

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: **092013-012** Project Number: 2012-11-043  
Installation Number: 139-0050

Parent Company: Archer Daniels Midland  
Parent Company Address: 4666 Faries Parkway, Decatur, IL 62525  
Installation Name: Archer Daniels Midland - Rhineland  
Installation Address: 115 Bluff Street, Rhineland, MO 65069  
Location Information: Montgomery County, S30, T46N, R5W

Application for Authority to Construct was made for:  
Installation of a 300,000 bushel ground storage pile and the associated loading 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.

SEP 17 2013  
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.

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Permit No.	
Project No.	2012-11-043

**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."*

Archer Daniels Midland - Rhineland  
Montgomery County, S30, T46N, R5W

1. **PM<sub>10</sub> Emission Limitation**
  - A. Archer Daniels Midland - Rhineland shall emit less than 15.0 tons of PM<sub>10</sub> in any consecutive 12-month period from the entire installation as shown in Table 1.
  - B. Attachment A or equivalent forms, such as an electronic form, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A.

Table 1: Emission Units

Emission Unit	Description	Bottlenecked MHDR	True MHDR
EU-01	Grain Receiving		
EU-02	Grain Handling		
EU-03	Grain Storage		
EU-04	Truck Loading		
EU-05	Grain Dryer		
EU-06	Grain Receiving (storage pile)		
EU-07	Grain Storage (storage pile)		
EU-08	Grain Handling (storage pile)		
EU-09	Truck Loading (storage pile)		
EU-10	Haul Road		

N/A = Not applicable

2. **Record Keeping and Reporting Requirements**
  - A. Archer Daniels Midland - Rhineland 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.
  - B. Archer Daniels Midland - Rhineland 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 (6) REVIEW

Project Number: 2012-11-043  
Installation ID Number: 139-0050  
Permit Number:

Archer Daniels Midland - Rhineland  
115 Bluff Street  
Rhineland, MO 65069

Complete: November 16, 2012

Parent Company:  
Archer Daniels Midland  
4666 Faries Parkway  
Decatur, IL 62525

Montgomery County, S30, T46N, R5W

REVIEW SUMMARY

- Archer Daniels Midland - Rhineland has applied for authority to install a 300,000 bushel ground storage pile and the associated loading equipment.
- HAP emissions from this facility are products of propane combustion.
- None of the New Source Performance Standards (NSPS) apply to the installation. 40 CFR 60: *Subpart DD Standards of Performance for Grain Elevators* does not apply to this facility because the maximum storage capacity is 746,174 bushels.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- No control devices will be used to control emissions at this installation.
- 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 the de minimis level. Potential emissions of PM are above the de minimis level but remain below the major source level.
- This installation is located in Montgomery 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 250.0 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed for this review. No modeling standard currently exists 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/PROJECT DESCRIPTION

Archer Daniels Midland has requested confidentiality for this project in order to protect trade secrets. Archer Daniels Midland recently acquired a grain elevator located in Rhineland, Missouri. The facility had not previously received a construction permit from the Missouri Air Pollution Control Program. However, the facility was moved in 1993 due to flooding which would have required a construction permit. In 1995 additional storage bins and the associated conveyance system was constructed which would have also required a construction permit. Archer Daniels Midland – Rhineland (herein referred to as ADM) has applied for a construction permit for the installation of a new 300,000 bushel ground storage pile and the associated loading equipment in accordance with Missouri State Rule 10 CSR 10-6.060 *Construction Permits Required*. Due to the previously unpermitted projects that required a construction permit, ADM has requested a voluntary installation wide PM<sub>10</sub> limit below the de minimis level. ADM has the potential to receive and ship grain from the ground storage pile at a rate equal to [REDACTED] tons per hour. ADM has the potential to receive grain at a rate equal to [REDACTED] tons per hour and ship grain at a rate equal to [REDACTED] tons per hour from the existing grain elevator. Although the conveyance system in place at this facility is rated at [REDACTED] tons per hour, the existing grain elevator will operate at a bottlenecked rate equal to [REDACTED] tons per hour due to the MHDR of the grain receiving pit. The existing grain dryer at this facility, which is a rack type dryer, is capable of drying up to [REDACTED] tons of grain per hour and the associated burner is rated at 10 MMBtu/hr. ADM is not required to apply for an operating permit at this time. ADM has the potential to emit particulate matter from grain processing and other pollutants as a result of propane combustion. No control devices will be installed to limit emissions.

No permits have been issued to Archer Daniels Midland - Rhineland from the Air Pollution Control Program.

## EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the following sections of the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition:

- Section 9.9.1 *Grain Elevators and Processes*, May 2003.
- Section 13.2.2, *Unpaved Roads*, November 2006.
- Section 1.5, *Liquefied Petroleum Gas Combustion*, July 2008.

The following table provides an emissions summary for this project. Grain will be received and shipped by straight and hopper trucks. It is expected that the majority of the trucks used will be hopper trucks. The grain receiving (EP-01 and EP-06) emissions

were calculated using the scenario of 50% hopper trucks and 50% straight trucks. Likewise, the receiving/shipping haul roads (EP-10) emissions were calculated using the same 50/50 split. Existing potential emissions were not calculated because this is the first construction permit for this facility. Existing actual emissions have not been calculated and therefore were not included within this permit. Potential emissions of the application represent the potential of the ground storage pile and the associated equipment, assuming continuous operation (8760 hours per year). Unconditioned potential emissions of the installation represent the potential of all equipment located at the ADM facility, assuming continuous operation (8760 hours per year). The installation conditioned potential accounts for a voluntary installation wide PM<sub>10</sub> emission limit below the de minimis level.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Actual Emissions	Potential Emissions of the Application	Unconditioned Potential Emissions of the Installation	New Installation Conditioned Potential
PM	25.0	N/A	603.04	1401.18	47.41
PM <sub>10</sub>	15.0	N/A	202.32	443.34	<15.0
PM <sub>2.5</sub>	10.0	N/A	29.67	67.40	2.28
SOx	40.0	N/A	N/A	0.03	N/A
NOx	40.0	N/A	N/A	4.29	N/A
VOC	40.0	N/A	N/A	0.24	N/A
CO	100.0	N/A	N/A	3.61	N/A
GHG (CO <sub>2</sub> e)	100,000	N/A	N/A	5,182.2	N/A
GHG (mass)	250.0	N/A	N/A	5,153.0	N/A
HAPs	10.0/25.0	N/A	N/A	0.08	N/A

N/A = Not Applicable

### 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 the de minimis level. Potential emissions of PM are above the de minimis level but remain below the major source level.

### APPLICABLE REQUIREMENTS

Archer Daniels Midland - Rhineland 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
- *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

- *New Source Performance Regulations*, 10 CSR 10-6.070
  - *Standards of Performance for Grain Elevators*, 40 CFR Part 60, Subpart DD does not apply to this facility because the permanent storage capacity is less than 2.5 million bushels.
- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400 applies to the grain storage at this installation, but the installation is in compliance with the rule.

## 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.

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J Luebbert  
New Source Review Unit

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Date

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 14, 2012, received November 16, 2012, designating Archer Daniels Midland as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.



## APPENDIX A

### Abbreviations and Acronyms

<b>%</b> .....	percent	<b>m/s</b> .....	meters per second
<b>°F</b> .....	degrees Fahrenheit	<b>Mgal</b> .....	1,000 gallons
<b>acfm</b> .....	actual cubic feet per minute	<b>MW</b> .....	megawatt
<b>BACT</b> .....	Best Available Control Technology	<b>MHDR</b> .....	maximum hourly design rate
<b>BMPs</b> .....	Best Management Practices	<b>MMBtu</b> ....	Million British thermal units
<b>Btu</b> .....	British thermal unit	<b>MMCF</b> .....	million cubic feet
<b>CAM</b> .....	Compliance Assurance Monitoring	<b>MSDS</b> .....	Material Safety Data Sheet
<b>CAS</b> .....	Chemical Abstracts Service	<b>NAAQS</b> ...	National Ambient Air Quality Standards
<b>CEMS</b> .....	Continuous Emission Monitor System	<b>NESHAPs</b>	..... National Emissions Standards for Hazardous Air Pollutants
<b>CFR</b> .....	Code of Federal Regulations	<b>NO<sub>x</sub></b> .....	nitrogen oxides
<b>CO</b> .....	carbon monoxide	<b>NSPS</b> .....	New Source Performance Standards
<b>CO<sub>2</sub></b> .....	carbon dioxide	<b>NSR</b> .....	New Source Review
<b>CO<sub>2e</sub></b> .....	carbon dioxide equivalent	<b>PM</b> .....	particulate matter
<b>COMS</b> .....	Continuous Opacity Monitoring System	<b>PM<sub>2.5</sub></b> .....	particulate matter less than 2.5 microns in aerodynamic diameter
<b>CSR</b> .....	Code of State Regulations	<b>PM<sub>10</sub></b> .....	particulate matter less than 10 microns in aerodynamic diameter
<b>dscf</b> .....	dry standard cubic feet	<b>ppm</b> .....	parts per million
<b>EQ</b> .....	Emission Inventory Questionnaire	<b>PSD</b> .....	Prevention of Significant Deterioration
<b>EP</b> .....	Emission Point	<b>PTE</b> .....	potential to emit
<b>EPA</b> .....	Environmental Protection Agency	<b>RACT</b> .....	Reasonable Available Control Technology
<b>EU</b> .....	Emission Unit	<b>RAL</b> .....	Risk Assessment Level
<b>fps</b> .....	feet per second	<b>SCC</b> .....	Source Classification Code
<b>ft</b> .....	feet	<b>scfm</b> .....	standard cubic feet per minute
<b>GACT</b> .....	Generally Available Control Technology	<b>SIC</b> .....	Standard Industrial Classification
<b>GHG</b> .....	Greenhouse Gas	<b>SIP</b> .....	State Implementation Plan
<b>gpm</b> .....	gallons per minute	<b>SMAL</b> .....	Screening Model Action Levels
<b>gr</b> .....	grains	<b>SO<sub>x</sub></b> .....	sulfur oxides
<b>GWP</b> .....	Global Warming Potential	<b>SO<sub>2</sub></b> .....	sulfur dioxide
<b>HAP</b> .....	Hazardous Air Pollutant	<b>tph</b> .....	tons per hour
<b>hr</b> .....	hour	<b>tpy</b> .....	tons per year
<b>hp</b> .....	horsepower	<b>VMT</b> .....	vehicle miles traveled
<b>lb</b> .....	pound	<b>VOC</b> .....	Volatile Organic Compound
<b>lbs/hr</b> .....	pounds per hour		
<b>MACT</b> .....	Maximum Achievable Control Technology		
<b>µg/m<sup>3</sup></b> .....	micrograms per cubic meter		

Ms. Miranda Gerard  
Environmental Specialist  
Archer Daniels Midland - Rhineland  
4666 Faries Parkway  
Decatur, IL 62525

RE: New Source Review Permit - Project Number: 2012-11-043

Dear Ms. Gerard:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. 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 J Luebbert, 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:jl

Enclosures

c: St. Louis Regional Office  
PAMS File: 2012-11-043

Permit Number:

MISSOURI DEPARTMENT OF NATURAL RESOURCES  
FOLDER TRANSMITTAL ROUTING SHEET

Document #:  
Division Log #:  
Program Log #:

DEADLINE:

Penalty for Missing Deadline: \$

Archer Daniels Midland - Rhineland

2012-11-043

Originator: J Luebbert

Telephone: 6-3835

Date: 10/1/2013

Typist: Linda

File Name: P:\APCP\Permits\Users\J Luebbert\Construction Permits\Agriculture  
\2012-11-043 ADM-Rhineland\2012-11-043 ADM - Rhineland(public).docx

FOR SIGNATURE APPROVAL OF:

DNR Director    DNR Deputy Director    Division Director    Division Deputy Director   X Other: Kyra L. Moore

PROGRAM APPROVAL: Approved by: \_\_\_\_\_ Program: APCP Date: \_\_\_\_\_

Other Program Approval (Section/Unit): \_\_\_\_\_ Date: \_\_\_\_\_  
Comments:

ROUTE TO:

DIVISION DIRECTOR APPROVAL: \_\_\_\_\_ Date: \_\_\_\_\_

Comments:

FINANCIAL REVIEW – DIVISION OF ADMINISTRATIVE SUPPORT:  
DAS Director: \_\_\_\_\_ Date: \_\_\_\_\_

Fee Worksheet Received By: \_\_\_\_\_ Date: \_\_\_\_\_

Accounting: \_\_\_\_\_ Date: \_\_\_\_\_

Budget: \_\_\_\_\_ Date: \_\_\_\_\_

General Services: \_\_\_\_\_ Date: \_\_\_\_\_

Internal Audit: \_\_\_\_\_ Date: \_\_\_\_\_

Purchasing: \_\_\_\_\_ Date: \_\_\_\_\_

Comments:

LEGAL REVIEW:  
 General Counsel: \_\_\_\_\_ Date: \_\_\_\_\_

AGO: \_\_\_\_\_ Date: \_\_\_\_\_

Comments:

DEPARTMENT DIRECTOR APPROVAL: \_\_\_\_\_ Date: \_\_\_\_\_

Comments:

NOTARIZATION NEEDED

INITIALS/DATE