10) microns in diameter (PM₁₀) in any consecutive 12-month period from the entire installation (see table 1).
 - B. Monsanto Company shall demonstrate compliance with the emission limit in special condition 1.A by recording the 12-month rolling total PM₁₀ emissions. Company shall use forms approved by the Air Pollution Control Program that contain at minimum the following information:
 - 1) Monthly throughput of each emission unit in tons.
 - 2) Emission factor for the unit
 - 3) Source of the emission factor
 - 4) Control device
 - 5) Control device efficiency
 - a.) For baghouses use 99.0%
 - b.) For high efficiency cyclones use 80.0%
 - c.) For haul road watering use 50.0%
 - 6) Monthly PM₁₀ emissions for each unit in tons
 - 7) Monthly PM₁₀ emissions for the entire installation in tons
 - 8) 12-month total PM₁₀ emissions for the entire installation in tons
2. Haul Road Dust Suppression
 - A. Monsanto Company shall apply water or another effective suppressant for dust control to all unpaved haul roads whenever conditions exist which would cause visible fugitive emissions to enter the ambient air beyond the property boundary.
 - B. Watering may be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
3. Control Device Requirement-Baghouse
 - A. Monsanto Company shall control emissions from the following equipment

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

using baghouses as specified in the permit application.

- 1) Inside Receiving (EU-1)
- 2) Scalp (EU-2)
- 3) Bulk Storage Bins (EU-3)
- 4) Cleaner Surge Bin Line 1 (EU-6)
- 5) Cleaner Line 1 (EU-7)
- 6) Cleaner Surge Bin Line 2 (EU-8)
- 7) Cleaner Line 2 (EU-9)
- 8) Color Sorter Surge Bin Line 1 (EU-10)
- 9) Color Sorter Primary Line 1 (EU-11)
- 10) Color Sorter Secondary Line 1 (EU-12)
- 11) Color Sorter Surge Bin Line 2 (EU-13)
- 12) Color Sorter Primary Line 2 (EU-14)
- 13) Color Sorter Secondary Line 2 (EU-15)
- 14) Gravity Surge Bin #1 Line 1 (EU-16)
- 15) Gravity Table #1 Line 1 (EU-17)
- 16) Gravity Surge Bin #2 Line 1 (EU-18)
- 17) Gravity Table #2 Line 1 (EU-19)
- 18) Gravity Surge Bin #1 Line 2 (EU-20)
- 19) Gravity Table #1 Line 2 (EU-21)
- 20) Gravity Surge Bin #2 Line 2 (EU-22)
- 21) Gravity Table #2 Line 2 (EU-23)
- 22) Bagging Bins (EU-24)
- 23) Bagger #1 Line 1 (EU-25)
- 24) Bagger #2 Line 1 (EU-26)
- 25) Bagger #1 Line 2 (EU-27)
- 26) Bagger #2 Line 2 (EU-28)
- 27) Box Dumper (EU-F1)
- 28) Cleaner Surge Bin (EU-F2)
- 29) Cleaner (EU-F3)
- 30) Spiral Surge Bin (EU-F4)
- 31) Spirals (EU-F5)
- 32) Gravity Surge Bin #1 (EU-F6)
- 33) Gravity Table #1 (EU-F7)
- 34) Gravity Surge Bin #2 (EU-F8)
- 35) Gravity Table #2 (EU-F9)
- 36) Clean Seed Bins (EU-F10)
- 37) Bagging Bin #1 (EU-F11)
- 38) Bagger #1 (EU-F12)
- 39) Bagging Bin #2 (EU-F13)
- 40) Bagger #2 (EU-F14)

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that Department employees may easily observe them.
 - C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. Monsanto Company shall monitor and record the operating pressure drop across the baghouses at least once every calendar day. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. Monsanto Company shall maintain an operating and maintenance log for the baghouses which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
4. Record Keeping and Reporting Requirements
- A. Monsanto Company shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
 - B. Monsanto Company shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2009-11-047
Installation ID Number: 143-0079
Permit Number:

Monsanto Company
2992 State Highway V
Matthews, MO 63867

Complete: November 20, 2009

Parent Company:
Monsanto Company
800 North Lindbergh Blvd.
St. Louis, MO 63167

New Madrid County, S3, T24N, R14E

REVIEW SUMMARY

- Monsanto Company has applied for authority to construct four color sorters and two surge bins.
- Hazardous Air Pollutant (HAP) emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation. Specifically subpart DD does not apply because the installation's storage capacity is less than 2.5 million bushels.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- Baghouses are being used to control the PM₁₀ emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of PM₁₀ are below de minimis levels.
- This installation is located in New Madrid County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.
- Emissions testing are not required for the equipment.

- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Monsanto Company is an existing soybean seed processing facility. The installation receives bulk soybean seeds, then cleans, sorts, conditions and bags the seeds for sale or ships them by bulk. In the past, Monsanto Company had claimed they were exempt from the requirements of 10 CSR 10-6.060 because they classified the installation as a grain handling, storage, and drying facility which is in commercial use and having a total storage capacity not exceeding 190,000 bushels, which is exempt per 10 CSR 10-6.061 (3)(A)2.E(II)(a). The Program does not concur with this classification because the installation cleans, sorts and conditions the seeds, and will no longer exempt projects at the installation using this exemption.

No permits have been issued to Monsanto Company from the Air Pollution Control Program.

Process Description

The installation is separated into two independent sections called production and pre-foundation. Production starts with soybean seed received via hopper trucks, which are unloaded in the inside receiving area (EU-1). Seeds are then processed through a scalperator (EU-2) for initial cleaning and then transferred into storage bins (EU-3). From the bins the seeds can be processed in one of two lines. On both lines, seeds pass through a surge bin (EU-6 or EU-8) and into a cleaner (EU-7 or EU-9). From the cleaners, the seeds are conveyed to a surge bin (EU-10 or EU-13) and then to the primary and secondary color sorters (EU-11 and EU-12 or EU-14 and EU-15). After the color sorters the seeds are passed to series of surge bins and gravity tables (EU-16 through EU-23). Materials rejected from the scalperator, cleaners, sorters and gravity tables are collected into a set of two cull bins (EU-4) that serve both lines. From the gravity tables seeds are conveyed into bagging bins (EU-24). Seeds can be packaged into 50-pound bags or mini-bulk bags (EU-25 through EU-28) or loaded out in bulk (EU-30).

Pre-foundation operations are similar to production operations. Seeds arrive at pre-foundation via the foundation receiving area where they are unloaded (EU-F15) and conveyed to a bulk receiving bin (EU-F16). From the receiving bin seeds are conveyed to a surge bin (EU-F2) and into a cleaner (EU-F3). Seeds can also be introduced into the system via a box dumper (EU-F1) that bypasses receiving. After cleaning, the seeds pass through another surge bin (EU-F4) and into spirals (EU-F5) and next pass through a series of surge bins and gravity tables (EU-F6 through EU-F9). Materials rejected from the cleaner, spirals and gravity tables are collected in a cull bin (EU-F17). After the gravity tables, seeds flow into clean seed bins (EU-F10). From the bins, seed can be packed into 50-pound bags or mini-bulk bags (EU-F11 through EU-F14).

Table 1: Equipment List

Emission Unit	Description
EU-1	Inside Receiving
EU-2	Scalp
EU-3	8 Bulk Storage Bins
EU-4	2 Cull Bins
EU-5	Cull Bin Loadout
EU-6	Cleaner Surge Bin Line 1
EU-7	Cleaner Line 1
EU-8	Cleaner Surge Bin Line 2
EU-9	Cleaner Line 2
EU-10	Color Sorter Surge Bin Line 1
EU-11	Color Sorter Primary Line 1
EU-12	Color Sorter Secondary Line 1
EU-13	Color Sorter Surge Bin Line 2
EU-14	Color Sorter Primary Line 2
EU-15	Color Sorter Secondary Line 2
EU-16	Gravity Surge Bin #1 Line 1
EU-17	Gravity Table #1 Line 1
EU-18	Gravity Surge Bin #2 Line 1
EU-19	Gravity Table #2 Line 1
EU-20	Gravity Surge Bin #1 Line 2
EU-21	Gravity Table #1 Line 2
EU-22	Gravity Surge Bin #2 Line 2
EU-23	Gravity Table #2 Line 2
EU-24	8 Bagging Bins
EU-25	Bagger #1 Line 1
EU-26	Bagger #2 Line 1
EU-27	Bagger #1 Line 2
EU-28	Bagger #2 Line 2
EU-29	Internal Handling
EU-30	Transfer Mini Bulk to True Bulk
EU-31	Haul Roads
EU-F1	Box Dumper
EU-F2	Cleaner Surge Bin
EU-F3	Cleaner
EU-F4	Spiral Surge Bin
EU-F5	Spirals (2)
EU-F6	Gravity Surge Bin #1
EU-F7	Gravity Table #1
EU-F8	Gravity Surge Bin #2
EU-F9	Gravity Table #2
EU-F10	2 Clean Seed Bins
EU-F11	Bagging Bin #1
EU-F12	Bagger #1
EU-F13	Bagging Bin #2
EU-F14	Bagger #2
EU-F15	Foundation Receiving
EU-F16	2 Receiving Bulk Bins
EU-F17	Cull Bin
EU-F18	Cull Bin Loadout
EU-F19	Internal Handling
EU-F20	Haul Roads
EU-F21	Outside Receiving
EU-F22	21 Outside Storage Bins

Emission Unit	Description
EU-F23	Outside Storage Loadout

PROJECT DESCRIPTION

As discussed in the Installation Description, Monsanto Company claimed an exemption and none of the equipment at the plant has been permitted. During discussions with the company, the Program agreed to permit the last construction at the installation and impose an annual de minimis limit for the entire installation. The most recent construction took place in 2006 and involved the addition of four color sorters in the production area. These units are controlled by baghouses. The controlled emissions from these sources are well below the exemption level found in 10 CSR 10-6.061 (3)(A)3.A, however for the purposes of determining permit applicability, the control devices were not considered because there was no federally enforceable requirement for the installation to operate them prior to this permit. This permit will require controls on multiple units, making operation of the controls federally enforceable such that they can be considered when making permit determinations.

EMISSIONS/CONTROLS EVALUATION

Emission factors were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 9.9.1 "Grain Elevators & Processes," May, 2003. Emissions from haul roads were calculated using the predictive equation from AP-42 and AP-42 Section 13.2.2 "Unpaved Roads," November, 2006. Potential emissions of the application represent the potential of the new equipment without controls, assuming continuous operation (8760 hours per year). The following table provides an emissions summary for this project.

Table 2: Emissions Summary

Pollutant	Regulatory De Minimis Levels (tons/yr)	Existing Potential Emissions (tons/yr)	Existing Actual Emissions	Potential Emissions of the Application (lb/hr)	New Installation Conditioned Potential (tons/yr)
PM ₁₀	15.0	80.32	N/D	1.87	< 15.0
SO _x	40.0	N/A	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A	N/A
HAPs	10.0/25.0	N/A	N/A	N/A	N/A

N/A = Not Applicable; N/D = Not Determined

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are below de minimis levels.

APPLICABLE REQUIREMENTS

Monsanto Company shall comply with the following applicable requirements. The Missouri

Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Michael Mittermeyer
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 18, 2009, received November 20, 2009, designating Monsanto Company as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated December 20, 2009.