

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: **042012-002** Project Number: 2011-12-058
Installation Number: 041-0016

Parent Company: AGRIServices of Brunswick, LLC.

Parent Company Address: P.O. Box 38, Brunswick, MO 65236

Installation Name: AGRIServices of Brunswick, LLC. - Brunswick East

Installation Address: 1010 E. Broadway, Brunswick, MO 65236

Location Information: Chariton County, S10, T55N, R20W

Application for Authority to Construct was made for:
The addition of a new bulk seed handling, storage and treatment operation. 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.

APR 06 2012

EFFECTIVE DATE

A handwritten signature in cursive script, appearing to read "Kyril Moore".

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 startup 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 startup 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.

Page No.	3
Permit No.	
Project No.	2011-12-058

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."

AGRIServices of Brunswick, LLC. - Brunswick East
Chariton County, S10, T55N, R20W

1. PM₁₀ Emission Limitation
 - A. AGRIServices of Brunswick, LLC. - Brunswick East 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 as defined in 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. Operational Requirement
AGRIServices of Brunswick, LLC. - Brunswick East shall keep the fungicides, pesticides, inoculants, liquid fertilizers, and herbicides in sealed containers whenever the materials are not in use. AGRIServices of Brunswick, LLC. - Brunswick East shall provide and maintain suitable, easily read, permanent markings on all of the above containers.
3. Record Keeping and Reporting Requirements
 - A. AGRIServices of Brunswick, LLC. - Brunswick East 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. AGRIServices of Brunswick, LLC. - Brunswick East 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: 2011-12-058
Installation ID Number: 041-0016
Permit Number:

AGRIServices of Brunswick, LLC. - Brunswick East Complete: December 21, 2011
1010 E. Broadway
Brunswick, MO 65236

Parent Company:
AGRIServices of Brunswick, LLC.
P.O. Box 38
Brunswick, MO 65236

Chariton County, S10, T55N, R20W

REVIEW SUMMARY

- AGRIServices of Brunswick, LLC. - Brunswick East has applied for authority to construct seed handling and treatment equipment.
- Hazardous Air Pollutant (HAP) emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation. NSPS Subpart DD, *Standards of Performance for Grain Elevators* and NSPS Subpart X, *Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities* do not 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.
- Building enclosure for fertilizer stage bays (EP-11), fertilizer mixing/blending (EP-13), seed weigh hopper (EP-S4), seed conveying (EP-S6), and seed treater/blender (EP-S5) is being used to control the particulate matter (PM), particulate matter less than ten microns (PM₁₀), and particulate matter less than 2.5 microns (PM_{2.5}) emissions.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOC and PM₁₀ are conditioned below de minimis levels. PM is indirectly conditioned but remains at minor source levels.

- This installation is located in Chariton 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 the PM₁₀ potential emissions of the application are below de minimis levels. Ambient air quality modeling was not performed for particulate matter (PM) since there is not a standard.
- Emissions testing are not required for the equipment.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

The facility, located at 1010 E. Broadway, Brunswick, MO, consists of a grain receiving, drying and storage facility along with fertilizer storage operation. The existing licensed grain storage capacity according to the Missouri Department of Agriculture licensed grain dealer/warehouse database was not listed but AGRIServices – Brunswick East verified that it is 448,000 bushels. Therefore the installation is not defined as a grain terminal elevator under NSPS Subpart DD. The installation does not include a wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill, or soybean oil extraction plant. Therefore the installation is not defined as a grain storage elevator under NSPS Subpart DD. The installation stores fertilizer, but does not store fresh granular triple superphosphate. Therefore, NSPS Subpart X does not apply.

AGRIServices – Brunswick East is not to be confused with AGRIServices – Brunswick West which is located in Carroll County and is a larger operation.

No EIQs have been submitted for this facility.

The grain and fertilizer portions of the installation are existing, however no permits have been issued to AGRIServices of Brunswick, LLC. - Brunswick East from the Air Pollution Control Program.

The installation is defined in Table 1.

Table 1: Installation Emission Units

Emission Unit	Description	Maximum Hourly Design Rate – Annual Basis (tons per hour)
Grain		
EP1	Hopper bottom grain receiving	224
EP2	Grain Handling/Bucket Elevator	224
EP14	Storage Bin vents	224
EP3	Grain Dryer	42
EP3a	LPG Grain Dryer Burner	20 mmBtu/hr
EP4	Loadout to Trucks Grain	224
EP5	Loadout to Rail Grain	224
Fertilizer		
EP10	Fertilizer receiving	45
EP11	Storage bays	45
EP13	Mixing/Blending	45
EP12	Loadout	45
Seed (This permit project)		
S1	Bulk Seed Receiving	36
S2	Bulk Seed Filling	36
S3	Conveyor Transfer	36
S4	Seed Weigh Hopper	36
S5	Seed Treatment	36
S7	Bulk Seed Loading	36
EP15	Haul Roads	Varies

PROJECT DESCRIPTION

This project is for the addition of a new bulk seed handling, storage and treatment operation (SS1 through S5, S7, and EP15). The operation includes the addition of six hopper bottom storage bins, fill conveyor, weigh scale, bulk seed treater and associated equipment for the addition of fungicides to bulk seed. Clean bulk seed is delivered to project equipment in hopper bottom trucks, then conveyed by belt conveyor into the hopper bottom storage bins. Bulk seed may also be delivered in bulk bags or boxes. Seed is then weighed and conveyed into the treater for application of liquid fungicide products then loaded into vehicles by belt conveyor. AGRIServices of Brunswick, LLC. - Brunswick East will have the capability to bypass the bins and load seed directly into the weigh hopper.

Seed can be coated with Acceleron[®] DX-309 and Cruiser Maxx[®] A14379B. Only one treatment will be used per batch of seed. The greatest potential VOC emissions are from Cruiser Maxx[®]. All treatments are liquids, but conservatively are not considered a dust suppressant for particulate matter. The treatment building is considered an enclosure for particulate matter per the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Table B.2.3.

AGRIServices of Brunswick, LLC. - Brunswick East requested a 15 ton per year PM₁₀ limit for the entire installation. Therefore the potential emissions of the existing installation were evaluated as part of this review.

A Pre-Construction Waiver was issued to AGRIServices of Brunswick, LLC. - Brunswick East on January 11, 2011.

EMISSIONS/CONTROLS EVALUATION

Project Emissions

Seed receiving emissions (S1) were calculated using emission factors for receiving at an animal feed mill cited from AP-42, Section 9.9.1, *Grain Elevators and Processes*, May 2003. This emission rate was used because the seed is shipped already cleaned and ready for treatment application. Emissions from the storage bins and weigh hopper (S4) filling were calculated using the storage bin vent emission factors for a grain elevator. Seed treatment (S5) particulate emissions were calculated using the internal handling emission factor. Seed treatment VOC emissions were calculated using application rates and VOC weight contents from the manufacturer and mass balance, assuming all available VOC being emitted. There are no HAPs emissions in the seed coating process when using Acceleron[®] DX-309 and Cruiser Maxx[®] A14379B. Usage of Cruiser Maxx[®] results in the greatest potential VOC emissions. The treatment chemicals are the only source of VOC emissions from the project. EP S4-S6 are enclosed in a building and 3.7 percent (%) control efficiency was used. The control efficiency for the building enclosure was obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, and Appendix B.2. for AIRS Code 054 process enclosed 3.7 percent.

Existing Equipment Emissions

Potential emissions for the existing installation (grain elevator, fertilizer processes, and existing haul roads) had not been previously calculated. As part of this project, the potential emissions for the entire installation were evaluated.

Grain elevator emissions were calculated using AP-42, Section 9.9.1 *Grain Elevators and Processes*, May 2003. Grain receiving at the elevator was assumed to occur through a 50/50 split of straight trucks and hopper trucks. This is a conservative assumption as the emission factor for straight truck receiving is higher than the emission factor for hopper bottom receiving and the trend in the industry is moving towards more hopper bottom trucks compared to straight trucks. Grain will be conveyed through a traditional elevator design with a headhouse. There is a grain dryer fueled by Liquefied Petroleum Gas (LPG); these emissions were calculated using AP-42, Section 1.5 *Liquefied Petroleum Gas Combustion*, July 2008.

The fertilizer processes were evaluated for PM, PM₁₀, and PM_{2.5} emissions. AP-42 and WebFIRE (Factor Information Retrieval System), EPA's online emission factor repository, PM_{2.5} emission factors do not exist for fertilizer handling, therefore the PM_{2.5} emission factor (0.005 pounds per ton of fertilizer) was estimated as being 25 percent of the PM₁₀ emission factor (0.02 pounds per ton of fertilizer, Source Classification Code (SCC) 3-01-027-09) using the scale factors that was used in AP-42, Table 9.9.1-1. The PM₁₀ emission factor was obtained from WebFIRE. EP 11 and EP13 are enclosed in a building and 3.7% control efficiency was used. The control efficiency for the building enclosure was obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, and Appendix B.2. for AIRS Code 054 process enclosed 3.7 percent.

Haul road emissions were calculated using AP-42, Section 13.2.2, *Unpaved Roads*, November 2006. The seed will be received in 18 wheel hopper bottom trucks weighing about 40 tons loaded and 15 tons empty. Seed after treatment is conveyed into many different configurations of trucks, wagons or even into one ton bags or boxes for transport. The shipping loaded weight of the vehicles will be 15 tons loaded and 5 tons empty. The shipping loaded weight of the 4-wheel cart will be six tons loaded and two tons unloaded. The shipping ratio of the truck/cart is 50/50. The length of the haul road is 560 feet. Grain will be delivered using hopper bottom trucks (40 tons loaded/15 tons unloaded) and straight trucks (25 tons loaded/10 unloaded). A 50/50 ratio was used. Grain shipped will be the same, using hopper bottom trucks (40 tons loaded/15 tons unloaded) and straight trucks (25 tons loaded/10 unloaded); using a 50/50. The length of the grain haul road is 380 feet. Fertilizer will be delivered in hopper bottom trucks weighing 40 tons loaded/15 tons unloaded. Fertilizer is shipped by straight trucks weighing 25 tons loaded/10 unloaded and also by 4-wheel carts weighing eight tons loaded/two tons unloaded. The truck/cart ratio is 20/80 according to the application. The length of the fertilizer haul road is 550 feet. The haul road emissions were calculated with no controls for dust suppression.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year). The following Table 3 provides an emissions summary for this project.

Existing potential emissions have not been calculated prior to this permit application.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Actual Emissions ¹ (2011 EIQ)	Project Unconditioned Potential Emissions	Installation Unconditioned Potential Emissions	Installation Conditioned Potential
PM	25.0	N/D	76.54	805.46	74.27
PM ₁₀	15.0	N/D	26.92	162.68	<15.0
PM _{2.5}	10.0	N/D	3.91	25.93	2.39
SOx	40.0	N/D	N/A	1.4361	0.13241
NOx	40.0	N/D	N/A	12.45	1.15
VOC	40.0	N/D	21.57	22.33	2.06
CO	100.0	N/D	N/A	7.18	0.68
HAPs	10.0/25.0	N/D	N/A	3.24	0.30

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

¹No data has been submitted to the EIQ

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 VOC and PM₁₀ are conditioned below de minimis levels. PM is indirectly conditioned but remains at minor source levels.

APPLICABLE REQUIREMENTS

AGRIServices of Brunswick, LLC. - Brunswick East 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 Emissions 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.

Kathy Kolb
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated December 20, 2011, received December 22, 2011, designating AGRIServices of Brunswick, LLC. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Mr. Alan Mahoney
AGRIServices of Brunswick, LLC. - Brunswick East
201 Ray Young Drive
Columbia, MO 65201-3599

RE: New Source Review Permit - Project Number: 2011-12-058

Dear Mr. Mahoney:

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, 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 Kathy Kolb, at the Department of Natural Resource's 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:kk1

Enclosures

c: Northeast Regional Office
PAMS File: 2011-12-058

Permit Number: