



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: **062012-002**

Project Number: 2012-03-007
Installation Number: 207-0015

Parent Company: MFA Incorporated

Parent Company Address: 201 Ray Young Drive, Columbia, MO 65201-3599

Installation Name: MFA Agri Service-Bernie

Installation Address: 311 N. Drake St., Bernie, MO 63822

Location Information: Stoddard County, S3, T23N, R10E

Application for Authority to Construct was made for:
Installation of a new dry bulk fertilizer storage and blending facility. 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.

JUN 06 2012

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 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.

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Project No.	2012-03-007

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-Bernie
Stoddard County, S3, T23N, R10E

1. Particulate matter less than 10 microns in diameter (PM₁₀) Emission Limitation
 - A. MFA Agri Service-Bernie shall emit less than 15.0 tons of PM₁₀ in any consecutive 12-month period from this project (see Table 2 for emission points).
 - 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
 - A. MFA Agri Service-Bernie 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. MFA Agri Service-Bernie 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 show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2012-03-007
Installation ID Number: 207-0015
Permit Number:

MFA Agri Service-Bernie
311 N. Drake St.
Bernie, MO 63822

Complete: March 1, 2012

Parent Company:
MFA Incorporated
201 Ray Young Drive
Columbia, MO 65201-3599

Stoddard County, S3, T23N, R10E

REVIEW SUMMARY

- MFA Agri Service-Bernie has applied for authority to construct a new dry bulk fertilizer storage and blending facility.
- 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 40 CFR 60 Subpart X, *Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities*, does not apply to the proposed equipment because the facility does not store *fresh* (produced within the preceding 72 hours) triple superphosphate fertilizer.
- 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 the belt conveyor (EP18), fertilizer storage bays (EP19), charger hopper (fertilizer mixing/blending) (EP20), and chainbelt conveyor (EP21) 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 (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are conditioned below de minimis levels. PM and PM_{2.5} are indirectly conditioned (See Table 3).
- This installation is located in Stoddard 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.
- Emissions testing are not required for the equipment.
- A Basic Operating Permit application is required to be submitted for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

MFA Agri Service operates a grain processing installation, which is an existing minor source of PM₁₀ and holds a basic operating permit, in Stoddard County. This installation contains an elevator and associated equipment of two dry bulk fertilizer plants and a seed cleaning operation.

The following construction permits have been issued to MFA Agri Service-Bernie from the Air Pollution Control Program.

Table 1: Previously Issued Construction Permits

Permit Number	Description
0377-006	Fertilizer
0398-005	Grain, fertilizer and seed facility
082007-009	Storage

PROJECT DESCRIPTION

This project consists of the construction of a new dry bulk fertilizer storage and blending facility of dry bulk fertilizer. This new building will replace the northern most of these buildings. When the building is complete, it will become the sole dry fertilizer building used. The new building will hold approximately 2,800 tons of dry ingredients which could or will include urea, dia-ammonium or mono-ammonium phosphate, triple super phosphate, potash and minor ingredients that would contain items such as sulfur and zinc. The bulk product will be delivered by transport truck and unloaded onto a chainbelt conveyor which will feed a bucket elevator. The bucket elevator will discharge onto an overhead belt conveyor inside the building with a tripper to discharge into the individual storage bays. The bulk product is then loaded into individual charge hoppers above a volumetric auger blending system. The volumetric blending system will discharge to a chainbelt conveyor for transfer outside into awaiting trucks or application equipment. All equipment will operate at a rate of 100 tons per hour.

Table 2 below lists the equipment associated with the fertilizer facility.

Table 2: MFA Agri Services – Bernie Project Emission List

Emission Point	Description
EP-1	Receiving – Fertilizer
EP-2	Bucket Elevator
EP-18	Belt Conveyor
EP-19	Storage Bays
EP-20	Charge Hoppers
EP-21	Chainbelt conveyor
EP-3	Loadout Trucks/Carts
EP-14	Haul Roads from Receiving (Unpaved), Loadout Truck/Carts (Unpaved), and Vehicle Activity inside of the building

EMISSIONS/CONTROLS EVALUATION

The fertilizer processes were evaluated for PM, PM₁₀, and PM_{2.5} emissions using 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. EP18, EP19, Ep20, and EP21 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.

Haul road emissions (EP14) were calculated using AP-42, Section 13.2.2, *Unpaved Roads*, November 2006. 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 80/20 according to the application. The length of the fertilizer receiving haul road is 400 feet. The length of the fertilizer shipping haul road is 0.04 miles (210 feet). The haul road emissions were calculated with no controls for dust suppression. Vehicular activity inside the building (between storage bids and charge hopper) was calculated using AP-42, Section 13.2.1, *Paved Roads* (January 2011) as paved without rain at a distance of 60 feet.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The following table provides an emissions summary for this project.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions ¹	Existing Actual Emissions (2005 EIQ) ²	Potential Emissions of the Application	New Project Conditioned Potential
PM	25.0	N/D	N/D	123.09	24.194
PM ₁₀	15.0	144.44	0.060	76.91	<15
PM _{2.5}	10.0	N/D	N/D	16.93	3.33
SOx	40.0	0.06	N/D	N/A	N/A
NOx	40.0	12.89	N/D	N/A	N/A
VOC	40.0	0.26	N/D	N/A	N/A
CO	100.0	3.22	N/D	N/A	N/A
HAPs	10.0/25.0	N/A	N/D	N/A	N/A

¹Existing Potential Emissions represent the conditioned emissions from Permit 082007-009. PM₁₀ was determined from Permit 0398-005 114.44 + 15 = 129.44 + 15(Permit 082007-009) = 144.44

²A full EIQ has not been submitted since 2005; only PM₁₀ was reported

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

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 PM₁₀ are conditioned below de minimis levels. PM and PM_{2.5} are indirectly conditioned.

APPLICABLE REQUIREMENTS

MFA Agri Service-Bernie 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. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- *Operating Permits*, 10 CSR 10-6.065
- *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*, 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 February 28, 2012, received March 1, 2012, designating MFA Incorporated as the owner and operator of the installation.
- WebFIRE (Factor Information Retrieval System), EPA's online emission factor.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Attachment A – PM₁₀ Compliance Worksheet

MFA Agri Service-Bernie
 Stoddard County, S3, T23N, R10E
 Project Number: 2012-03-007
 Installation ID Number: 207-0015
 Permit Number: _____

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

Month/Year	Emission Units		1 Month Total PM ₁₀ Emissions	1 Month Total PM ₁₀ Emissions	Previous Month's 12 Month Total	Previous Year's 1 month Total	12 month Total PM ₁₀ Emissions
C1	C2	C3	C4	C5	C6	C7	C8
	Amount of Fertilizer (tons)	Composite Emission Factor (lbs. PM ₁₀ per tons fertilizer)	Monthly PM ₁₀ Emissions (lbs.)	Monthly PM ₁₀ Emissions (tons)	12 month Rolling Total PM ₁₀ Emissions (tons)	Monthly PM ₁₀ Emissions (tons)	12 month Rolling Total PM ₁₀ Emissions (tons)
Example	15,400	0.1756	2,704.24	1.35			
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Instructions:
 C2 = the total tons of fertilizer received during the month and year indicated in C1
 C3 = 0.1756 (lbs./ tons), the composite emission factor for emission units
 C4 = C2 × C3
 C5 = C4 ÷ 2000
 C6 = the 12 month rolling total PM₁₀ emissions from the previous month (C8 from previous month)
 C7 = the monthly total PM₁₀ emissions from the previous year
 C8 = C5 + C6 – C7 **Note: A value less than 15.0 tons is necessary for continued compliance**

Mr. Alan Mahoney
Safety, Environmental & Regulatory Manager
MFA Agri Service-Bernie
201 Ray Young Drive
Columbia, MO 65201-3599

RE: New Source Review Permit - Project Number: 2012-03-007

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 and with your amended operating permit 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 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:kk1

Enclosures

c: Southeast Regional Office
PAMS File: 2012-03-007

Permit Number: