

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: 122012-003 Project Number: 2012-07-053  
Installation Number: 103-0006

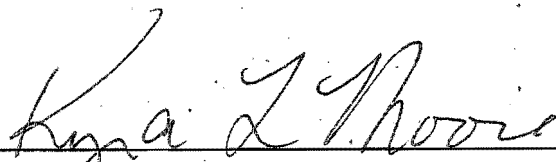
Parent Company: Archer Daniels Midland  
Parent Company Address: 4666 Faries Parkway, Decatur, IL 62526  
Installation Name: Archer Daniels Midland-Baring Elevator  
Installation Address: State Hwy K, Baring, MO 63531  
Location Information: Knox County, S23, T63N, R12W

Application for Authority to Construct was made for:  
Replacement and construction of two conveyors and associated equipment. This review was conducted in accordance with Section (5), 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 2012

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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## 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-Baring Elevator  
Knox County, S23, T63N, R12W

1. PM Emission Limitation
  - A. Archer Daniels Midland-Baring Elevator shall emit less than 25.0 tons of PM in any consecutive 12-month period from the project as defined 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 1.A.
2. Haul Roads Emission Controls

Archer Daniels Midland-Baring Elevator shall control dust from all haul roads at this site in accordance with at least one of the following options when the plant is operating.

  - A. Pavement
    - 1) Archer Daniels Midland-Baring Elevator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions while the plant is operating.
    - 2) Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
    - 3) Archer Daniels Midland-Baring Elevator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  - B. Application of Chemical Dust Suppressants
    - 1) Archer Daniels Midland-Baring Elevator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.

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### SPECIAL CONDITIONS:

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

- 2) The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
  - 3) Archer Daniels Midland-Baring Elevator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas.
- C. Application of Water-Documented Daily
- 1) The Archer Daniels Midland-Baring Elevator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
  - 2) Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
  - 3) Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
  - 4) Archer Daniels Midland-Baring Elevator shall record the date, volume of water application and total surface area of active haul roads or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
3. Record Keeping and Reporting Requirements
- A. Archer Daniels Midland-Baring 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. These records shall include MSDS for all materials used.
  - B. Archer Daniels Midland-Baring 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 show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2012-07-053  
Installation ID Number: 103-0006  
Permit Number:

Archer Daniels Midland-Baring Elevator  
State Hwy K  
Baring, MO 63531

Complete: July 24, 2012

Parent Company:  
Archer Daniels Midland  
4666 Faries Parkway  
Decatur, IL 62526

Knox County, S23, T63N, R12W

REVIEW SUMMARY

- Archer Daniels Midland-Baring Elevator has applied for authority to construct and replace two conveyors and associated equipment.
- HAP emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- 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. Dust suppressants are applied to control haul road emissions.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM are conditioned below the de minimis level. Potential emissions of PM<sub>10</sub> and PM<sub>2.5</sub> are indirectly conditioned below respective de minimis levels.
- This installation is located in Knox 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 since conditioned potential PM<sub>10</sub> emissions of the application are conditioned below the de minimis level, and there are no modeling standards for particulate matter (PM).

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

### INSTALLATION DESCRIPTION

Archer Daniel Midland (ADM)-Baring Elevator is an agricultural business located in Knox County. Section 1 was built in the 1950's, Section 2 was built in the early 1970's, and Section 3 was built in 1981. Thus, this facility is considered to be a grand-fathered facility from construction permits since it was constructed prior to May 13, 1982.

No permits have been issued to Archer Daniels Midland-Baring Elevator from the Air Pollution Control Program. An Operating Permit Applicability Determination Request was made in 1994 and no permit was required.

### PROJECT DESCRIPTION

ADM-Baring Elevator has requested confidentiality for process rates and storage capacities. This is the public version of the permit. A confidential version is available under Project Number 2012-07-054. ADM-Baring Elevator proposes to upgrade and replace in Section 3 two [redacted] bushel per hour screw conveyors with two [redacted] bushel per hour drag conveyors. Also, two [redacted] bushels per hour legs will be replaced with two [redacted] bushels per hour legs. There are two pits and each pit will have an upgraded conveyor and leg. The [redacted] bushels per hour MHDR was converted to [redacted] tons per hour by multiplying [redacted] bushels by the weight of 60 pounds per bushel and dividing by 2000 pounds per ton. There are no emission controls.

The following Table 1 lists the new equipment and the debottlenecked associated equipment that will reflect the new MHDR of [redacted] tons per hour at the installation.

Table 1: ADM-Baring Elevator New Conveyors/Legs and Associated Equipment

Emission Points	Project Equipment
EP-01	Grain Receiving – Straight Truck
EP-02	Grain Handling
EP-03	Grain Storage
EP-04	Grain Loadout—Straight Truck
EP-05	Haul Road--Receiving
EP-06	Haul Road--Shipping

Currently the ADM-Baring facility has a permanent storage capacity of [redacted] bushels. Therefore, this facility is not subject to New Source Performance Standards (NSPS), Subpart DD for Grain Elevators since their storage capacity is less than 2.5 million bushels.

## 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. Haul road emissions were calculated using AP-42, Section 13.2.2, *Unpaved Roads*, November 2006.

Grain will be received by straight and hopper trucks. The grain receiving (EP-01) emissions were calculated using the most conservative scenario of 100 percent receiving by straight trucks because grain receiving from straight trucks have a higher emission rate. This method avoids a special condition and record keeping for amount that was received by straight/hopper trucks.

Grain will be shipped by a combination of hopper and straight trucks. The shipping haul roads (EP-06) emissions were calculated using the most conservative scenario of 100 percent shipping by straight trucks because straight trucks haul less than hopper trucks requiring more trips, thus greater VMTs. This method avoids a special condition and record keeping for amount that was shipped by hopper/straight trucks.

The following Table 2 provides an emissions summary for this project. Existing installation-wide potential emissions were not determined. Actual emissions were not available. Emissions of the existing equipment affected by the new conveyors and legs were conservatively calculated at their potentials. Potential emissions of the application represent the potential of the new and modified/debottlenecked equipment, assuming continuous operation (8,760 hours per year).

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	N/D	N/D	456.26.3	<25.0
PM <sub>10</sub>	15.0	N/D	N/D	163.15	8.94
PM <sub>2.5</sub>	10.0	N/D	N/D	26.92	1.79
SOx	40.0	N/D	N/D	N/A	N/A
NOx	40.0	N/D	N/D	N/A	N/A
VOC	40.0	N/D	N/D	N/A	N/A
CO	100.0	N/D	N/D	N/A	N/A
HAPs	10.0/25.0	N/D	N/D	N/A	N/A

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

## RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM are conditioned below the de minimis level.

## APPLICABLE REQUIREMENTS

Archer Daniels Midland-Baring 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.

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *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

### 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 (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

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Kathy Kolb  
Environmental Engineer

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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 July 16, 2012, received July 18, 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 Sheets
<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>tpy</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		

Ms. Karena Musgrave  
Environmental Specialist  
Archer Daniels Midland-Baring Elevator  
4666 Faries Parkway  
Decatur, IL 62526

RE: New Source Review Permit - Project Number: 2012-07-053

Dear Ms. Musgrave:

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, 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 Kathy Kolb, 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:kk1

Enclosures

c: Northeast Regional Office  
PAMS File: 2012-07-053

Permit Number: