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: 082014-011  Project Number: 2014-05-048
Installation Number: 007-0002

Parent Company: Archer Daniels Midland Company
Parent Company Address: P.O. Box 1470, Decatur, IL 62525
Installation Name: Archer Daniels Midland Mexico
Installation Address: 400 E. Holt Street, Mexico, MO 65265
Location Information: Audrain County, S28, T51 N, R9W

Application for Authority to Construct was made for:
The modification of the West Truck Dump receiving pit and transfer equipment as well as installing a total enclosure around the West Truck Dump receiving pit with baghouse control. 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.

AUG 19 2014

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 startup 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 startup 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.
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 Mexico
Audrain County, S28, T51N, R9W

1. Control Device Requirement-Baghouse
   A. Archer Daniels Midland Mexico shall control emissions from the West Dump (EU-0025) using an enclosure equipped with baghouse as specified in the permit application.

   B. The baghouses shall be operated and maintained in accordance with the manufacturer’s specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that Department of Natural Resources’ employees may easily observe them.

   C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

   D. Archer Daniels Midland Mexico shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer’s performance warranty.

   E. Archer Daniels Midland Mexico shall maintain a copy of the baghouse manufacturer’s performance warranty on site.

   F. Archer Daniels Midland Mexico shall maintain an operating and maintenance log for the baghouses which shall include the following:
      1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
      2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

2. Capture Requirement
   A. Archer Daniels Midland Mexico shall only receive grain at West Dump (EU-0025) in a completely enclosed structure. The completely enclosed structure shall be equipped with retractable doors that are completely closed during the grain receiving operation.
   
   B. Once Archer Daniels Midland Mexico begins the modification to West Dump (EU-0025) no grain shall be received at the West Dump (EU-0025) until the construction of the complete enclosed structure is completed.

3. Record Keeping and Reporting Requirements
   A. Archer Daniels Midland Mexico 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 Mexico 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: 2014-05-048
Installation ID Number: 007-0002
Permit Number:

Archer Daniels Midland Mexico Complete: May 19, 2014
400 E. Holt Street
Mexico, MO 65265

Parent Company:
Archer Daniels Midland Company
P.O. Box 1470
Decatur, IL 62525

Audrain County, S28, T51N, R9W

REVIEW SUMMARY

- Archer Daniels Midland Mexico has applied for authority to modify the West Truck Dump receiving pit and transfer equipment as well as installing a total enclosure around the West Truck Dump receiving pit with baghouse control.

- HAP emissions are not expected from the proposed equipment.

- 40 CFR Part 60 New Source Performance Standards (NSPS) Subpart DD, Standards of Performance for Grain Elevators does not apply to the installation as grain handling operations were originally installed before August 3, 1978.
  - Some individual conveyors within the affected facility were replaced with like kind units but were not modified according to NSPS because there was no increase in emission rate to the atmosphere. These conveyors that were replaced had the same grain handling capacity and were equipped with the same air pollution control equipment and therefore did not impact the emissions to the environment.
  - This project does modify an existing receiving pit and install new transfer equipment with a higher capacity. However, the modification is currently bottlenecked to the same annual throughput as what was originally permitted and Archer Daniels Midland Mexico is installing air pollution control equipment that has a higher capture and control efficiency then what was there previously permitted. Therefore, no increase in emissions of a regulated pollutant is expected that would be defined as a modification under the NSPS and Subpart DD still does not apply to this installation.

- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.

- A baghouse is being used to control the particulate matter emissions from the equipment in this permit.
• This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.

• This installation is located in Audrain 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 potential emissions of the application are below de minimis levels.

• Emissions testing is not required for the equipment.

• An application to amend your Part 70 Operating Permit is required for this installation within one year of equipment startup.

• Approval of this permit is recommended with special conditions.

**INSTALLATION DESCRIPTION**

The ADM soybean processing facility in Mexico, Missouri consists of an oil extraction plant and a biodiesel plant. The installation is considered an existing major source of air pollutants for new source review purposes and a Part 70 source for operating permit purposes. The installation has a Part 70 operating permit (permit number OP2012-009B) that expires on March 12, 2017.

The typical extraction process for soybeans consists of three steps: soybean receiving, preparation and solvent extraction. Soybeans are received by either truck or rail and are unloaded into grain receiving pits. After receiving, the beans are elevated into concrete silos. From the silos, the beans are conveyed to the preparation building. Inside the preparation building beans are cleaned, heated and then dehulled and cracked into small pieces. These pieces are conveyed to flakers that smash the pieces into thin flakes that are ready for extraction. In the extraction process, the flakes are conveyed through a hexane bath that extracts the soybean oil from the flakes. The oil/hexane mixture is driven off the spent flakes in the desolventizer/toaster and sent to condensers to be separated. The spent flakes are then dried, cooled and ground. The ground meal is stored and sold as agricultural feed.

The following New Source Review permits have been issued to Archer Daniels Midland (ADM) Mexico from the Air Pollution Control Program.
Table 1: Permit History

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0284-007</td>
<td>Construction of a boiler</td>
</tr>
<tr>
<td>0795-002</td>
<td>Construction of a new soybean dehulling system</td>
</tr>
<tr>
<td>*032006-010</td>
<td>Section (5) permit for the construction of a 36 million gallon per year</td>
</tr>
<tr>
<td></td>
<td>biodiesel production plant</td>
</tr>
<tr>
<td>*102006-015</td>
<td>Section (5) permit to modify and install a previously permitted biodiesel</td>
</tr>
<tr>
<td></td>
<td>production facility</td>
</tr>
<tr>
<td>102010-003</td>
<td>Section (8) permit for an increase in crushing capacity</td>
</tr>
<tr>
<td>*032006-010A</td>
<td>Amendment to Permit 032006-010</td>
</tr>
<tr>
<td>072009-005</td>
<td>Section (5) permit for the construction of a new sodium methylate production</td>
</tr>
<tr>
<td></td>
<td>process</td>
</tr>
<tr>
<td>*102006-015A</td>
<td>Amendment to Permit 102006-015. Supercedes conditions contained in Permit</td>
</tr>
<tr>
<td></td>
<td>Amendment 032006-010A</td>
</tr>
<tr>
<td>032013-011</td>
<td>Section (5) permit for biofuel expansion. Supercedes conditions contained</td>
</tr>
<tr>
<td></td>
<td>in construction permits 032006-010 and 102006-015</td>
</tr>
</tbody>
</table>

*Permits issued to Mid-America Biofuels, LLC. Mid-America Biofuels, LLC and ADM-Mexico have been determined to be one installation.

PROJECT DESCRIPTION

ADM Mexico is expanding the capacity of their West Dump (EU-0025) receiving pit by modifying two existing elevator legs and adding two new drag conveyors (Elevator Conveying EU-0090) and extending the pit to allow hopper trailers to dump with one stop. With this modification ADM Mexico is also installing a totally enclosed structure with baghouse control to capture emissions from the grain received at the West Dump. The affected and new emission units from this modification are the West Dump receiving pit, the new and modified grain transfer equipment, the West Silos (EU-0060-0085) and the associated receiving haul roads. The MHDR of the old West Dump receiving pit was 300 tons per hour the MHDR of the modified West Dump receiving pit and transfer equipment is 600 tons per hour. However the West Dump receiving pit will still be bottlenecked by the M1 Conveyor which transfers grain from the West Silos to soybean oil plant. The MDHR of the M1 Conveyor is 96.25 tons per hour. If at any time the M1 Conveyor is modified to where ADM Mexico can transfer more than 96.25 tons of grain per hour, the emissions from the modified receiving pit, transfer and storage equipment must be included in the debottlenecked project.

EMISSIONS/CONTROLS EVALUATION

The emission factors used for the grain handling 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 & Processes*, (May 2003). A 99% capture efficiency was given to the total enclosure around the West Dump receiving pit as ADM Mexico has agreed to close all doors to the receiving pit area while grain is being received. A 99% control efficiency was given to the baghouse controlling that emission point.

Haul road emissions were not considered for this application as there is no increase in haul traffic expected on an annual basis due to the fact that the modified receiving pit and new transfer equipment being bottlenecked by the transfer conveyor after these processes.
The following table provides an emissions summary for this project. Existing potential emissions were taken from construction permit 102006-015A. Existing actual emissions were taken from the installation’s 2013 EIQ. Potential emissions of the application represent the potential of the new equipment and modified equipment, assuming continuous operation (8760 hours per year).

Table 2: Emissions Summary (tons per year)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Regulatory De Minimis Levels</th>
<th>Existing Potential Emissions</th>
<th>Existing Actual Emissions (2013 EIQ)</th>
<th>*Potential Emissions of the Application</th>
<th>**Controlled Potential Emissions of the Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>25.0</td>
<td>N/D</td>
<td>N/D</td>
<td>51.01</td>
<td>11.00</td>
</tr>
<tr>
<td>PM_{10}</td>
<td>15.0</td>
<td>&gt;250.0</td>
<td>16.48</td>
<td>20.28</td>
<td>2.81</td>
</tr>
<tr>
<td>PM_{2.5}</td>
<td>10.0</td>
<td>N/D</td>
<td>4.55</td>
<td>3.46</td>
<td>0.50</td>
</tr>
<tr>
<td>SOx</td>
<td>40.0</td>
<td>&gt;250.0</td>
<td>0.14</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>NOx</td>
<td>40.0</td>
<td>&gt;250.0</td>
<td>24.21</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>&gt;250.0</td>
<td>141.40</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>&lt;250.0</td>
<td>20.34</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>GHG (CO_{2e})</td>
<td>75,000</td>
<td>N/D</td>
<td>N/D</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>GHG (mass)</td>
<td>250.0</td>
<td>N/D</td>
<td>N/D</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>HAPs</td>
<td>10.0/25.0</td>
<td>&gt;25.0</td>
<td>0.00</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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

*Potential Emissions of the Application is the uncontrolled potential emissions of the project. These totals show that a construction permit is required.

** Controlled Potential Emissions of the Application considered the new baghouse and total enclosure around the modified receiving pit and new transfer equipment as well as the required baghouse control the internal handling equipment affected by this project.

PERMIT 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 all pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Archer Daniels Midland Mexico 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
• **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 applies to the bin vents. ADM – Mexico is in compliance with the emission limit of this rule.

**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.

Gerad Fox
New Source Review Unit

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

• The Application for Authority to Construct form, dated May 8, 2014, received May 19, 2014, designating Archer Daniels Midland Company as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

% ............ percent
°F ............ degrees Fahrenheit
acfm .......... actual cubic feet per minute
BACT .......... Best Available Control Technology
BMPs .......... Best Management Practices
Btu .......... British thermal unit
CAM .......... Compliance Assurance Monitoring
CAS ........... Chemical Abstracts Service
CEMS ......... Continuous Emission Monitor System
CFR .......... Code of Federal Regulations
CO .......... carbon monoxide
CO₂ .......... carbon dioxide
CO₂e ......... carbon dioxide equivalent
COMS ......... Continuous Opacity Monitoring System
CSR .......... Code of State Regulations
dscf ........ dry standard cubic feet
EIQ .......... Emission Inventory Questionnaire
EP .......... Emission Point
EPA .......... Environmental Protection Agency
EU .......... Emission Unit
fps .......... feet per second
ft ............ feet
GACT ...... Generally Available Control Technology
GHG .......... Greenhouse Gas
gpm .......... gallons per minute
gr .......... grains
GWP ........ Global Warming Potential
HAP .......... Hazardous Air Pollutant
hr .......... hour
hp .......... horsepower
lb .......... pound
lbs/hr ....... pounds per hour
MACT ......... Maximum Achievable Control Technology
μg/m³ ...... micrograms per cubic meter
m/s ........ meters per second
Mgal ........ 1,000 gallons
MW .......... megawatt
MHDR ...... maximum hourly design rate
MMBtu .... Million British thermal units
MMCF ...... million cubic feet
MSDS ..... Material Safety Data Sheet
NAAQS .... National Ambient Air Quality Standards
NESHAPs .......... National Emissions Standards for Hazardous Air Pollutants
NOₓ .......... nitrogen oxides
NSPS ...... New Source Performance Standards
NSR ........ New Source Review
PM .......... particulate matter
PM₂.₅ ...... particulate matter less than 2.5 microns in aerodynamic diameter
PM₁₀ ...... particulate matter less than 10 microns in aerodynamic diameter
ppm .......... parts per million
PSD .......... Prevention of Significant Deterioration
PTE .......... potential to emit
RACT ...... Reasonable Available Control Technology
RAL .......... Risk Assessment Level
SCC .......... Source Classification Code
scfm .......... standard cubic feet per minute
SIC .......... Standard Industrial Classification
SIP .......... State Implementation Plan
SMAL .... Screening Model Action Levels
SOₓ .......... sulfur oxides
SO₂ .......... sulfur dioxide
tph .......... tons per hour
tpy .......... tons per year
VMT .......... vehicle miles traveled
VOC .......... Volatile Organic Compound
Mr. Keith Stumpe  
Plant Manager  
Archer Daniels Midland Mexico  
400 E. Holt Street  
Mexico, MO 65265  


Dear Mr. Stumpe:  

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, your new source review permit application and with your amended 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 me at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone 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:gfk  
Enclosures  

PAMS File: 2014-05-048  

Permit Number:  

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