

STATE OF MISSOURI



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:

092014-005

Project Number: 2014-05-041

Installation Number: 143-0079

Parent Company: Monsanto Company

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

Installation Name: Monsanto Company

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:

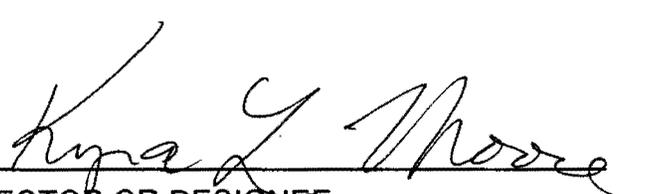
The installation of new and replacement equipment in their production operation facility as well as the replacement of existing control equipment with new control equipment. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

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

SEP 16 2014

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 Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. 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 these air contaminant sources.

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 sources(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. Superseding Condition
  - A. The conditions of this permit supersede the following special conditions found in the previously issued construction permit 102013-002 issued by the Air Pollution Control Program.
    - Special Condition 2.
    - Special Condition 3.
    - Special Condition 4.
2. Emission Limitation
  - A. Monsanto Company shall emit less than 15.0 tons PM<sub>10</sub> in any consecutive 12-month period from the entire installation (see Table 2).
  - B. Monsanto Company shall demonstrate compliance with the emission limit in Special Condition 2.A by recording the 12-month rolling total PM<sub>10</sub> emissions. Monsanto Company shall use forms that contain at minimum the following information:
    - 1) Monthly throughput of each emission unit in tons,
    - 2) Emission factors listed in Appendix B,
    - 3) Type of control device,
    - 4) Control device capture efficiency listed in Appendix B,
    - 5) Control device control efficiency listed in Appendix B,
    - 6) Control device rated flowrate where grain loading is being used to calculate the PM<sub>10</sub> emissions,
    - 7) Hours of operation of the emission units where grain loading is being used to calculate the PM<sub>10</sub> emissions,
    - 8) Monthly PM<sub>10</sub> emissions for each unit in tons,
    - 9) Monthly PM<sub>10</sub> emissions for the entire installation in tons, and
    - 10) 12-month rolling total of PM<sub>10</sub> emissions for the entire installation in tons.

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**SPECIAL CONDITIONS:**

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

3. 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.
  
4. Control Device Requirement-Baghouse
  - A. Monsanto Company shall control emissions from the following equipment using baghouses as specified in the permit application.
    - 1) Inside Receiving (EU-1)
    - 2) Scalp (EU-2b)
    - 3) Surge Bin (EU-2a)
    - 4) Bulk Storage Bins (EU-3)
    - 5) Cleaner Surge Bin Line 1 (EU-6b)
    - 6) Cleaner Line 1 (EU-7b)
    - 7) Cleaner Surge Bin Line 2 (EU-8b)
    - 8) Cleaner Line 2 (EU-9b)
    - 9) Color Sorter Surge Bin Line 1 (EU-10)
    - 10) Color Sorter Primary Line 1 (EU-11b)
    - 11) Color Sorter Secondary Line 1 (EU-12b)
    - 12) Color Sorter Surge Bin Line 2 (EU-13)
    - 13) Color Sorter Primary Line 2 (EU-14b)
    - 14) Color Sorter Secondary Line 2 (EU-15b)
    - 15) Gravity Surge Bin #1 Line 1 (EU-16b)
    - 16) Gravity Table #1 Line 1 (EU-17b)
    - 17) Gravity Surge Bin #1 Line 2 (EU-20b)
    - 18) Gravity Table #1 Line 2 (EU-21b)
    - 19) Bagging Bins (EU-24)
    - 20) Bagger #1 Line 1 (EU-25)
    - 21) Bagger #2 Line 1 (EU-26)
    - 22) Bagger #1 Line 2 (EU-27)
    - 23) Bagger #2 Line 2 (EU-28)
    - 24) Pneumatic Conveyor (EU-32)
    - 25) Box Dumper (EU-F1)
    - 26) Cleaner Surge Bin (EU-F2)
    - 27) Cleaner (EU-F3)

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### SPECIAL CONDITIONS:

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

- 28) Spiral Surge Bin (EU-F4)
  - 29) Spirals (EU-F5)
  - 30) Gravity Surge Bin #1 (EU-F6)
  - 31) Gravity Table #1 (EU-F7)
  - 32) Gravity Surge Bin #2 (EU-F8)
  - 33) Gravity Table #2 (EU-F9)
  - 34) Clean Seed Bins (EU-F10)
  - 35) Bagging Bin #1 (EU-F11)
  - 36) Bagger #1 (EU-F12)
  - 37) Bagging Bin #2 (EU-F13)
  - 38) Bagger #2 (EU-F14)
  - 39) Bag Unloading Hoppers (EU-F24)
  - 40) Treater Surge Bin (EU-F25)
  - 41) Treater Surge Bin (EU-F26)
  - 42) Treater (EU-F27)
  - 43) Post Treater Surge Bin (EU-F28)
  - 44) Treated Clean Seed Bin (EU-F29)
- B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouses 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 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
- E. Monsanto Company shall maintain a copy of the baghouse manufacturer's performance warranty on site.

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### SPECIAL CONDITIONS:

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

- F. 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.
  
- 5. Control Measure – Capture Efficiency (100%)
  - A. Emission units listed in Special Condition 4, with the exception of Inside Receiving (EU-1), shall be enclosed and maintained under negative pressure and vented to its respective baghouse. The enclosures of the emissions units shall be constructed and maintained such that no visible emissions are allowed to occur from these sources except through the gases exiting from the baghouse.
  
  - B. Monsanto Company shall conduct a detailed visual inspection of the enclosures listed in Special Condition 4 at least once each week to ensure compliance with Special Condition 5.A.
  
  - C. If at any time during the weekly inspections, an emission unit that is listed in Special Condition 4 or associated ducting, with the exception of Inside Receiving (EU-1), is inspected and it appears that negative pressure is not being attained then immediate repair shall be made to attain negative pressure.
  
  - D. Monsanto Company shall maintain an operating and maintenance log for the enclosures and associated ducting which shall include the following:
    - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions.
    - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
    - 3) A record of regular inspection schedule, the date and results of all inspections, including any actions or maintenance activities that result from the inspections. Either paper copy or electronic formats are acceptable.

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**SPECIAL CONDITIONS:**

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

6. **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: 2014-05-041  
Installation ID Number: 143-0079  
Permit Number:

Monsanto Company  
2992 State Highway V  
Matthews, MO 63867

Complete: May 22, 2014

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

New Madrid County, S3, T24N, R14E

REVIEW SUMMARY

- Monsanto Company has applied for authority to install new and replacement equipment in the production operation facility as well as the replacement of existing control equipment with new control equipment.
- HAP emissions are not expected from the proposed equipment. .
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- Baghouses are being used to control the particulate matter emissions from the equipment at this facility.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all criteria pollutants are conditioned below de minimis levels with the exception of PM. PM potential emissions remain at minor source levels; however, there are no ambient air quality standards for PM and modeling is not required.
- 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 conditioned below de minimis levels. PM potential emissions remain at minor source levels however there are no modeling requirements for PM.
- Emissions testing is not required for the equipment.
- No operating permit is required for this installation as the potential emissions of this facility are conditioned to below de minimis and no NSPS or MACT applies which requires the facility to obtain an operating permit.
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

Monsanto Company owns an existing soybean seed processing facility in New Madrid. The installation receives bulk soybean seeds, then cleans, sorts, conditions and bags the seeds for sale or ships them in bulk by truck.

The following permits have been issued to Monsanto Company from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
072010-003	Soybean Seed
022012-005	Seed Treatment
102013-002	New Scalperator and Storage Bins

### 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-2b) 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-6b or EU-8b) and into a cleaner (EU-7b or EU-9b). From the cleaners, the seeds are conveyed to a surge bin (EU-10 or EU-13) and then to the primary color sorters (EU-11b or EU-14b) and secondary color sorters (EU-12b or EU-15b). After the color sorters the seeds are passed to series of surge bins and gravity tables (EU-16b, 17b, 20b and 21b). 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), loaded out in bulk by truck (EU-30) or loaded into truck by a pneumatic conveyor (EU-32)

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 the 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).

In 2012 Monsanto Company installed seed treatment equipment to the Pre-Foundation operations at their Matthews facility. The new equipment installed included a Bag Unloading Hoppers (EU-F24), Treater Surge Bin (EU-F25), Treater Surge Bin (EU-F26), Treater (EU-F27), Post Treater Surge Bin (EU-F28), Treated Clean Seed Bin (EU-F29) as well as new Internal Handling equipment (EU-F19).

In 2013 Monsanto Company received a permit to install a new scalperator and storage bins at their facility. This new equipment was never installed. The new scalporator will be included as part of this project, however, Monsanto Company currently does not have plans to install the storage bins at this time.

Table 2: Emission Units

Emission Unit	Emission Point	Description
EU-1	EP-14	Inside Receiving
EU-2b		Scalp
EU-2a		Surge Bin
EU-3		8 Bulk Storage Bins
EU-4	EP-8	2 Cull Bins
EU-5	EP-9	Cull Bin Loadout
EU-6b	EP-19	Cleaner Surge Bin Line 1
EU-7b	EP-15	Cleaner Line 1
EU-8b	EP-20	Cleaner Surge Bin Line 2
EU-9b	EP-16	Cleaner Line 2
EU-10	EP-19	Color Sorter Surge Bin Line 1
EU-11b		Color Sorter Primary Line 1
EU-12b		Color Sorter Secondary Line 1
EU-13	EP-20	Color Sorter Surge Bin Line 2
EU-14b		Color Sorter Primary Line 2
EU-15b		Color Sorter Secondary Line 2
EU-16b	EP-19	Gravity Surge Bin Line 1
EU-17b	EP-17	Gravity Table Line 1
EU-20b	EP-20	Gravity Surge Bin Line 2
EU-21b	EP-18	Gravity Table Line 2
EU-24	EP-19	4 Bagging Bins
EU-24	EP-20	4 Bagging Bins
EU-25	EP-19	Bagger #1 Line 1
EU-26		Bagger #2 Line 1
EU-27	EP-20	Bagger #1 Line 2
EU-28		Bagger #2 Line 2
EU-29	EP-10	Internal Handling
EU-30	EP-11	Transfer Mini Bulk to True Bulk
EU-31	EP-12	Production Haul Roads
EU-32	EP-21	Pneumatic Conveyor

Emission Unit	Emission Point	Description
EU-F1	EP-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		EP-F11
EU-F11	Bagging Bin #1	
EU-F12	Bagger #1	
EU-F13	Bagging Bin #2	
EU-F14	Bagger #2	
EU-F15	EP-F2	Foundation Receiving
EU-F16	EP-F3	2 Receiving Bulk Bins
EU-F17	EP-F4	Cull Bin
EU-F18	EP-F5	Cull Bin Loadout
EU-F19	EP-F6	Internal Handling
EU-F20	EP-F7	Prefoundation Haul Roads
EU-F21	EP-F8	Outside Receiving
EU-F22	EP-F9	25 Outside Storage Bins (Currently at the facility there are 19 Outside Storage Bins with the new 6 storage bins that total is increased to 25)
EU-F23	EP-F10	Outside Storage Loadout
EU-F24	EP-F1	Bag Unloading Hoppers
EU-F25	EP-F11	Treater Surge Bin
EU-F26		Treater Surge Bin
EU-F27		Treater
EU-F28		Post Treater Surge Bin
EU-F29		Treated Clean Seed Bin

## PROJECT DESCRIPTION

Monsanto Company is installing new equipment to the production section of its facility. Below lists the new equipment being installed:

- Scalperton (EU-2b)
- Surge Bin (EU2a)
- Cleaner Surge Bin Line 1 and 2 (EU-6b and EU-8b)
- Cleaner Line 1 and 2 (EU-7b and EU-9b)
- Color Sorter Primary Line 1 and 2 (EU-11b and EU-14b)
- Color Sorter Secondary Line 1 and 2 (EU-12b and EU-15b)
- Gravity Table Surge Bin Line 1 and 2 (EU-16b and EU-20b)
- Gravity Table Line 1 and 2 (EU-17b and EU-20b)
- Pneumatic Conveyor (EU-32)

The MHDR of the new scalperator/aspirator is 5000 bushel per hour or 150 tons per hour of soy beans processed. The existing scalperator/aspirator (Old EU-2), which has an MHDR of 3000 bushel per hour, will be removed from the facility. The new scalperator/aspirator will debottleneck the entire production facility.

Monsanto Company is also replacing the current control equipment (CE-1 through CE-8) with new baghouses (CE-10 through CE-16). The new control equipment will control the new and existing equipment. This permit accounts for the increase in production that occurs at the existing emission units. As a part of this project Monsanto Company requested an annual installation wide PM<sub>10</sub> limit of 15.0 tons.

### 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.

Monsanto Company is installing seven new baghouses (CE-9 through CE-16) at their facility which have a manufacture's guarantee of 0.002 gr/dscf of air flow. The table below summarizes each baghouse flow rate and what emission units each new baghouse is controlling.

Table 3: Baghouse Information

Control Equipment No.	Baghouse Description	Baghouse Flowrate (scfm)	Manufacture Emission Guarantee (gr/dscf)	Emission Point	Emission Units Controlled		
CE-9	Receiving Dust Filter	21,000	0.002	EP-14	EU-1		
					EU-2b		
					EU-2a		
					EU-3		
CE-10	Line 1 Cleaner Filter	9,000		EP-15	EU-7b		
CE-11	Line 2 Cleaner Filter	9,000		EP-16	EU-9b		
CE-12	Line 1 Gravity Table Filter	30,000		EP-17	EU-17b		
CE-13	Line 1 Gravity Table Filter	30,000		EP-18	EU-21b		
CE-14	Line 1 House Dust Filter	14,000		0.002	EP-19	EU-6b	
						EU-10	
						EU-11b	
						EU-12b	
						EU-16b	
						EU-24	
						EU-25	
CE-15	Line 2 House Dust Filter	14,000			0.002	EP-20	EU-8b
EU-13							
EU-14b							
EU-15b							
EU-20b							
EU-24							
CE-16	Pneumatic Conveyor Filter	750	EP-21			EU-27	
							EU-28
							EU-32

The new and existing equipment were assigned a capture efficiency of 100% with the exception of the inside receiving which was assigned a capture efficiency of 50%. In order to ensure 100% capture, Monsanto Company is required via Special Condition 5, to demonstrate negative pressure at all emission units where 100% capture was assigned. All potential emissions captured by the baghouse were calculated to be 0.002 grains per dry standard cubic foot of air flow. The emissions from the inside receiving not captured by the baghouse were considered fugitive and were calculated using emission factors found in AP-42.

The following table provides an emissions summary for this project. Existing potential emissions were taken from construction permit 102013-002. Existing actual emissions were taken from the installation's 2013 EIQ. Potential emissions of the application represent the potential of the new equipment and modified equipment, assuming continuous operation (8760 hours per year).

Table 4: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2013 EIQ)	Potential Emissions of the Application	*New Installation Conditioned Potential
PM	25.0	>25.0	N/D	105.53	>25.0
PM <sub>10</sub>	15.0	<15.0	2.58	48.96	<15.0
PM <sub>2.5</sub>	10.0	<10.0	1.47	16.28	<10.0**
SO <sub>x</sub>	40.0	N/A	N/A	N/A	N/A
NO <sub>x</sub>	40.0	N/A	N/A	N/A	N/A
VOC	40.0	<40.0	0.043	N/A	<40.0***
CO	100.0	N/A	N/A	N/A	N/A
GHG (CO <sub>2</sub> e)	N/A	N/A	N/A	N/A	N/A
GHG (mass)	N/A	N/A	N/A	N/A	N/A
HAPs	10.0/25.0	<0.01	0.00	N/A	<0.01***
Toluene	10.0	<0.01	N/D	N/A	<0.01***

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

\*New installation conditioned potential based on installation wide limits taken in this construction permit and previous construction permit.

\*\*PM<sub>2.5</sub> installation conditioned potential is indirectly limited to below 10.0 tons per year by the installation wide PM<sub>10</sub> limit.

\*\*\*The VOC Installation Conditioned Potential is based on a 40.0 ton per year VOC limit taken in construction permit 022012-005. The HAP Installation Conditioned Potential is indirectly limited below 0.01 tpy based on the 40.0 ton per year VOC limit taken in construction permit 022012-005

## PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all criteria pollutants are conditioned below de minimis levels. PM potential emissions remain at minor source levels however there are no modeling requirements for PM.

## 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
- *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 10-6.165

### SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400 applies to the bin vents and emissions not captured by a control device at this facility. Monsanto Company is in compliance with the emission rates of this rule.

## STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

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Gerad Fox  
New Source Review Unit

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Date

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 8, 2014, received May 14, 2014, 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.

**APPENDIX B: PM<sub>10</sub> Emission Factors, Capture Efficiencies,  
and Control Efficiencies for Compliance with Special Condition 2.**

Emission Unit Description	Emission Unit No.	Emission Point No.	Emission Factor ( <sup>1</sup> lb/ton of soybeans processed or <sup>2</sup> gr/dscf)	Capture Eff. (%)	Control Eff. (%)	EF Source
Inside Receiving (fugitive)	EU-1	EP-13 (fugitive)	<sup>1</sup> 0.0039	N/A	Controlled EF	See Note 1
Inside Receiving (controlled)	EU-1	EP-14	<sup>1</sup> 0.002	100	N/A	See Note 2
Scalperator/Aspirator	EU-2b					
Surge Bin	EU-2a					
8 Bulk Storage Bins	EU-3					
2 Cull Bins	EU-4	EP-8	<sup>1</sup> 0.0063	0	0	AP-42 Table 9.9.1-1
Cull Loadout	EU-5	EP-9	<sup>1</sup> 0.0029	0	0	
Line 1 Cleaner	EU-7b	EP-15	<sup>2</sup> 0.002	100	N/A	See Note 2
Line 2 Cleaner	EU-9b	EP-16	<sup>2</sup> 0.002	100	N/A	
Line 1 Gravity Table	EU-17b	EP-17	<sup>2</sup> 0.002	100	N/A	
Line 2 Gravity Table	EU-21b	EP-18	<sup>2</sup> 0.002	100	N/A	
Cleaner Surge Bin Line 1	EU-6b	EP-19	<sup>2</sup> 0.002	100	N/A	
Color Sorter Surge Bin Line 1	EU-10					
Color Sorter Primary Line 1	EU-11b					
Color Sorter Secondary Line 1	EU-12b					
Gravity Surge Bin Line 1	EU-16b					
4 Bagging Bins	EU-24					
Bagger #1 Line 1	EU-25					
Bagger #2 Line 1	EU-26					
Cleaner Surge Bin Line 2	EU-8b	EP-20	<sup>2</sup> 0.002	100	N/A	
Color Sorter Surge Bin Line 2	EU-13					
Color Sorter Primary Line 2	EU-14b					
Color Sorter Secondary Line 2	EU-15b					
Gravity Surge Bin Line 2	EU-20b					
4 Bagging Bins	EU-24					
Bagger #1 Line 2	EU-27					
Bagger #2 Line 2	EU-28					
Internal Handling	EU-29	EP-10	<sup>1</sup> 0.034	0	0	AP-42 Table 9.9.1-1
Mini Bulk to True Bulk	EU-30	EP-11	<sup>1</sup> 0.029	0	0	
Production Haul Roads	EU-31	EP-12	<sup>1</sup> 0.0131	N/A	Controlled EF	AP-42 Section 13.2.2
Pneumatic Conveyor	EU-32	EP-21	<sup>2</sup> 0.002	100	N/A	See Note 2
Foundation Receiving	EU-F15	EP-F2	<sup>1</sup> 0.0078	0	0	AP-42 Table
2 Receiving Bulk Bins	EU-F16	EP-F3	<sup>1</sup> 0.0063	0	0	

**APPENDIX B: PM<sub>10</sub> Emission Factors, Capture Efficiencies,  
and Control Efficiencies for Compliance with Special Condition 2.**

Emission Unit Description	Emission Unit No.	Emission Point No.	Emission Factor ( <sup>1</sup> lb/ton of soybeans processed or <sup>2</sup> gr/dscf)	Capture Eff. (%)	Control Eff. (%)	EF Source
Cull Bin	EU-F17	EP-F4	<sup>1</sup> 0.0063	0	0	9.9.1-1
Cull Bin Loadout	EU-F18	EP-F5	<sup>1</sup> 0.029	0	0	
Box Dumper	EU-F1	EP-F1	<sup>1</sup> 0.034	50	99.0	
Cleaner	EU-F3		<sup>1</sup> 0.22875	100	99.0	
Gravity Table #1	EU-F7		<sup>1</sup> 0.068	100	99.0	
Gravity Table #2	EU-F9					
Cleaner Surge Bin	EU-F2					
Spiral Surge Bin	EU-F4					
Gravity Surge Bin #1	EU-F6					
Gravity Surge Bin #2	EU-F8					
2 Clean Seed Bins	EU-F10					
Bagging Bin	EU-F11		EP-F11	<sup>1</sup> 0.0063	100	
Mini Bulk Bagging Bin	EU-F13					
Treater Surge Bin	EU-F25					
Treater Surge Bin	EU-F26					
Post Treater Surge Bin	EU-F28					
Treated Clean Seed Bin	EU-F29					
Bagger	EU-F12					
Mini Bulk Bagger	EU-F14		<sup>1</sup> 0.029	100	99.0	
Bag Unloading Hoppers	EU-F24	EP-F1				
Internal Handling	EU-F19	EP-F6	<sup>1</sup> 0.034	100	3.70	
Spirals (2)	EU-F5	EP-F1	<sup>1</sup> 0.034	100	99.0	
Treater	EU-F27	EP-F11				
Pre Foundation Haul Roads	EU-F20	EP-F7	<sup>1</sup> 0.0267	N/A	Controlled EF	AP-42 Section 13.2.2

Note 1: This emission factor is a controlled emission factor. It takes into account 50% Capture efficiency for the Inside Receiving (EU-1) by multiplying the emission factor for grain receiving and multiplying by (1-50%).

Note 2: Is the manufacture grain loading guarantee for the baghouses being used to control these emission units.

## APPENDIX A

### Abbreviations and Acronyms

<b>%</b> .....percent	<b>m/s</b> ..... meters per second
<b>°F</b> .....degrees Fahrenheit	<b>Mgal</b> ..... 1,000 gallons
<b>acfm</b> .....actual cubic feet per minute	<b>MW</b> ..... megawatt
<b>BACT</b> ..... Best Available Control Technology	<b>MHDR</b> ..... maximum hourly design rate
<b>BMPs</b> ..... Best Management Practices	<b>MMBtu</b> .... Million British thermal units
<b>Btu</b> ..... British thermal unit	<b>MMCF</b> ..... million cubic feet
<b>CAM</b> ..... Compliance Assurance Monitoring	<b>MSDS</b> ..... Material Safety Data Sheet
<b>CAS</b> ..... Chemical Abstracts Service	<b>NAAQS</b> ... National Ambient Air Quality Standards
<b>CEMS</b> ..... Continuous Emission Monitor System	<b>NESHAPs</b> ..... National Emissions Standards for Hazardous Air Pollutants
<b>CFR</b> ..... Code of Federal Regulations	<b>NO<sub>x</sub></b> ..... nitrogen oxides
<b>CO</b> ..... carbon monoxide	<b>NSPS</b> ..... New Source Performance Standards
<b>CO<sub>2</sub></b> ..... carbon dioxide	<b>NSR</b> ..... New Source Review
<b>CO<sub>2e</sub></b> ..... carbon dioxide equivalent	<b>PM</b> ..... particulate matter
<b>COMS</b> ..... Continuous Opacity Monitoring System	<b>PM<sub>2.5</sub></b> ..... particulate matter less than 2.5 microns in aerodynamic diameter
<b>CSR</b> ..... Code of State Regulations	<b>PM<sub>10</sub></b> ..... particulate matter less than 10 microns in aerodynamic diameter
<b>dscf</b> ..... dry standard cubic feet	<b>ppm</b> ..... parts per million
<b>EQ</b> ..... Emission Inventory Questionnaire	<b>PSD</b> ..... Prevention of Significant Deterioration
<b>EP</b> ..... Emission Point	<b>PTE</b> ..... potential to emit
<b>EPA</b> ..... Environmental Protection Agency	<b>RACT</b> ..... Reasonable Available Control Technology
<b>EU</b> ..... Emission Unit	<b>RAL</b> ..... Risk Assessment Level
<b>fps</b> ..... feet per second	<b>SCC</b> ..... Source Classification Code
<b>ft</b> ..... feet	<b>scfm</b> ..... standard cubic feet per minute
<b>GACT</b> ..... Generally Available Control Technology	<b>SIC</b> ..... Standard Industrial Classification
<b>GHG</b> ..... Greenhouse Gas	<b>SIP</b> ..... State Implementation Plan
<b>gpm</b> ..... gallons per minute	<b>SMAL</b> ..... Screening Model Action Levels
<b>gr</b> ..... grains	<b>SO<sub>x</sub></b> ..... sulfur oxides
<b>GWP</b> ..... Global Warming Potential	<b>SO<sub>2</sub></b> ..... sulfur dioxide
<b>HAP</b> ..... Hazardous Air Pollutant	<b>tph</b> ..... tons per hour
<b>hr</b> ..... hour	<b>tpy</b> ..... tons per year
<b>hp</b> ..... horsepower	<b>VMT</b> ..... vehicle miles traveled
<b>lb</b> ..... pound	<b>VOC</b> ..... Volatile Organic Compound
<b>lbs/hr</b> ..... pounds per hour	
<b>MACT</b> ..... Maximum Achievable Control Technology	
<b>µg/m<sup>3</sup></b> .....micrograms per cubic meter	

Ms. Teri Merial  
Environmental Compliance Manager  
Monsanto Company  
800 North Lindbergh Boulevard  
St. Louis, MO 63167

RE: New Source Review Permit - Project Number: 2014-05-041

Dear Ms. Merial:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions and your new source review permit application is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Gerad Fox, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp  
New Source Review Unit Chief

SH:gfl

Enclosures

c: Southeast Regional Office  
PAMS File: 2014-05-041

Permit Number: