

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: 122009-005 Project Number: 2009-09-006

Parent Company: MFA Incorporated

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

Installation Name: MFA Agri Service - Hamilton

Installation Number: 025-0005

Installation Address: 313 N. Davis St., Hamilton, MO 64644

Location Information: Caldwell County, S13, T57N, R28W

Application for Authority to Construct was made for:

Seed handling and treatment. 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.

DEC - 4 2009

EFFECTIVE DATE

A handwritten signature in black ink, appearing to read "James L. Kavanaugh".

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 this (these) air contaminant source(s). 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 this (these) air contaminant source(s).

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 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 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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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 - Hamilton
Caldwell County, S13, T57N, R28W

1. **Superseding Condition**
The conditions of this permit supersede all special conditions found in the previously issued construction permit 0895-033 issued by the Air Pollution Control Program.
2. **Emission Limitation**
 - A. MFA Agri Service - Hamilton shall emit less than 15.0 tons of particulate matter less than ten (10) microns in diameter (PM₁₀) in any consecutive 12-month period from the entire installation as defined in Table 2.A.

Table 2.A: Installation Defined

Emission Point	Description	¹ Maximum Hourly Design Rate (tons)	Control Efficiency (%)
Grain Elevator			
EP-01a	Straight Truck Grain Receiving	180	
EP-02a	Internal Handling	180	99.9
EP-03a	Column Grain Dryer	42	
EP-03b	Grain Dryer Propane Combustion	² 0.219	
EP-11	Bin Vents	180	
EP-06a	Grain Shipping	180	
EP-10a	Receiving Haul Road	180	
EP-10b	Shipping Haul Road	180	
Feed Mill			
EP-01b	Ingredient Receiving	18	
EP-02b	Internal Handling	8	99.9
EP-05	Grinding	8	
EP-06b	Shipping	18	
EP-10c	Receiving Haul Road	18	
EP-10d	Shipping Haul Road	18	
Fertilizer			
EP-07	Fertilizer Receiving	60	
EP-02c	Handling, Conveying	45	99.9
EP-08	Fertilizer Storage	60	3.7
EP-12	Weigh Hopper	45	3.7
EP-09	Shipping	45	
EP-10e	Receiving Haul Road	60	

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SPECIAL CONDITIONS:

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

EP-10f	Shipping Haul Road	45	
Seed			
EP-13	Receiving	36	
EP-14	Handling, Conveying	36	
EP-15	Filling as Bin Vent	36	
EP-16	Weigh Hopper	30	
EP-17	Treatment	30	
EP-18	Shipping	30	
EP-10g	Receiving Haul Road	36	
EP-10f	Shipping Haul Road	30	

¹ MHDR may be the bottlenecked rate by either receiving or shipping capabilities.

² MHDR per 1,000 gallons of liquid propane.

- 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 2.A.
3. Record Keeping and Reporting Requirements
- A. MFA Agri Service - Hamilton shall maintain all records required by this permit for not less than five (5) 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 - Hamilton shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 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 (6) REVIEW

Project Number: 2009-09-006
Installation ID Number: 025-0005
Permit Number:

MFA Agri Service - Hamilton
313 N. Davis St.
Hamilton, MO 64644

Complete: September 11, 2009

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

Caldwell County, S13, T57N, R28W

REVIEW SUMMARY

- MFA Agri Service - Hamilton has applied for authority to construct seed treatment equipment.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. The HAP of concern is ethylene glycol.
- New Source Performance Standard (NSPS) Subpart X "Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities" does not apply to the installation, although MFA Agri Service - Hamilton stores granular triple superphosphate, the fertilizer has not been produced within the last 72 hours. NSPS Subpart DD "Standards of Performance for Grain Elevators" does not apply to the installation, because the installation mills grain, but has a permanent storage capacity of 613,727 bushels, which is less than the 1,000,000 bushels applicability level. .
- 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.
- Enclosed conveyors without negative pressure and enclosed buildings are being used to control the particulate matter (PM) and PM₁₀ emissions from the equipment in this permit.
- 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 are conditioned below de minimis levels. Potential emissions of PM are conditioned to minor source levels.

- This installation is located in Caldwell 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 for PM₁₀ was not performed since potential emissions of the application are conditioned below de minimis levels. Ambient air quality modeling for PM was not performed since there is no standard for PM.
- 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 Agri Service is an existing grain elevator, fertilizer blending, and feed mill installation located in Hamilton, Missouri, herein referred to as MFA. The fertilizer and feed mill equipment were constructed prior to May 13, 1982, and are therefore “grandfathered” into exemption from construction permitting. However, MFA wishes to instate an installation wide 15.0 ton per year limit on PM₁₀ emissions. Emissions from the grandfathered equipment are not included in the project emissions, but will be tracked for compliance with the PM₁₀ limit. MFA is physically divided into north and south facilities, but considered one installation for permitting purposes.

MFA handles fertilizer including granular triple superphosphate, but NSPS Subpart X does not apply. Construction permit 0895-033 states that NSPS Subpart DD applies, but since the permanent storage capacity is less than 1,000,000 bushels, it does not apply. The following permits have been issued to MFA from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0895-033	Construction permit - conveyors and bin
OP1999-085	Basic operating permit completed 7/12/1999
OP	Basic operating permit completed 1/30/2004
OP	Basic operating permit completed 9/17/2008

PROJECT DESCRIPTION

MFA is installing soybean seed handling and treating equipment at the south facility. Soybean seed will be delivered, stored, weighed, treated, and shipped. Treatment options include fungicides, insecticides, or nitrogen fixation aides.

Clean seed will be delivered via semi truck and trailer and unloaded to one of five 3,000 bushel hopper bottom bins using a new conveyor system. The bins do not have vents, but have tops that are open during filling. Stored seed will be transferred via conveyor to a weigh hopper, treatment mixer, and finally to load-out. MFA will have the capability to bypass the bins and load seed directly into the weigh hopper. Also, they will have the capability to bypass the treatment step and load-out seed without being treated. However, the greatest potential to emit would include all steps, and without placing limits on the amount of seed received or treated, project emissions include all seed processed through all steps.

Seed can be treated with any fungicide, insecticide, or nitrogen fixation aide, namely Apron Maxx RFC, Maxim 4FS, Cruiser Maxx, Optimize, or Accelron HX-209. Only one treatment will be used per batch of seed. The greatest potential VOC emissions are from Cruiser Maxx. The greatest potential HAP emissions are from Maxim 4FS. Most treatments are liquids, but are not considered a control device for particulate, HAP, or VOC emissions.

EMISSIONS/CONTROLS EVALUATION

Received seed is considered cleaner than grain received at an elevator; therefore, the emission factors for receiving at an animal feed mill were cited from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, section 9.9.1, Grain Elevators and Processes, May 2003. Emissions from the storage bins and weigh hopper filling were calculated using the storage bin vent emission factors. Seed treatment particulate emissions were calculated using the internal handling emission factor.

Seed treatment VOC and HAP emissions were calculated on a greatest potential to emit per pollutant basis. Maxim 4FS contains ethylene glycol, a HAP. Potential emissions were calculated assuming all available ethylene glycol emitted. Cruiser Maxx contains three percent VOCs, cited from the manufacturer Syngenta.

Treated seed haul road emissions were calculated for the greatest potential to emit. Treated seed will be packaged in tender boxes, one ton bulk bags, or fifty pound bags that will be purchased by farmers. The greatest potential to emit was calculated assuming smaller capacity vehicles and higher numbers (pickup trucks and trailers) instead of larger capacity vehicles in fewer numbers (semi trucks and trailers).

Existing Potential Emissions are cited from permit 0895-033, which does not include emissions from "grandfathered" equipment. Existing Actual Emissions are from the 2008 Emissions Inventory Questionnaire. Potential Emissions of the Application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The New Installation Conditioned Potential of less than 15.0 tons per year of PM₁₀ is a voluntary limit proposed by MFA and includes emissions from all processes listed in Special Condition 2.A. Table 2 provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2008 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	4	1.15	19.87	<15.0
PM	25.0	25	N/A	38.84	N/A
SO _x	40.0	N/D	N/A	N/A	N/A
NO _x	40.0	N/D	N/A	N/A	N/A
VOC	40.0	N/D	N/A	14.93	N/A
CO	100.0	N/D	N/A	N/A	N/A
HAPs	10.0/25.0	N/D	N/A	1.42	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 are conditioned below de minimis levels. Potential emissions of PM are conditioned to minor source levels.

APPLICABLE REQUIREMENTS

MFA Agri Service - Hamilton 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 an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *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 10-3.090

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*, 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 September 1, 2009, received September 2, 2009, 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.
- Kansas City Regional Office Site Survey, dated September 16, 2009.
- *Table of Hazardous Air Pollutants, Screening Model Action Levels, and Risk Assessment Levels*, Revision 2, Missouri Department of Natural Resources Air Pollution Control Program, September 29, 2009.
- Memo to the Air Pollution Control Program Policy Manual, "Particulate Matter Clarification" dated April 27, 1998.

Attachment A - Installation PM₁₀ Compliance Worksheet

MFA Agri Service - Hamilton
 Caldwell County, S13, T57N, R28W
 Project Number: 2009-09-006
 Installation ID Number: 025-0005
 Permit Number: _____

This sheet covers the month of _____ .
 (month, year)

Emission Description	Throughput (tons)	Composite Emission Factor (pounds of PM ₁₀ per ton)	³ Emissions
Grain Elevator			
Grain Received		0.0762	
Grain Shipped		0.0375	
Grain Dried		0.0550	
Grain Dried Combustion	¹	² 0.7000	
Feed Mill			
Ingredients Received		0.0110	
Feed Ground		0.0093	
Feed Shipped		0.0335	
Fertilizer			
Fertilizer Received		0.0478	
Fertilizer Shipped		0.0478	
Seed			
Seed Received		0.0499	
Seed Shipped		0.0914	
⁴ Monthly PM₁₀ Emissions (pounds)			
⁵ Monthly PM₁₀ Emissions (tons)			
⁶ Cumulative PM₁₀ Emissions (tons)			

¹ Throughput in 1,000 gallons of liquid propane.

² Emission factor in units of pounds of PM₁₀ per 1,000 gallons of liquid propane.

³ Emissions calculated by multiplying the Throughput by the respective Emission Factor.

⁴ Monthly PM₁₀ Emissions in pounds calculated by summing the eleven Emissions.

⁵ Monthly PM₁₀ Emissions in tons calculated by dividing the Monthly PM₁₀ Emissions in pounds by 2,000.

⁶ Cumulative PM₁₀ Emissions calculated by summing this month's PM₁₀ Emissions in tons with the previous eleven month's PM₁₀ Emissions in tons. A total of less than 15.0 tons is necessary for compliance.

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

RE: New Source Review Permit - Project Number: 2009-09-006

Dear Mr. Mahoney:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, 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 Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:dlk

Enclosures

c: Kansas City Regional Office
PAMS File: 2009-09-006

Permit Number: