

# PERMIT BOOK

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: **062011-005** Project Number: 2011-04-024

Installation Number: 173-0018

Parent Company: ADM Grain Company

Parent Company Address: 4666 Faries Parkway, Decatur, IL 62525

Installation Name: ADM Grain Company - Center Elevator

Installation Address: P.O. Box 127, Center, MO 63426

Location Information: Ralls County, S35, T55N, R6W

Application for Authority to Construct was made for:

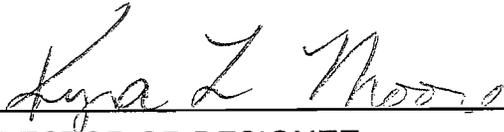
A ■ bushel grain bin, associated enclosed conveyors, and a ■ bushel per hour truck shipping spout. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

JUN 08 2011

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 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.	2011-04-024

**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."*

ADM Grain Company - Center Elevator  
Ralls County, S35, T55N, R6W

1. Emission Limitation
  - A. ADM Grain Company - Center Elevator shall emit less than 15.0 tons of particulate matter less than ten microns in diameter (PM<sub>10</sub>) in any consecutive 12-month period from the emission units listed in Table 2.
  - B. Attachment A and B 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. Haul Road Control

ADM Grain Company - Center Elevator shall apply water, lignin sulfate, or other controls approved by the Air Pollution Control Program to haul roads whenever conditions exist which would cause visible fugitive emissions to enter the ambient air beyond the property boundary.
3. Control Device Requirements – Grain Handling
  - A. ADM Grain Company – Center Elevator shall not aspirate any of the conveyors or legs considered part of grain handling and their drop/transfer points to the ambient air.
  - B. Grain handling is defined as emissions originating from any grain transfer, excluding process emissions from receiving (EP-01), bin vents (EP-03), truck shipping (EP-04), and haul roads (EP-05).
4. Record Keeping and Reporting Requirements
  - A. ADM Grain Company - Center Elevator 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.

Page No.	4
Permit No.	
Project No.	2011-04-024

**SPECIAL CONDITIONS:**

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

- B. ADM Grain Company - Center Elevator 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 (6) REVIEW

Project Number: 2011-04-024  
Installation ID Number: 173-0018  
Permit Number:

ADM Grain Company - Center Elevator  
P.O. Box 127  
Center, MO 63426

Complete: April 5, 2011

Parent Company:  
ADM Grain Company  
4666 Faries Parkway  
Decatur, IL 62525

Ralls County, S35, T55N, R6W

REVIEW SUMMARY

- ADM Grain Company - Center Elevator has applied for authority to construct a ■ bushel grain bin, associated conveyors, and a ■ bushel per hour truck shipping spout.
- 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 Subpart DD *Standards of Performance for Grain Elevators* August 1978, does not apply to the installation. The installation does not mill or extract oil from grain. The total storage capacity of the installation including this project is ■ million bushels. The installation does not have storage piles or temporary storage.
- 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.
- Enclosure without negative pressure is being used to control particulate matter (PM), particulate matter less than 10 microns in diameter (PM<sub>10</sub>), and particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>) emissions from grain handling conveyors and legs. Undocumented watering and lignin sulfate are being used to control the PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from the unpaved haul roads.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM<sub>10</sub> are conditioned below de minimis levels. Potential emissions of PM are conditioned to minor source levels.

- This installation is located in Ralls 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 PM<sub>10</sub> and PM<sub>2.5</sub> was not performed since potential emissions of the application for these pollutants are below de minimis levels. Modeling is not required for PM.
- Emissions testing are not required for the equipment.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup. Operating permit type for a country grain elevator is determined from actual production. Operating permit type will be verified upon receipt of the application.
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

Archer Daniels Midland operates a grain elevator in Center, Missouri (herein ADM). The installation was previously owned by Quincy Soybean. Quincy Soybean received a construction permit in 1996. ADM purchased the elevator in the 1990's from Quincy Soybean. ADM expanded the installation by adding a grain bin in 2010. Emission units at the existing installation consist of grain receiving via truck, handling/conveying, storage bin vents, grain shipping via truck, and unpaved haul roads. ADM is a minor source under construction permits and has not previously been issued an operating permit. The following permits have been issued to ADM Grain Company - Center Elevator from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0396-016	Construction permit for hopper bottom loadout bin
0396-016A	Construction permit correction

## PROJECT DESCRIPTION

ADM proposes to install a [redacted] feet diameter, [redacted] bushel grain bin, several conveyors and legs, and a [redacted] bushel per hour truck shipping spout. The increased shipping rate does not affect receiving rate. The shipping spout is dedicated to the new bin. Conveyors and legs are enclosed. Unpaved haul roads are controlled by lignin sulfate or watering. ADM has requested confidentiality for process rates and storage capacities. This is the public version of the permit. A confidential version is available under project 2011-04-025.

Table 2: Project Emission Units

Emission Unit	Description	Maximum Hourly Design Rate (MHDR)– Limited Basis (tons of grain per hour)
EP-02	Grain handling, enclosed without negative pressure	[redacted]
EP-03	Bin vents	[redacted]
EP-04	Truck shipping	[redacted]
EP-05	Unpaved shipping haul roads	[redacted] <sup>1</sup>

<sup>1</sup> Shipping road MHDR also expressed as [redacted] vehicular miles traveled per hour (VMT/hr).

## EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained 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 and Section 13.2.2 *Unpaved Roads* November 2006.

Even though the project will handle corn more than any other grain, the highest density for grains to be handled was used to convert processing rates in bushels to tons, 60 pounds per bushel. Therefore, no special condition is required for throughputs of corn, beans, wheat, or other grains.

Fifty percent control efficiency was applied to the undocumented watering of unpaved haul roads. Ninety-five percent capture efficiency was applied to the grain handling emissions for the use of enclosed conveyors. It was assumed that five percent of emissions generated would be emitted through enclosure flanges. The captured emissions would be re-introduced to the grain flow by conveyor design. The basis of the emission factor for grain handling is from traditional elevators. Traditional elevators use a centralized headhouse building where all grain is routed. Most conveyors or legs are exposed and located inside the headhouse. This project's equipment is of modern design, where a headhouse is not used. The legs and conveyors are routed outdoors and are enclosed from the elements.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year), conditioned to avoid refined modeling. The following table provides an emissions summary for this project.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	<sup>1</sup> Existing Potential Emissions	Existing Actual Emissions (2010 EIQ)	Conditioned Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	N/D	N/D	48.13	N/D
PM <sub>10</sub>	15.0	< 100.0	2.77	< 15.0	115.0
PM <sub>2.5</sub>	10.0	N/D	0.47	2.25	N/D
SO <sub>x</sub>	40.0	N/A	N/A	N/A	N/A
NO <sub>x</sub>	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

<sup>1</sup> Existing potential emissions cited from permit 0396-016.

### 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 PM<sub>10</sub> are conditioned below de minimis levels. Potential emissions of PM are conditioned to minor source levels.

### APPLICABLE REQUIREMENTS

ADM Grain Company - Center Elevator 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. Alternatively, 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

## 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 March 30, 2011, received April 5, 2011, designating ADM Grain Company 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 April 29, 2011.



## Attachment B – Project PM<sub>10</sub> Compliance Worksheet

ADM Grain Company - Center Elevator  
 Ralls County, S35, T55N, R6W  
 Project Number: 2011-04-024  
 Installation ID Number: 173-0018  
 Permit Number: \_\_\_\_\_

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

(a) Current month's PM <sub>10</sub> emissions (tons)	
(b) 12-month total (d) from previous month's Attachment B (tons)	
(c) This month's PM <sub>10</sub> emissions (a) from previous 12-months Attachment B (tons)	
(d) Current 12-month total PM <sub>10</sub> emissions (tons) [(a) + (b) – (c) = (d)]	

**Instructions:**

- (a) Record the current month's PM<sub>10</sub> emissions (tons) from Attachment A.
- (b) Record the 12-month total (d) from the previous month's Attachment B.
- (c) Record the one month PM<sub>10</sub> emissions (a) from the previous 12-month Attachment B. For example, the monthly emissions from one year ago this month.
- (d) Calculate the new 12-month PM<sub>10</sub> emissions total. A 12-month PM<sub>10</sub> emissions total of less than 15.0 tons indicates compliance.

Ms. Miranda Gerard  
Environmental Specialist  
ADM Grain Company - Center Elevator  
4666 Faries Parkway  
Decatur, IL 62525

RE: New Source Review Permit - Project Number: 2011-04-024

Dear Ms. Gerard:

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 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 Department's 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: 2011-04-024

Permit Number: