Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

DEC 1 1 2019

Mr. Stan Thessen
Director - SER
MFA Agri Services - Carytown
201 Ray Young Dr.
Columbia, MO 65201

RE: New Source Review Permit - Project Number: 2019-10-005

Dear Mr. Thessen:

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.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: http://dnr.mo.gov/regions/. The online CAV request can be found at http://dnr.mo.gov/cav/compliance.htm.

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, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.

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If you have any questions regarding this permit, please do not hesitate to contact Chad Stephenson, 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:sca

Enclosures

c: Southwest Regional Office
PAMS File: 2019-10-005

Permit Number: 122019-006

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: 122019-006

Project Number: 2019-10-005
Installation Number: 097-0116

Parent Company: MFA Incorporated

Parent Company Address: 201 Ray Young Dr., Columbia, MO 65201

Installation Name: MFA Agri Services - Carytown

Installation Address: 14677 County Rd. 138, Carytown, MO 64836

Location Information: Jasper County, S4, T29N, R31W

Application for Authority to Construct was made for:
Construction of an 8 ton fertilizer mixer. This review was conducted in accordance with Section (5), 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.

Director or Designee
Department of Natural Resources

DEC 11 2019

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

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

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

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

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit using the contact information below.

Contact Information:
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
http://dnr.mo.gov/regions/

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 to 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 (3)(E). "Conditions required by permitting authority."

MFA Agri Services - Carytown
Jasper County, S4, T29N, R31W

1. PM_{10} Emission Limitation
   A. MFA Agri Services - Carytown shall emit less than 15.0 tons of PM_{10} in any consecutive 12-month period from the entire installation (see table 1 in project description). The SSM emissions as reported to the Air Pollution Control Program's Compliance/Enforcement Section in accordance with the requirements of 10 CSR 10-6.050 *Start-Up, Shutdown, and Malfunction Conditions* shall be included in the limit.

   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 Conditions 1.A.

2. Record Keeping and Reporting Requirements
   B. MFA Agri Services - Carytown 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.

   C. MFA Agri Services - Carytown shall report to the Air Pollution Control Program's Compliance/Enforcement Section, by mail at P.O. Box 176, Jefferson City, MO 65102 or by email at AirComplianceReporting@dnr.mo.gov, no later than 10 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 (5) REVIEW
Project Number: 2019-10-005
Installation ID Number: 097-0116
Permit Number: 122019-006

Installation Address:
MFA Agri Services - Carytown
14677 County Rd. 138
Carytown, MO 64836

Parent Company:
MFA Incorporated
201 Ray Young Dr.
Columbia, MO 65201

Jasper County, S4, T29N, R31W

REVIEW SUMMARY

- MFA Agri Services - Carytown has applied for authority to construct an 8 ton fertilizer mixer.
- The application was deemed complete on October 11, 2019.
- 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.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM_{10} are conditioned below de minimis levels.
- This installation is located in Jasper County, an attainment/unclassifiable 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 is not required for the equipment as a part of this permit. Testing may be required as part of other state, federal or applicable rules.

- No Operating Permit is required for this installation.

- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

MFA Agri Services - Carytown is an existing facility located in Carytown, Missouri. The facility is replacing an old 6 ton fertilizer mixer with a new 8 ton fertilizer mixer. No permits have been issued to MFA Agri Services - Carytown from the Air Pollution Control Program.

PROJECT DESCRIPTION

MFA Agri Services - Carytown is installing an 8 ton mixer to replace a 6 ton mixer. The facility includes a storage bay, a receiving conveyor, a transport conveyor, a fertilizer mixer, and a load out conveyor. The receiving conveyor's MHDR is rated at 150 tph. The fertilizer mixer (EP-05) can hold 8 tons and takes 10 minutes to drop into the mixer, mix, and unload from the mixer. This gives the fertilizer blender a MHDR of 48 tph. The fertilizer blender is considered to be the bottleneck in the process. The emissions are uncontrolled in this process.

The fertilizer mixes are received by truck (EP-01) and unloaded onto the receiving conveyor (EP-02) at the receiving pit. The fertilizer then drops into fertilizer bins from an overhead conveyor (EP-03). A skid-steer then transfers the fertilizer for the fertilizer blend to a scale hopper (EP-04) that drops the required amount of fertilizer into the fertilizer blender (EP-05). After the fertilizer is successfully mixed, it leaves the blender on a conveyor (EP-06) and is loaded out onto a spreader cart or truck (EP-07).

Table 1: Summarized Installation Emission Points and MHDRs.

Emission Point	Description	True MHDR (tons/hr)	Bottlenecked MHDR (tons/hr)
EP-01	Truck Receiving	150	48
EP-02	Leg to Storage Bay Conveyor	150	48
EP-03	Storage Bay Conveyor	150	48
EP-04	Fertilizer loaded onto 8 ton scale hopper from bay (skid-steer)	48	48
EP-05	Vertical Fertilizer Mixer 8 Ton	48	48
EP-06	Fertilizer unloaded on conveyor	48	48
EP-07	Fertilizer unloaded to truck or cart	48	48
EP-08a	Haul Road – Truck Receiving Full	0.44 VMT/hr	0.44 VMT/hr
EP-08b	Haul Road – Truck Receiving Empty	0.55 VMT/hr	0.55 VMT/hr
EP-08c	Haul Road – Truck Shipping	0.71 VTM/hr	0.71 VMT/hr
EP-08d	Vehicular Activity – Skid-steer	2.55 VMT/hr	2.55 VMT/hr

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the EPA's WebFIRE database (SCC 3-01-027-09, Ammonium Nitrate Production Bulk Loading), (SCC 3-01-040-07, Urea Production Bulk Loading). The $PM_{2.5}$ distribution was calculated from AP-42 Appendix B.2, Category 4. All emission were considered uncontrolled.

Haul road and vehicular activity emissions were calculated using the predictive equation found in AP-42 Section 13.2.2 Unpaved Roads (November 2006). Truck receiving has a haul road length of 914 feet when full (40 tons hopper/25 tons straight truck) and 1,125 feet when empty (15 tons hopper/10 tons straight truck). Truck shipping has a haul road length of 730 feet. The skid-steer was estimated to travel approximately 70 feet with weights of 4.7 tons loaded and 4.2 empty. All areas are unpaved. A silt percentage of 8.3 was used with 105 days of precipitation.

The following table provides an emissions summary for this project. This is a new facility therefore there are no existing emissions. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year).

Table 2: Emissions Summary (tpy)

Pollutant	Regulatory *De Minimis* Levels	Unconditioned Potential Emissions of the Installation	New Installation Conditioned Potential
PM	25.0	113.57	34.81
PM_{10}	15.0	48.95	<15.0
$PM_{2.5}$	10.0	11.22	3.44
SOx	40.0	N/A	N/A
NOx	40.0	N/A	N/A
VOC	40.0	N/A	N/A
CO	100.0	N/A	N/A
GHG (CO_2e)	N/A	N/A	N/A
GHG (mass)	N/A	N/A	N/A
HAPs	10.0/25.0	N/A	N/A

N/A = Not Applicable;

PERMIT RULE APPLICABILITY

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

APPLICABLE REQUIREMENTS

MFA Agri Services - Carytown 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

- *Start-Up, Shutdown, and Malfunction Conditions,* 10 CSR 10-6.050
- *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 (5), 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 1, 2019, received October 1, 2019, designating MFA Incorporated as the owner and operator of the installation.

Attachment A - PM_{10} 12-Month Rolling Total Emissions Tracking Sheet

MFA Agri Services - Carytown
Jasper County, S4, T29N, R31W
Project Number: 2019-10-005
Installation ID Number: 097-0116
Permit Number: 122019-006

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

Date (Month/Year)	Monthly Production (tons)	PM_{10} Composite Emission Factor (lb/ton)	Monthly PM_{10} Emissions[1] (lbs)	Startup, Shutdown and Malfunction PM_{10} Emissions[2] (lbs)	Monthly PM_{10} Emissions[3] (tons)	12-Month Rolling Total PM_{10} Emissions[4] (tons)
Example	*2,000*	*0.233*	*466*	*0.0*	*0.23*	*0.23 + 11 previous months*
		0.233				
		0.233				
		0.233				
		0.233				
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[1]Multiply the monthly production by the PM_{10} composite emission factor.
[2]As reported to the Air Pollution Control Program's Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050 for the month.
[3]Add the monthly PM_{10} emissions plus the SSM emissions from the same time period and divide by 2000 and
[4]Add the monthly emissions (tons) to the sum of the monthly emissions from the previous eleven months. A total of less than 15.0 tons of PM_{10} per consecutive 12 months is necessary for compliance.

APPENDIX A

Abbreviations and Acronyms

% .....percent
°F .....degrees Fahrenheit
acfm.....actual cubic feet per minute
BACT .....Best Available Control Technology
BMPs.....Best Management Practices
Btu.....British thermal unit
CAM .....Compliance Assurance Monitoring
CAS.....Chemical Abstracts Service
CEMS .....Continuous Emission Monitor System
CFR.....Code of Federal Regulations
CO .....carbon monoxide
CO_2.....carbon dioxide
CO_2e.....carbon dioxide equivalent
COMS .....Continuous Opacity Monitoring System
CSR.....Code of State Regulations
dscf.....dry standard cubic feet
EIQ.....Emission Inventory Questionnaire
EP.....Emission Point
EPA.....Environmental Protection Agency
EU .....Emission Unit
fps.....feet per second
ft .....feet
GACT .....Generally Available Control Technology
GHG.....Greenhouse Gas
gpm .....gallons per minute
gr .....grains
GWP .....Global Warming Potential
HAP.....Hazardous Air Pollutant
hr.....hour
hp.....horsepower
lb.....pound
lbs/hr.....pounds per hour
MACT.....Maximum Achievable Control Technology
$\mu g/m^3$.....micrograms per cubic meter
m/s.....meters per second
Mgal .....1,000 gallons
MW.....megawatt
MHDR.....maximum hourly design rate
MMBtu.....Million British thermal units
MMCF .....million cubic feet
MSDS .....Material Safety Data Sheet
NAAQS ....National Ambient Air Quality Standards
NESHAPs National Emissions Standards for Hazardous Air Pollutants
NO_x.....nitrogen oxides
NSPS.....New Source Performance Standards
NSR .....New Source Review
PM.....particulate matter
$PM_{2.5}$.....particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10} .....particulate matter less than 10 microns in aerodynamic diameter
ppm.....parts per million
PSD.....Prevention of Significant Deterioration
PTE.....potential to emit
RACT .....Reasonable Available Control Technology
RAL.....Risk Assessment Level
SCC .....Source Classification Code
scfm .....standard cubic feet per minute
SDS.....Safety Data Sheet
SIC.....Standard Industrial Classification
SIP.....State Implementation Plan
SMAL.....Screening Model Action Levels
SO_x.....sulfur oxides
SO_2.....sulfur dioxide
SSM.....Startup, Shutdown & Malfunction
tph .....tons per hour
tpy.....tons per year
VMT.....vehicle miles traveled
VOC .....Volatile Organic Compound