

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: 122015-015

Project Number: 2015-10-072
Installation Number: 041-0017

Parent Company: MFA, Inc.

Parent Company Address: 201 Ray Young Drive, Columbia, MO 65201

Installation Name: MFA Agri Service – Salisbury

Installation Address: 304 West Front Street, Salisbury, MO 65281

Location Information: Chariton County (S3, T53N, R17W)

Application for Authority to Construct was made for:

The addition of a seed treatment system, including five hopper bottom bulk storage bins, associated fill/ reclaim conveyors, a bulk weigh hopper, a seed treater, and a loadout conveyor. 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.

Prepared by
Ryan Schott
New Source Review Unit

Director or Designee
Department of Natural Resources

DEC 28 2015

Effective Date

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.

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."

MFA Agri Service - Salisbury
Chariton County (S3, T53N, R17W)

1. Superseding Condition
 - A. The conditions of this permit supersede Special Condition 2 found in construction permit 072014-010, previously issued by the Air Pollution Control Program.

2. PM₁₀ Emission Limitation
 - A. MFA Agri Service – Salisbury shall emit less than 15.0 tons of PM₁₀ in any consecutive 12-month period from the entire installation (see Table 1).

Table 1. Installation Emission Points

Emission Point	Description	Emission Point	Description
EP-01a	South Grain Receiving	EP-11	Fertilizer Loadout
EP-01b	North Grain Receiving	EP-12	Belt Conveyor
EP-02a	South Elevator Loadout	EP-13	Fertilizer Storage
EP-02b	North Elevator Loadout	EP-14	Fertilizer Weigh Hopper
EP-03a	South Bucket Elevator	EP-15	Fertilizer Mixer
EP-03b	North Bucket Elevator	EP-16	Cleaning Bins
EP-04a	South Grain Bins	EP-17	Seed Cleaner
EP-04b	North Grain Bins	EP-S1	Bulk Seed Receiving
EP-05	Grain Dryer	EP-S2	Seed Bins
EP-06	Bulk Feed Loadout	EP-S3	Conveyor Transfer
EP-07	Feed Bucket Elevator	EP-S4	Seed Weigh Hopper
EP-08	Feed Bin Loading	EP-S5	Conveyor Transfer
EP-09	Rollermill	EP-S6	Seed Treater
EP-10a	Hammermill	EP-S7	Bulk Seed Loadout
EP-10b	Dry Fertilizer Receiving	EP-HR	Haul Road

- B. Attachment A or an equivalent form, such as an electronic form approved by the Air Pollution Control Program, shall be used to demonstrate compliance with Special Condition 2.A.

3. Seed Treatment Limitation
 - A. MFA Agri Service – Salisbury shall limit the amount of seed treated with fungicide, herbicide, pesticide, and inoculant to less than 2,000 tons in any consecutive 12-month period.

SPECIAL CONDITIONS:

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

- B. Attachment B, or an equivalent form, such as an electronic form approved by the Air Pollution Control Program, shall be used to demonstrate compliance with Special Condition 3.A.
4. Use of Alternative Seed Treatment
- A. When using an alternative seed treatment for the installation that is different than any material listed in the Application for Authority to Construct, MFA Agri Service – Salisbury shall calculate the potential emissions of all individual HAP in the alternative material, based on the seed treatment limitation of Special Condition 3.A.
 - B. Upon request, MFA Agri Service – Salisbury shall submit the results of the calculations required by Special Condition 4.A. to the Air Pollution Control Program within 30 days of the request.
 - C. In cases where the potential individual HAP emissions for the alternative seed treatment are above the SMAL for any chemical, MFA Agri Service – Salisbury shall submit an Application for Authority to Construct to the Air Pollution Control Program.
5. Operational Requirement
- A. MFA Agri Service – Salisbury shall keep the fungicides, herbicides, pesticides, and inoculants in sealed containers whenever the materials are not in use. MFA Agri Service – Salisbury shall provide and maintain suitable, easily read, permanent markings on all of the above containers.
6. Record Keeping and Reporting Requirements
- A. MFA Agri Service – Salisbury 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 SDS for all materials used.
 - B. MFA Agri Service – Salisbury shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 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 (6) REVIEW

Project Number: 2015-10-072
Installation ID Number: 041-0017
Permit Number:

Installation Address:

MFA Agri Service – Salisbury
304 West Front Street
Salisbury, MO 65281
Chariton County (S3, T53N, R17W)

Parent Company:

MFA, Inc.
201 Ray Young Drive
Columbia, MO 65201

REVIEW SUMMARY

- MFA Agri Service – Salisbury has applied for authority to add a seed treatment system, including five hopper bottom bulk storage bins, associated fill/ reclaim conveyors, a bulk weigh hopper, a seed treater, and a loadout conveyor.
- The application was deemed complete on November 12, 2015.
- HAP emissions are not expected from the proposed equipment.
- None of the NSPS, NESHAPs, or currently promulgated MACT regulations apply to the installation.
- No air pollution control equipment is being used with the new equipment.
- 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 and VOCs are conditioned below de minimis levels. Potential emissions of PM are above the de minimis level, but below the major source level.
- 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.
- Emissions testing is not required for the equipment.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

MFA, Inc. operates a grain elevator, feed mill, and bulk fertilizer facility in Salisbury, Missouri. The maximum hourly design rate (MHDR) of the grain elevator is 522 tons per hour, and the MHDR of the feed mill is 24 tons per hour, each bottlenecked by their respective loadouts. The fertilizer facility has a MHDR of 45 tons per hour and is bottlenecked by its weigh hopper. The existing seed cleaning facility at this location has not been in operation for some time. MFA Agri Service – Salisbury is considered a minor source for construction permitting and does not require an operating permit since PM is the only pollutant over de minimis levels. Operating permits do not look at PM for operating permit applicabilities.

The following New Source Review permits have been issued to MFA Agri Service – Salisbury from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
1286-008	165,000 bushel grain bin
072014-010	Grain bin and associated equipment

PROJECT DESCRIPTION

MFA Agri Service – Salisbury plans to construct a new bulk seed handling and treatment system. The new system will include five 2,854 bushel hopper bottom bulk storage bins, associated fill/ reclaim conveyors, a bulk weigh hopper, a seed treater, and a loadout conveyor. The weigh hopper and seed treater will be located inside a building, and loadout will be conducted under one roof. The overall MHDR of the seed handling and treatment process will be 36 tons per hour.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition.

Particulate emission factors for the receiving, handling, and loadout of seed were obtained from AP-42 Section 9.9.1 *Grain Elevators & Processes*, May 2003. Because no emission factors for the seed coating process exist, emission factors for general grain handling were used. Emissions from haul roads were calculated using the predictive equation from AP-42 Section 13.2.2 *Unpaved Roads*, November 2006. It was conservatively assumed that the seed is hauled 50% of the time in straight trucks and 50% of the time in hopper trucks. An installation-wide de minimis limit for PM₁₀ was reestablished for the facility.

VOC emissions from seed treatment were calculated based on a mass balance approach. The application rate of fungicide/ insecticide was assumed to be 5 fluid

ounces per 100 pounds of seed. The listed seed treatment compound with the highest VOC content is Apron Maxx RFC with 18.13%, and the compound with the highest specific gravity is Cruiser Maxx Cereals with 1.155. In order to remain conservative, potential VOC emissions were calculated using a fungicide/ insecticide application rate of 10 fluid ounces per 100 pounds of seed treated, a VOC content equal to 100%, and a specific gravity of 1.35. While this method is an extremely conservative overestimation, it demonstrates that a variety of seed treatment compounds can be used at different application rates and will not exceed the de minimis level for VOCs. MFA Agri Service – Salisbury estimates that the maximum amount of seed treated in any given year will not exceed 2,000 tons. With this throughput limit, MFA Agri Service – Salisbury will remain well below the VOC de minimis level of 40.0 tons per year, in any consecutive 12-month period. Note that the limitation applies to the amount of seed treated, not the amount handled (i.e. not all seed handled is treated).

The following table provides an emissions summary for this project. Existing potential emissions were taken from the previously issued construction permit 072014-010. Existing actual emissions were taken from the installation’s 2014 EIQ. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year). The installation’s conditioned potential emissions account for a voluntary seed treatment limit of 2,000 tons per year and an installation-wide de minimis limit for PM₁₀.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2014 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	41.85	N/D	57.43	42.91
PM ₁₀	15.0	<15.0	5.55	21.71	<15.0
PM _{2.5}	10.0	2.42	0.89	3.47	2.38
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	201.30	16.16
CO	100.0	N/A	N/A	N/A	N/A
Total HAPs	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 (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ and VOCs are conditioned below de minimis levels. Potential emissions of PM are above the de minimis level, but below the major source level.

APPLICABLE REQUIREMENTS

MFA Agri Service – Salisbury 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
 - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *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*, it is recommended that this permit be granted with special conditions.

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated October 15, 2015, received October 28, 2015, designating MFA, Inc. as the owner and operator of the installation.

Attachment A – PM₁₀ Compliance Worksheet

MFA Agri Service – Salisbury
 Chariton County (S3, T53N, R17W)
 Project Number: 2015-10-072
 Installation ID Number: 041-0017
 Permit Number: _____

This sheet covers the period from _____ to _____.
(month, year) (month, year)

A	B		C	D	E	F	G
Month	Materials Handled ¹ (tons)		PM ₁₀ Emission Factor (lb/ton)	Monthly PM ₁₀ Emissions ² (lbs)	Monthly PM ₁₀ Emissions ³ (tons)	Previous 11-Months' PM ₁₀ Emissions ⁴ (tons)	Current 12-Month PM ₁₀ Emissions ⁵ (tons)
<i>Example</i>	<i>Grain Shipped</i>	<i>5,000</i>	<i>0.23</i>	<i>1,150</i>	2.34	11.25	13.59
	<i>Feed Shipped</i>	<i>2,500</i>	<i>0.99</i>	<i>2,475</i>			
	<i>Fertilizer Shipped</i>	<i>5,000</i>	<i>0.14</i>	<i>700</i>			
	<i>Seed Shipped</i>	<i>2,500</i>	<i>0.14</i>	<i>350</i>			
	Grain Shipped		0.23				
	Feed Shipped		0.99				
	Fertilizer Shipped		0.14				
	Seed Shipped		0.14				
	Grain Shipped		0.23				
	Feed Shipped		0.99				
	Fertilizer Shipped		0.14				
	Seed Shipped		0.14				
	Grain Shipped		0.23				
	Feed Shipped		0.99				
	Fertilizer Shipped		0.14				
	Seed Shipped		0.14				
	Grain Shipped		0.23				
	Feed Shipped		0.99				
	Fertilizer Shipped		0.14				
	Seed Shipped		0.14				
	Grain Shipped		0.23				
	Feed Shipped		0.99				
	Fertilizer Shipped		0.14				
	Seed Shipped		0.14				

1. Record this month's individual amount of grain, feed, fertilizer, and seed shipped
2. Calculate using the following equation: [D] = [B] x [C]
3. Calculate using the following equation: [E] = {[D] Grain + [D] Feed + [D] Fertilizer + [D] Seed} / (2,000 lb/ton)
4. Add the Monthly PM₁₀ Emissions [E] from the previous 11 months
5. Calculate using the following equation: [G] = [E] + [F]
 A total of less than **15.0** tons is necessary for compliance

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs	National Emissions Standards for Hazardous Air Pollutants
CFR	Code of Federal Regulations	NO_x	nitrogen oxides
CO	carbon monoxide	NSPS	New Source Performance Standards
CO₂	carbon dioxide	NSR	New Source Review
CO_{2e}	carbon dioxide equivalent	PM	particulate matter
COMS	Continuous Opacity Monitoring System	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CSR	Code of State Regulations	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
dscf	dry standard cubic feet	ppm	parts per million
EQ	Emission Inventory Questionnaire	PSD	Prevention of Significant Deterioration
EP	Emission Point	PTE	potential to emit
EPA	Environmental Protection Agency	RACT	Reasonable Available Control Technology
EU	Emission Unit	RAL	Risk Assessment Level
fps	feet per second	SCC	Source Classification Code
ft	feet	scfm	standard cubic feet per minute
GACT	Generally Available Control Technology	SDS	Safety Data Sheet
GHG	Greenhouse Gas	SIC	Standard Industrial Classification
gpm	gallons per minute	SIP	State Implementation Plan
gr	grains	SMAL	Screening Model Action Levels
GWP	Global Warming Potential	SO_x	sulfur oxides
HAP	Hazardous Air Pollutant	SO₂	sulfur dioxide
hr	hour	tph	tons per hour
hp	horsepower	tpy	tons per year
lb	pound	VMT	vehicle miles traveled
lbs/hr	pounds per hour	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Alan Mahoney
Safety, Environmental & Regulatory Manager
MFA Agri Service - Salisbury
P.O. Box 204
Salisbury, MO 65281

RE: New Source Review Permit - Project Number: 2015-10-072

Dear Mr. Mahoney:

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 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 were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty 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 administrative hearing commission, whose contact information is: Administrative Hearing Commission, Truman State Office Building phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc. If you have any questions regarding this permit, please do not hesitate to contact Ryan Schott, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:rs1

Enclosures

c: Northeast Regional Office
PAMS File: 2015-10-072
Permit Number: