



## 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: **102013-008**Project Number: 2013-09-012  
Installation Number: 139-0006

Parent Company: Archer Daniels Midland

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

Installation Name: Archer Daniels Midland-Montgomery City

Installation Address: 320 Short Street, Montgomery City, MO 63361

Location Information: Montgomery County, S5, T48N, R5E

Application for Authority to Construct was made for:

Installation of a Farm Fans CF-410 liquefied petroleum gas fueled grain dryer. 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.

OCT 15 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.	2013-09-012

**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-Montgomery City  
Montgomery County, S5, T48N, R5E

1. **Superseding Condition**  
The conditions of this permit supersede all special conditions found in the previously issued Construction Permit 092013-004 issued by the Air Pollution Control Program.
2. **PM<sub>10</sub> Emission Limitation**
  - A. Archer Daniels Midland-Montgomery City 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 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. Archer Daniels Midland-Montgomery City 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-Montgomery City 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: 2013-09-012  
Installation ID Number: 139-0006  
Permit Number:

Archer Daniels Midland-Montgomery City  
320 Short Street  
Montgomery City, MO 63361

Complete: September 12, 2013

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

Montgomery County, S5, T48N, R5E

REVIEW SUMMARY

- Archer Daniels Midland-Montgomery City has applied for authority to start up an existing Farm Fans CF-410 liquefied petroleum gas fueled grain dryer at the existing installation.
- HAP emissions are expected from the combustion of liquefied petroleum gas.
- None of the New Source Performance Standards (NSPS) apply to the installation. NSPS Subpart DD does not apply to this facility because the maximum storage capacity is 1.15 million bushels which is less than 2.5 million bushels.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- No air pollution control equipment is being used in association with the new equipment.
- 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 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.
- An Operating Permit application is not required for this installation at this time.
- Approval of this permit is recommended with special conditions.

#### INSTALLATION/PROJECT DESCRIPTION

Archer Daniel Midland (ADM)-Montgomery City is an agricultural business located in Montgomery County. Archer Daniels Midland (ADM) Grain Company took ownership of the Montgomery City facility on September 4, 2012. The facility consists of two receiving pits; one is rated at [REDACTED] bu/hr ([REDACTED] tons per hour) (South), and the other is rated at [REDACTED] bu/hr ([REDACTED] tph) (North). There are five load-out spouts (four of them are side draw spouts) that are rated at [REDACTED] bu/hr ([REDACTED] tph). There is one load-out auger rated at [REDACTED] bu/hr ([REDACTED] tph), eight bins, and associated conveyors and transfer equipment. The facility will be bottlenecked by the MHDR of the conveyors which is [REDACTED] tph. The length of the haul road is 600 feet. Archer Daniel Midland-Montgomery City also includes a recently constructed grain pile that is capable of receiving and shipping up to [REDACTED] tons of grain per hour and the associated receiving, handling, and loading equipment.

ADM-Montgomery City has applied for authority to start up an existing Farm Fans CF-410 liquefied petroleum gas fueled grain dryer that has not operated in recent years. The dryer can dry up to [REDACTED] bushels per hour or [REDACTED] tons of grain per hour with a maximum heat input value equal to [REDACTED] MMBtu/hr for each of the two burners associated with the dryer. Due to the proximity of this project with the most recent permits, this project should be included with the last permit. All potential emission calculations will include each emission point at this facility as stated in Table 1. Archer Daniel Midland (ADM)-Montgomery City has requested a facility wide PM<sub>10</sub> emission limit below the de minimis level.

Table 1: Archer Daniels Midland-Montgomery City

Emission Points	Equipment Description
EP-1a	North Grain Receiving
EP-1b	South Grain Receiving
EP-2	Grain Handling
EP-3	Storage Bin
EP-4	Truck Load-out
EP-5	Haul Road
EP-6	Portable Receiving
EP-7	Portable Handling Equipment
EP-8	Storage Pile Load-in
EP-9	Storage Pile Load-out
EP-10	Farm Fans CF-410 Grain Dryer (liquefied petroleum gas)

The following New Source Review permits have been issued to Archer Daniels Midland-Montgomery City from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
062013-003*	Grain Elevator
092013-004*	Grain Storage Pile

\*Archer Daniels Midland recently purchased this facility from a previous owner who never applied for Authority to Construct. Archer Daniels Midland requested a plant wide PM<sub>10</sub> emission limit below the de minimis level. However, due to the proximity of the three projects, the potential to emit from the entire facility was considered in this review and the annual emission limit is being reinstated.

## EMISSIONS/CONTROLS EVALUATION

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

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

The following table provides an emissions summary for this project. Existing potential emissions were calculated for this project. Archer Daniels Midland recently purchased this facility in September 2012, and the facility's previous owner did not submit an EIQ. Therefore, existing actual emissions are not available. Potential emissions of the application represent the potential of the entire facility and the haul road usage, assuming continuous operation (8760 hours per year) because this project should have been considered the same project as permits 062013-003 and 092013-004. Grain will be received and shipped by straight and hopper trucks. The majority of the truck shipping at this facility 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-5) emissions were calculated using the same 50/50 split. The calculation of potential emissions from haul roads contained an error in the last permit (092013-004). This error has been addressed and the record keeping emission factor and the potential emissions of the application reflect this change. No control devices will be used to limit emissions from the equipment associated with this project.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2012 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	853.04	N/A	879.1	43.85
PM <sub>10</sub>	15.0	294.05	N/A	300.82	<15.0
PM <sub>2.5</sub>	10.0	45.48	N/A	46.92	2.33
SO <sub>x</sub>	40.0	N/A	N/A	0.72	N/A
NO <sub>x</sub>	40.0	N/A	N/A	6.22	N/A
VOC	40.0	N/A	N/A	0.48	N/A
CO	100.0	N/A	N/A	3.59	N/A
GHG (CO <sub>2</sub> e)	100,000	N/A	N/A	6,119	N/A
GHG (mass)	250.0	N/A	N/A	5,984	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 de minimis levels. Potential emissions of PM are above the de minimis level but remain below the major source level.

### APPLICABLE REQUIREMENTS

Archer Daniels Midland-Montgomery City 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

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400 applies to this facility but the equipment is inherently compliant.

## 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 August 26, 2013, received August 26, 2013, 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.

## Attachment A – PM<sub>10</sub> Compliance Worksheet

Archer Daniels Midland-Montgomery City  
 Montgomery County, S5, T48N, R5E  
 Project Number: 2013-09-012  
 Installation ID Number: 139-0006  
 Permit Number: \_\_\_\_\_

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

(a)	(b)		(c)	(d)	(e)	(f)	(g)	(h)
Month	Grain Received (tons)		PM <sub>10</sub> Emission Factor (lb/ton)	Monthly PM <sub>10</sub> Emissions (pounds)	Monthly PM <sub>10</sub> Emissions (tons)	Previous Month's 12-Month PM <sub>10</sub> Emissions (tons)	Monthly PM <sub>10</sub> Emissions from Previous Year (tons)	Current 12-Month PM <sub>10</sub> Emissions (tons)
<i>Example 08/2012</i>	<i>North/South</i>	<i>10,000</i>	<i>0.132</i>	<i>1,320.0</i>	1.62	2.0	1.0	2.62
	<i>Storage Pile</i>	<i>10,000</i>	<i>0.132</i>	<i>1,320.0</i>				
	<i>Grain Dryer</i>	<i>10,000</i>	<i>0.06</i>	<i>600.0</i>				
	North/South		0.132					
	Storage Pile		0.132					
	Grain Dryer		0.06					
	North/South		0.132					
	Storage Pile		0.132					
	Grain Dryer		0.06					
	North/South		0.132					
	Storage Pile		0.132					
	Grain Dryer		0.06					
	North/South		0.132					
	Storage Pile		0.132					
	Grain Dryer		0.06					
	North/South		0.132					
	Storage Pile		0.132					
	Grain Dryer		0.06					

- (a) Record the date
- (b) Record the amount of grain received at the North and South receiving pits, the amount of grain received at the storage pile, and the amount of grain dried
- (c) Emission factor for each process
- (d) Calculate using the following equation: (d) = (b) x (c)
- (e) Calculate using the following equation: (e) = ((d)<sub>North/South</sub> + (d)<sub>Storage Pile</sub> + (d)<sub>grain dried</sub>) / 2000
- (f) Record the 12-month PM<sub>10</sub> emissions from last month: (h)<sub>last month</sub>
- (g) Record the emissions from this month last year
- (h) Calculate using the following equation: (h) = (e) + (f) – (g)

A 12-month rolling total less than **15.0** tons of PM<sub>10</sub> implies compliance with Special Condition 2.A.

## 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>	
<b>CFR</b> .....	Code of Federal Regulations	.....	National Emissions Standards for Hazardous Air Pollutants
<b>CO</b> .....	carbon monoxide	<b>NO<sub>x</sub></b> .....	nitrogen oxides
<b>CO<sub>2</sub></b> .....	carbon dioxide	<b>NSPS</b> .....	New Source Performance Standards
<b>CO<sub>2e</sub></b> .....	carbon dioxide equivalent	<b>NSR</b> .....	New Source Review
<b>COMS</b> .....	Continuous Opacity Monitoring System	<b>PM</b> .....	particulate matter
<b>CSR</b> .....	Code of State Regulations	<b>PM<sub>2.5</sub></b> .....	particulate matter less than 2.5 microns in aerodynamic diameter
<b>dscf</b> .....	dry standard cubic feet	<b>PM<sub>10</sub></b> .....	particulate matter less than 10 microns in aerodynamic diameter
<b>EQ</b> .....	Emission Inventory Questionnaire	<b>ppm</b> .....	parts per million
<b>EP</b> .....	Emission Point	<b>PSD</b> .....	Prevention of Significant Deterioration
<b>EPA</b> .....	Environmental Protection Agency	<b>PTE</b> .....	potential to emit
<b>EU</b> .....	Emission Unit	<b>RACT</b> .....	Reasonable Available Control Technology
<b>fps</b> .....	feet per second	<b>RAL</b> .....	Risk Assessment Level
<b>ft</b> .....	feet	<b>SCC</b> .....	Source Classification Code
<b>GACT</b> .....	Generally Available Control Technology	<b>scfm</b> .....	standard cubic feet per minute
<b>GHG</b> .....	Greenhouse Gas	<b>SIC</b> .....	Standard Industrial Classification
<b>gpm</b> .....	gallons per minute	<b>SIP</b> .....	State Implementation Plan
<b>gr</b> .....	grains	<b>SMAL</b> .....	Screening Model Action Levels
<b>GWP</b> .....	Global Warming Potential	<b>SO<sub>x</sub></b> .....	sulfur oxides
<b>HAP</b> .....	Hazardous Air Pollutant	<b>SO<sub>2</sub></b> .....	sulfur dioxide
<b>hr</b> .....	hour	<b>tph</b> .....	tons per hour
<b>hp</b> .....	horsepower	<b>tpy</b> .....	tons per year
<b>lb</b> .....	pound	<b>VMT</b> .....	vehicle miles traveled
<b>lbs/hr</b> .....	pounds per hour	<b>VOC</b> .....	Volatile Organic Compound
<b>MACT</b> .....	Maximum Achievable Control Technology		
<b>µg/m<sup>3</sup></b> .....	micrograms per cubic meter		

Mr. Jeff Baker  
VP US Grain Operations  
Archer Daniels Midland-Montgomery City  
4666 Faries Parkway  
Decatur, IL 62525

RE: New Source Review Permit - Project Number: 2013-09-012

Dear Mr. Baker:

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, 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 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: 2013-09-012

Permit Number: