

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: 022011-005 Project Number: 2010-12-043

Installation Number: 155-0066

Parent Company: MFA Incorporated

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

Installation Name: MFA Plant Foods - Hayti

Installation Address: 501 N. 2nd, Hayti, MO 63851

Location Information: Pemiscot County, S34, T19N, R12E

Application for Authority to Construct was made for:
Dry bulk fertilizer receiving. 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.

FEB 17 2011

EFFECTIVE DATE

A handwritten signature in black ink, appearing to read "James K. Kavanagh".

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.

Page No.	3
Permit No.	
Project No.	2010-12-043

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 Plant Foods - Hayti
Pemiscot County, S34, T19N, R12E

1. Emission Limitation
 - A. MFA Plant Foods - Hayti 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 2).
 - 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. Record Keeping and Reporting Requirements
 - A. MFA Plant Foods - Hayti 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 Plant Foods - Hayti 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 (5) REVIEW

Project Number: 2010-12-043
Installation ID Number: 155-0066
Permit Number:

MFA Plant Foods - Hayti
501 N. 2nd
Hayti, MO 63851

Complete: December 15, 2010

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

Pemiscot County, S34, T19N, R12E

REVIEW SUMMARY

- MFA Plant Foods - Hayti has applied for authority to increase the maximum design rate of dry bulk fertilizer receiving via rail.
- Hazardous Air Pollutant (HAP) emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation. 40 CFR 60, Subpart X, *Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities*, does not apply to this installation. The installation does not store fresh granular triple superphosphate.
- 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 is being used to control the particulate matter emissions from storage bay load-in in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Installation wide potential emissions of PM₁₀ are conditioned below the de minimis level. Potential emissions of PM and particulate matter less than 2.5 microns in diameter (PM_{2.5}) are proportionately reduced below the respective de minimis level.
- This installation is located in Pemiscot 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.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

MFA Incorporated operates a dry bulk fertilizer depot in Hayti, Missouri, herein referred to as MFA. The installation has not previously received a construction permit. It is an intermediate source under operating permits. However, upon issuance of this construction permit, MFA will not require an operating permit.

According to the operating permit, MFA receives mixes, and ships potash, ammonium sulfate, ammonium nitrate, and granular triple superphosphate. MFA receives fertilizer by rail and truck and ships by rail and truck. The installation consists of four buildings each capable of separate receiving and shipping. Only Building 1 is capable of rail receiving and rail shipping. The following permit has been issued to MFA from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
OP2006-029	Intermediate operating permit

PROJECT DESCRIPTION

MFA replaced the existing rail receiving wooden bucket elevator in Building 1 with a steel bucket elevator in the spring of 2010. MFA claims it was a like-kind replacement. However, now the applicant wants to increase the hourly capacity of the rail receiving bucket elevator and overhead conveying system from 120 to 150 tons per hour by either increasing the bucket capacity or system speed. On an annual basis many processes remain bottlenecked below their respective true design rate. Most of the equipment was installed after May 13, 1982 (10 CSR 10-6.060 *Construction Permits Required* (6)(E)3.) and is not “grandfathered” out of construction permitting, but has not been evaluated for construction permit applicability. As the installation has requested a voluntary PM₁₀ limit for the entire installation to below the de minimis level, and existing equipment has not been permitted, the potential emissions of the project are equal to the potential emissions of the installation.

Table 2: Installation Emission Units

Emission Point	Description	Maximum Hourly Design Rate (MHDR tons per hour)	Bottlenecked MHDR
EP-01a	rail receiving building 1	150	100
EP-01b	truck receiving building 2	100	100
EP-01c	truck receiving building 3	100	75
EP-01d	truck receiving building 4	100	100
EP-02a	weigh hopper building 1 south	50	50
EP-02b	weigh hopper building 4 south	50	50
EP-02c	lump crusher building 1 north	75	50
EP-02d	lump crusher building 2 north	75	50
EP-02e	lump crusher building 2 south	75	50
EP-02f	lump crusher building 3	75	75
EP-02g	lump crusher building 4 north	75	50
EP-03a	blender building 1 south	50	50
EP-03b	blender building 4 south	50	50
EP-04a	load-out building 1 north	50	50
EP-04b	load-out building 1 south	50	50
EP-04c	load-out building 2 north	75	50
EP-04d	load-out building 2 south	75	50
EP-04e	load-out building 3	75	75
EP-04f	load-out building 4 north	75	50
EP-04g	load-out building 4 south	75	50
EP-04h	load-out to trucks directly from rail building 1	150	100
EP-05	fertilizer receiving unpaved road	N/D	275
EP-05	fertilizer shipping unpaved road	N/D	375
EP-06a	storage load-in building 1	150	100
EP-06b	storage load-in building 2	100	100
EP-06c	storage load-in building 3	100	75
EP-06d	storage load-in building 4	100	100

N/D = Not Determined

Processes at Building 1 are bottlenecked by load-out (2 times 50 tons per hour). Processes at Building 2 are bottlenecked by receiving (100 tons per hour). Processes at Building 3 are bottlenecked by either the lump crusher or load-out (each at 75 tons per hour). Processes at Building 4 are bottlenecked by receiving (100 tons per hour). Shipping is bottlenecked by receiving (375 tons per hour). Emissions from fertilizer load-in to storage bays are controlled by building enclosure.

EMISSIONS/CONTROLS EVALUATION

The fertilizer emission factors for PM and PM₁₀ were obtained from the ammonium nitrate bulk loading Source Classification Code (SCC) 30102709, each at 0.02 pounds per ton of fertilizer. The fertilizer emission factor for PM_{2.5} was obtained by conservatively assuming 25 percent of PM₁₀ as PM_{2.5}. The control efficiency for building enclosure was obtained from the Environmental Protection Agency (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. Potential emissions from the unpaved haul roads were calculated using AP-42 Section 13.2.2 *Unpaved Roads*, November 2006.

Potential emissions of the project represent the potential of all equipment, assuming continuous operation (8,760 hours per year). However, the installation has requested a voluntary PM₁₀ limit for the entire installation to below the de minimis level. The following table provides an emissions summary for this project.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2005 EIQ)	Potential Emissions of the Project	New Installation Conditioned Potential
PM _{2.5}	10.0	N/D	N/D	41.53	3.21
PM ₁₀	15.0	N/D	2.85	194.00	< 15.0
PM	25.0	N/D	N/D	310.93	24.04
SOx	40.0	N/A	N/A	N/A	N/A
NOx	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A	N/A
HAPs	10.0/25.0	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 (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Installation wide potential emissions of PM₁₀ are conditioned below the de minimis level. Potential emissions of PM and PM_{2.5} are proportionately reduced below the respective de minimis level.

APPLICABLE REQUIREMENTS

MFA Plant Foods - Hayti 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 EIQ 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 (5), 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 December 14, 2010, received December 15, 2010, designating MFA Incorporated as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated December 30, 2010.

Attachment A – Installation Wide PM₁₀ Compliance Worksheet

MFA Plant Foods - Hayti
 Pemiscot County, S34, T19N, R12E
 Project Number: 2010-12-043
 Installation ID Number: 155-0066
 Permit Number: _____

This sheet covers the period from _____ to _____. (Copy this sheet as needed.)
(month, year) (month, year)

	(a)	(b)	(c)
Step Description	Monthly Throughput (tons)	Composite Emission Factor (lb PM ₁₀ /ton)	Monthly PM ₁₀ Emissions (lbs)
Fertilizer Received		0.1181	
(d) Total Monthly PM₁₀ Emissions (tons)			
(e) 12-Month PM₁₀ Emissions (g) from Previous Month's Attachment A (tons)			
(f) Total Monthly PM₁₀ Emissions (d) from Previous Year's Attachment A (tons)			
(g) Current 12-Month PM₁₀ Emissions (tons) (g) = [(d) + (e) - (f)]			

- (a) Record this month's throughput.
- (c) Multiply the Monthly Throughput (a) by the respective Composite Emission Factor (b).
- (d) Divide the Total Monthly PM₁₀ Emissions (c) by 2,000.
- (e) Record the 12-Month PM₁₀ Emissions (g) from the Previous Month's Attachment A.
- (f) Record the Total Monthly PM₁₀ Emissions (d) from the Previous Year's Attachment A.
- (g) Calculate the Current 12-Month PM₁₀ Emissions. A total less than 15.0 tons indicates compliance.

Mr. Alan Mahoney
SER Manager
MFA Incorporated
201 Ray Young Drive
Columbia, MO 65201

RE: New Source Review Permit - Project Number: 2010-12-043

Dear Mr. Mahoney:

Enclosed with this letter is your permit to construct for MFA Plant Foods - Hayti. 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: Southeast Regional Office
PAMS File: 2010-12-043

Permit Number: