

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: 122010-006 Project Number: 2010-09-058

Parent Company: MFA Incorporated

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

Installation Name: MFA Cooperative - Glasgow

Installation Number: 089-0018

Installation Address: 102 Second Street and 402 Tenth Street, Glasgow, MO 65254

Location Information: Howard County, S16, T51N, R17W

Application for Authority to Construct was made for:

Seed handling and treatment equipment. 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 - 9 2010

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 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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Permit No.	
Project No.	2010-09-058

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 Cooperative - Glasgow
Howard County, S16, T51N, R17W

1. Emission Limitation
 - A. MFA Cooperative – Glasgow shall emit less than 15.0 tons of PM₁₀ in any consecutive 12-month period from the seed treatment equipment (see Table 2: EU-37 through EP-43).
 - 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. Operational Requirement

MFA Cooperative - Glasgow shall keep the seed treatment fungicides, pesticides, and inoculants in sealed containers whenever the materials are not in use. MFA Cooperative - Glasgow shall provide and maintain suitable, easily read, permanent markings on all fungicide, pesticide, and inoculant containers used with this equipment.
3. Record Keeping and Reporting Requirements
 - A. MFA Cooperative - Glasgow 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 Cooperative - Glasgow shall report to the Air Pollution Control Program's 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 (6) REVIEW

Project Number: 2010-09-058
Installation ID Number: 089-0018
Permit Number:

MFA Cooperative - Glasgow
102 Second Street and 402 Tenth Street
Glasgow, MO 65254

Complete: September 29, 2010

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

Howard County, S16, T51N, R17W

REVIEW SUMMARY

- MFA Cooperative - Glasgow has applied for authority to construct seed handling and treatment equipment.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. The HAP of concern is ethylene glycol (CAS 107-21-1) from liquid fungicide Maxim 4FS.
- None of the New Source Performance Standards (NSPS) apply to the installation. NSPS Subpart DD, "*Standards of Performance for Grain Elevators*" and NSPS Subpart X "*Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities*" do not apply to the installation.
- 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 handling (EP-39), weigh hopper (EP-40), and treatment (EP-41) is being used to control the particulate matter 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 the de minimis level. Potential emissions of PM are conditioned to the minor source level.
- This installation is located in Howard 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 for since potential emissions of

PM₁₀ are below the de minimis level. Ambient air quality modeling was not performed for PM since there is not a standard.

- Emissions testing are not required for the equipment.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

MFA Incorporated operates individual grain elevators and a fertilizer distribution facility in Glasgow, Missouri. The areas are referred to as Sections A, B, C, and D. Section A is the former Glasgow East Facility ID 089-0026. It consists of a grain storage pile permitted under 082007-002 and a fertilizer distribution facility permitted under 0795-019, all located on 10th Street. Sections B, C, and D were formerly referred to as the West Facility ID 089-0018. Section B consists of 4 truck receiving pits and concrete silos just east of the Missouri River. Section B was updated under permit 092001-010. Section C is located south of Highway 240 on old Highway 87. Section C was also updated under permit 092001-010. Section D is located just south of the rail line, northeast of Highway 240, and was permitted under 082005-016. All MFA Glasgow sites are now one installation for permitting purposes, ID 089-0018.

According to MFA, the storage capacity of the combined installation is 2.488 million bushels. Therefore the installation is not defined as a grain terminal elevator under NSPS Subpart DD, “Standards of Performance for Grain Elevators”. The installation does not include a wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill, or soybean oil extraction plant. Therefore the installation is not defined as a grain storage elevator under NSPS Subpart DD. The installation stores fertilizer, but does not store fresh granular triple superphosphate. Therefore, NSPS Subpart X, “Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities” does not apply.

MFA is a minor source under construction permits and a basic source under operating permits. The following permits have been issued to MFA Cooperative - Glasgow from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
Former West Installation 089-0018	
0795-019	Fertilizer depot (A Section)
¹ 0298-005	Five bins, one elevator, and three conveyors in Armstrong, Missouri
EX199804030	Grain elevator operating permit
092001-010	Update maximum design rate of B and C Sections
AP200307112	Basic operating permit
082005-016	Elevator, overhead bins, rail loadout at D Section
AP200604040	Basic operating permit
AP201010044	Basic operating permit
Former East Installation 089-0026	
AP200211103	Basic operating permit
082007-002	Ground storage pile
AP200710035	Basic operating permit

¹ Permit 0298-005 is for an MFA facility located in Armstrong, Missouri and is therefore was incorrectly listed under

Glasgow ID 089-0018. The corrected ID is 089-0015.

Table 2: Combined Installation Emission Units

Emission Unit	Description	¹Maximum Hourly Design Rate – Annual Basis (tons per hour)
B Section		
EP 9.1	Grain receiving pit 1	112.5
EP 9.2	Grain receiving pit 2	112.5
EP 9.3	Grain receiving pit 3	112.5
EP 9.4	Grain receiving pit 4	112.5
EP 11	Internal handling	450
EP 34	Bin loading	450
EP 12	Grain shipping via truck	450
EP 9b	Haul road	450
C Section		
EP 22.1	Grain receiving pit 1	180
EP 22.2	Grain receiving pit 2	180
EP 23	Bin loading	360
EP 24	Internal handling	360
² EP 25	Grain shipping via truck	360
EP 9c	Haul road	360
D Section		
EP 13	Grain receiving	580
EP 14	Bin loading	580
EP 15	Grain shipping via truck	29
EP 30	Haul road	580
EP 35	Rail scale	551
EP 36	Grain shipping via rail	551
A Section		
Fertilizer		
1	Fertilizer receiving	10
2	Conveying	10
2a	Bagging bins	10
3	Front end loader	10
4	Screen	10
5	Liquid mixer 1	10
6	Dry mixer 2	10
7	Dry loadout	10
8	Bagging	2
9	Haul road	10
10	Fertilizer hand adds	2
Grain Storage Pile		
TS1	Straight truck grain receiving	280
TS2	Storage pile load in	280
TS3	Truck shipping	280
9a	Haul road	280
Seed (current project)		
37	Hopper bottom truck seed receiving	30
38	Bin filling	30
39	Handling, conveying	30
40	Weigh hopper	30
41	Treatment	30
42	Shipping via truck	30
43	Seed haul road	30

¹ Design rate for grain and seed assumes bulk density of 60 pounds per bushel.

² Combined EP-27 quonset building truck shipping with EP-25

PROJECT DESCRIPTION

MFA is installing soybean seed handling and treating equipment at Section A. Soybean seed will be delivered, stored, weighed, treated, and shipped. Treatment options include fungicides, insecticides, or inoculants. Seed receiving is rated at 36 tons per hour. Seed treatment and handling is rated at 30 tons per hour. On an annual basis the project is bottlenecked to 30 tons per hour for each emission unit.

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 inoculant, 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 volatile organic compound (VOC) emissions are from Cruiser Maxx. The greatest potential hazardous air pollutant (HAP) emissions are from Maxim 4FS. Most treatments are liquids, but are not considered a control device for particulate, HAP, or VOC emissions. The treatment building is considered a control device for particulate matter.

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 for a grain elevator. 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.

Haul road emissions were calculated using AP-42, Section 13.2.2, *Unpaved Roads*, November 2006. 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 fertilizer and grain elevator processes were evaluated for PM_{2.5} emissions. 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, SCC 30102709).

Conditioned potential emissions of the project represent the potential of the new equipment, assuming continuous operation (8,760 hours per year), with a voluntary PM₁₀ emission limit. Other particulate emissions are proportionately reduced. The following tables provide an emissions summary for this project.

Table 3: Existing Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	¹ Unconditioned Existing Potential Emissions of the Combined Installation	² Conditioned Existing Potential Emissions of the Combined Installation	³ Existing Actual Emissions (2009 EIQ)
PM ₁₀	15.0	924.78	< 54.71	3.82
PM	25.0	2,615.30	153.66	N/D
PM _{2.5}	10.0	150.96	7.85	N/D
SOx	40.0	N/A	N/A	N/A
NOx	40.0	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A
HAPs	10.0/25.0	N/A	N/A	N/A

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

¹ Unconditioned existing potential emissions were recalculated for information only; includes grandfathered equipment

² Conditioned potential PM₁₀ emissions summed from permits 0795-019, 082007-002, 092001-010, and 082005-016. PM and PM_{2.5} emissions calculated under this review and proportionately reduced.

³ Actual emissions summed from East and West.

Table 4: Project Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Unconditioned Potential Emissions of the Project	¹ Conditioned Potential Emissions of the Project	Potential Emissions of the Installation
PM ₁₀	15.0	26.83	< 15.0	69.71
PM	25.0	79.25	44.30	197.97
PM _{2.5}	10.0	3.70	2.07	9.91
SOx	40.0	N/A	N/A	N/A
NOx	40.0	N/A	N/A	N/A
VOC	40.0	14.93	8.35	8.35
CO	100.0	N/A	N/A	N/A
HAPs	10.0/25.0	1.42	0.80	0.80

N/A = Not Applicable

¹ Voluntary PM₁₀ limit. Other pollutants proportionately reduced.

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 the de minimis level. Potential emissions of PM are conditioned to minor source levels.

APPLICABLE REQUIREMENTS

MFA Cooperative - Glasgow 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. 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. Otherwise, submission of an electronic copy via MoEIS is required May 1.
- *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
- *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 23, 2010, received September 29, 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.
- Northeast Regional Office Site Survey, dated October 12, 2010.

Attachment A - Seed Handling and Treatment PM₁₀ Compliance Worksheet

MFA Cooperative - Glasgow
 Howard County, S16, T51N, R17W
 Project Number: 2010-09-058
 Installation ID Number: 089-0018
 Permit Number: _____

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

(a)	(b)	(c)	(d)
Monthly Throughput (tons of seed received)	Composite Emission Factor (lb/ton)	Monthly PM₁₀ Emissions (lbs)	Monthly PM₁₀ Emissions (tons)
	0.2042		
(e) 12-Month PM₁₀ Emissions (g) from Previous Month's Attachment A (tons)			
(f) Monthly PM₁₀ Emissions (d) from Previous Year's Attachment A (tons)			
(g) Current 12-Month PM₁₀ Emissions (tons) (g) = [(d) + (e) - (f)]			

- (a) Record the tons of seed received this month. Use the conversion of 60 lb/bushel for beans.
- (c) Multiply the tons of seed received (a) by the composite emission factor (b).
- (d) Divide (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: 2010-09-058

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 modified 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 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: Northeast Regional Office
PAMS File: 2010-09-058

Permit Number: