

STATE OF MISSOURI

PERMIT BOOK



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: 022011-007 Project Number: 2010-12-002

Installation Number: 195-0053

Parent Company: Mid-State Seed

Parent Company Address: 1115 Santa Fe Trail, Marshall, MO 65340

Installation Name: Mid-State Seed

Installation Address: 1115 Santa Fe Trail, Marshall, MO 65340

Location Information: Saline County, S10, T50N, R21W

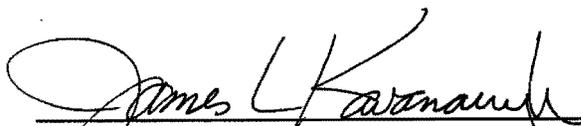
Application for Authority to Construct was made for:
Soybean seed installation. This review was conducted in accordance with Section (6),
Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

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

FEB 22 2011

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."

Mid-State Seed
Saline County, S10, T50N, R21W

1. Emission Limitation
 - A. Mid-State Seed shall emit less than 15.0 tons of particulate matter less than ten microns in diameter (PM₁₀) in any consecutive 12-month period from the entire installation (see Table 1).
 - B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 1.A.
2. Control Device Requirement-Baghouse
 - A. Mid-State Seed shall control emissions from the scalper (EP-06), cleaner (EP-08), gravity tables (EP-10 and EP-11), treater (EP-13), surge bins (EP-14) and seed container filling (EP-15) using baghouses as specified in the permit application.
 - 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 the Department of Natural Resources' 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. Mid-State Seed shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours of operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

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SPECIAL CONDITIONS:

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

- E. Mid-State Seed 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.

- 3. Record Keeping and Reporting Requirements
 - A. Mid-State Seed 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. These records shall include Material Safety Data Sheets (MSDS) for all materials used.

 - B. Mid-State Seed shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2010-12-002
Installation ID Number: 195-0053
Permit Number:

Mid-State Seed
1115 Santa Fe Trail
Marshall, MO 65340

Complete: December 14, 2010

Parent Company:
Mid-State Seed
1115 Santa Fe Trail
Marshall, MO 65340

Saline County, S10, T50N, R21W

REVIEW SUMMARY

- Mid-State Seed has applied for authority to construct a soybean seed installation.
- Hazardous Air Pollutant (HAP) emissions are expected from the seed treatments. HAPs of concern from this process are ethylene glycol (CAS 107-21-1) and toluene (CAS 108-88-3).
- None of the New Source Performance Standards (NSPS) apply to the installation.
- 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.
- Four baghouses are being used to control the particulate matter emissions from the equipment in this permit.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are conditioned below the de minimis level. Potential emissions of other pollutants are proportionately reduced below respective de minimis levels. Potential emissions of PM remain at minor source levels.
- This installation is located in Saline 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. PM emissions cannot trigger operating permit applicability.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Mid-State Seed is a seed cleaning and treatment installation located in Marshall, Missouri that has been in operation since 1990. Soybean seed is received from growers and stored in outside storage bins. When needed, specific seed lots are loaded into trucks and received into the processing building. Seed is cleaned through various processes and may be treated with liquid insecticides or fungicides prior to being loaded into 50 pound bags, bulk bags, boxes, or bulk. No permits have been issued to Mid-State Seed from the Air Pollution Control Program. This is the public version of the permit. A confidential version was written under project 2011-01-055. The applicant requested confidentiality for treatment application rates.

PROJECT DESCRIPTION

No new equipment is being installed under this permit. This permit is a result of a site inspection performed in the fall of 2010. Soybean seed is received at the installation from hopper bottom semis to outside storage bins using portable conveyors. Several conveyors may be used at once, accounting for different seed varieties and time constraints during harvest. Throughout the fall and winter, seed is unloaded from the outside bins to trucks and received at the processing building. Seed received at the processing building is conveyed through a leg to a scalper and loaded into indoor bins. The scalper separates seed from foreign material. Emissions from the scalper are controlled by a baghouse. From the inside bins, seed travels to a cleaner and spiral separator. The cleaner is the bottleneck of the process on an annual basis. The cleaner is controlled by a baghouse. After the spiral separator, seed is sorted by two series connected gravity tables. The gravity tables are controlled by a baghouse. Off spec or discard seed from the gravity tables and other cleaners is loaded into semi trailers for off-site use. Cleaned and sorted seed can be treated with a combination of insecticides, fungicides, and colorants in a treater. Some treatments contain volatile organic compounds (VOC) and hazardous air pollutants (HAP). Once treated, seed is loaded into surge bins and eventually a combination of 50 pound bags, bulk bags, boxes, or bulk depending on customer needs. Also, untreated seed can be loaded into these containers. The treater and conveyor drop points for treated seed are controlled by a baghouse system separate from untreated seed. Packaged seed is stored in a warehouse awaiting customer pickup or delivery.

According to the applicant, off-spec seed from the first gravity table is sent to the second gravity table. Off spec seed rates for other processes in this analysis were cited from other seed cleaning installations. All haul roads are unpaved. The process description is summarized in Table 1.

Table 1: Process Description

Emission Point	Description	Control Device
1	Seed receiving to bin farm	None
2	Filling bins with portable conveyors	None
3	Outside bins - shipping into trucks	None
4	Seed receiving to building	3 sided building, uncontrolled pit
5	Handling, conveying	None - open conveyors
6	Scalper	Baghouse 1
7	Load into inside bins	None
8	Cleaner	Baghouse 2
9	Spiral separator	None
10	1 st gravity table	Baghouse 3
11	2 nd gravity table	Baghouse 3
12	Off spec seed loadout to trucks	None
13	Treater	Farr baghouse
14	Surge bins	Farr baghouse
15	Bag / container / bulk filling	Farr baghouse
16	Seed receiving road	None
16	Seed shipping road	None
16	Transfer from outside bins to building	None
16	Discard road	None

EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis for seed processing 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 and Processes*, May 2003. AP-42 lists cyclone controlled emission factors for the scalper and cleaner. For this review, the uncontrolled emission factors were back-calculated by dividing out a cyclone control efficiency of 80 percent. Capture efficiency for baghouse controlled processes was estimated at 100 percent. Control efficiency for each baghouse was conservatively estimated at 99 percent according to AP-42 Appendix B.2, Table B.2-3.

The emission factors used in this analysis for unpaved haul roads were obtained from AP-42, Section 13.2.2 *Unpaved Roads*, November 2006. Road distances were approximated from scaled aerial photographs. Hopper bottom semis were assumed to carry up to 925 bushels, weight 12.25 tons empty, and 40 tons full. Bulk soybean density of 60 pounds per bushel was selected.

Potential VOC and HAP emissions from the treatments were calculated using the maximum application rate supplied by the treatment manufacturer. Where Mid-State Seed's application rate exceeded the manufacturer's rate, Mid-State Seed's rate was selected. Conservatively, all available VOC and HAP were considered emitted.

Potential emissions of the application represent the potential of all equipment, assuming continuous operation (8,760 hours per year). The following table provides an emissions summary for this project. A voluntary limit of less than 15.0 tons of PM₁₀ per rolling 12-month period was selected to avoid refined modeling.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2010 EIQ)	Unconditioned Potential Emissions of the Installation	New Installation Conditioned Potential
PM _{2.5}	10.0	N/A	N/A	3.84	2.38
PM ₁₀	15.0	N/A	N/A	24.22	< 15.0
PM	25.0	N/A	N/A	67.11	41.56
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	47.86	29.64
CO	100.0	N/A	N/A	N/A	N/A
HAPs	10.0/25.0	N/A	N/A	5.63	3.49
Ethylene Glycol	10.0	N/A	N/A	5.33	3.30
Toluene	10.0	N/A	N/A	0.30	0.18

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

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 PM₁₀ are conditioned below the de minimis level. Potential emissions of other pollutants are proportionately reduced below respective de minimis levels. Potential emissions of PM remain at minor source levels.

APPLICABLE REQUIREMENTS

Mid-State Seed 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 a hardcopy Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions. Alternatively, submission of an electronic copy via MoEIS is required May 1.

- *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

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.

David Little
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 29, 2010, received December 1, 2010, designating Mid-State Seed as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Northeast Regional Office Site Survey, dated December 15, 2010.

Mr. Steve Blalock
President
Mid-State Seed
1115 Santa Fe Trail
Marshall, MO 65340

RE: New Source Review Permit - Project Number: 2010-12-002

Dear Mr. Blalock:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions 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 David Little, at the Departments' 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

Kendall B. Hale
New Source Review Unit Chief

KBH:dll

Enclosures

c: Northeast Regional Office
PAMS File: 2010-12-002

Permit Number: