

STATE OF MISSOURI



PERMIT BOOK

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: **01 2015 - 002**

Project Number: 2014-03-031

Installation Number: 143-0074

Parent Company: Archer Daniels Midland Company

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

Installation Name: ADM Grain Company - New Madrid

Installation Address: 734 County Road 305, Marston, MO 63866

Location Information: New Madrid County, S20 & 29, T22N, R14E

Application for Authority to Construct was made for:
Throughput limit increase. 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.

JAN 22 2015

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."

ADM Grain Company - New Madrid
New Madrid County, S20 & 29, T22N, R14E

1. Superseding Condition
 - A. Prior to commencing operation of the grain handling oil system required in Special Condition 6, or alternatively the devices in Special Conditions 7, 8 and 9, all conditions of permit 112009-003B remain valid.
 - B. Upon commencing operation of the grain handling oil system required in Special Condition 6, or alternatively the devices in Special Conditions 7, 8 and 9, the conditions of this permit supersede all special conditions found in construction permits 112009-003B, 112009-003A, 112009-003, 102008-006, and 032005-001 issued by the Air Pollution Control Program.
2. Operational Limitation
 - A. ADM Grain Company – New Madrid shall receive (EU-01) no more than ■ tons of grain per day.
 - B. ADM Grain Company – New Madrid shall receive (EU-01) no more than ■ tons of grain per day via straight trucks. For purposes of this permit, straight trucks are trucks that empty via a tailgate/door. Articulated trucks that empty via a tailgate/door are straight trucks. A truck with all axles attached to a single frame that empties via bed hoppers is a hopper truck.
 - C. ADM Grain Company – New Madrid shall barge ship (EU-04) no more than ■ tons of grain per day.
 - D. ADM Grain Company – New Madrid shall truck ship (EU-03) no more than ■ tons of grain per day.
 - E. ADM Grain Company – New Madrid shall dry (EU-02) no more than ■ tons of grain per day.

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SPECIAL CONDITIONS:

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

- F. ADM Grain Company – New Madrid shall maintain daily records sufficient to demonstrate compliance with Special Conditions 2.A. through 2.E. At minimum the records shall include date, daily tons of grain, process description (e.g. receiving, straight truck receiving, barge shipping, truck shipping, drying), and indication of compliance status.
3. Capture Device Requirement
ADM Grain Company – New Madrid shall only receive (EU-01) and truck ship (EU-03) grain in completely enclosed lanes. Each lane of the receiving and shipping structure shall be separated from the other lanes by a permanent barrier that prohibits particulate matter emissions transferring from one lane to any other lane. Each lane shall be equipped with retractable doors that are completely closed during receiving and shipping for the respective lane.
 4. Control Device Requirements - Baghouse
 - A. ADM Grain Company - New Madrid shall control emissions from receiving (EU-01) and truck shipping (EU-03) using a baghouse. The baghouse 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 employees may easily observe them. Replacement filters for the baghouse 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).
 - B. ADM Grain Company - New Madrid shall monitor and record the operating pressure drop across the baghouse at least once every 24 hours of operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty. The manufacturer's performance warranty shall be kept on site.
 - C. ADM Grain Company - New Madrid shall maintain an operating and maintenance log for the baghouse 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.

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SPECIAL CONDITIONS:

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

5. Control Device Requirements – Grain Handling
 - A. ADM Grain Company – New Madrid shall not aspirate any of the conveyors or legs considered part of grain handling and their drop/transfer points to the ambient air. The grain handling conveyors and their drop/transfer points shall be completely enclosed.
 - B. Grain handling emissions are defined as emissions originating from any grain transfer, excluding process emissions from receiving (EU-01), drying (EU-02), truck shipping (EU-03), barge shipping (EU-04), haul roads (EU-06), and bin vents (EU-07).
6. Control Device Requirements – Grain Handling Oil System
 - A. ADM Grain Company – New Madrid shall construct and operate a dust suppression system that applies grain, vegetable, or white mineral oil approved for direct contact with grain, on all received grain prior to grain handling (EU-05).
 - B. If ADM Grain Company – New Madrid does not operate a grain handling oil system in accordance with Special Condition 6, then Special Conditions 7, 8, 9, and 10 shall apply.
 - C. The oil system shall be constructed, operated, and maintained in accordance with its manufacturer's specifications. The manufacturer's specifications shall be kept on site.
 - D. Oil shall be applied at a rate not less than 200 ppm (0.02% by weight or 2 pound of oil per 10,000 pounds grain). The oil shall be applied at a location prior to entering the receiving bucket elevator. The oil shall be applied at locations above and below the traveling grain mass.
 - E. ADM Grain Company – New Madrid shall report to the Air Pollution Control Program's Compliance/Enforcement Section and Permit Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the commencement of operation of the oil system. At minimum the report shall include the date the system commenced operation and the oil application locations shown on design drawings or photographs.
 - F. ADM Grain Company – New Madrid shall maintain daily records sufficient to demonstrate compliance with Special Condition 6.D. At minimum the records shall include date, oil name, oil specific gravity, oil usage

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SPECIAL CONDITIONS:

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

(gallons), oil usage (tons), grain handling throughput (tons), grain handling oil application rate (% weight), and indication of compliance status. Receiving throughput may be used in the place of grain handling throughput.

- G. ADM Grain Company - New Madrid shall maintain an operating and maintenance log for the grain handling oil system 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.

- 7. Alternative Capture Device Requirement – Barge Shipping Hood
 - A. ADM Grain Company – New Madrid shall capture emissions from barge shipping (EU-04) using a hood.

 - B. This special condition shall apply only when the grain handling oil system in Special Condition 6 is not operating.

 - C. Hood airflow shall be maintained at least 5,900 cfm. Compliance shall be demonstrated using engineering calculations, which shall be kept on site. Velocity shall be obtained from Special Condition 7.D.

 - D. Duct velocity shall be maintained at least 3,000 fpm. Compliance shall be demonstrated using a duct anemometer. ADM Grain Company - New Madrid shall monitor and record the duct velocity at least once every 24 hours of operation.

 - E. ADM Grain Company – New Madrid shall place the hood on the barge hatch being filled with grain. If this is not possible, then the hood shall be placed on the hatch immediately adjacent to the hatch being filled. All other barge hatches shall be closed.

 - F. The vertical distance between the hood and hatch shall be minimal. The hood surface area must be equal to or greater than the hatch area, i.e. the hood must completely cover the hatch where it is located.

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SPECIAL CONDITIONS:

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

- G. ADM Grain Company - New Madrid shall maintain an operating and maintenance log for the barge shipping hood 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.

- 8. Alternative Control Device Requirement – Barge Shipping Baghouse
 - A. ADM Grain Company - New Madrid shall control emissions from barge shipping (EU-04) using a baghouse. The baghouse 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 employees may easily observe them. Replacement filters for the baghouse 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).

 - B. This special condition shall apply only when the grain handling oil system in Special Condition 6 is not operating.

 - C. ADM Grain Company - New Madrid shall monitor and record the operating pressure drop across the baghouse at least once every 24 hours of operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty. The manufacturer's performance warranty shall be kept on site.

 - D. ADM Grain Company - New Madrid shall maintain an operating and maintenance log for the baghouse 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.

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SPECIAL CONDITIONS:

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

9. Alternative Control Device Requirement – Dryer Oil System
 - A. ADM Grain Company – New Madrid shall construct and operate a dust suppression system that applies grain, vegetable, or white mineral oil approved for direct contact with grain, on all grain processed through the dryer (EU-02).
 - B. This special condition shall apply only when the grain handling oil system in Special Condition 6 is not operating.
 - C. The oil system shall be constructed, operated, and maintained in accordance with its manufacturer’s specifications. The manufacturer’s specifications shall be kept on site.
 - D. Oil shall be applied at a rate not less than 200 ppm (0.02% by weight or 2 pound of oil per 10,000 pounds grain). The oil shall be applied at a location at least 2 conveyor transfer/drop points prior to entering the dryer. The oil shall be applied at locations above and below the traveling grain mass.
 - E. ADM Grain Company – New Madrid shall maintain daily records sufficient to demonstrate compliance with Special Condition 9.D. At minimum the records shall include date, oil application location, oil name, oil specific gravity, oil usage (gallons), oil usage (tons), grain dried (tons), dryer oil application rate (% weight), and indication of compliance status.
 - F. ADM Grain Company - New Madrid shall maintain an operating and maintenance log for the dryer oil system 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.
10. Alternative Control Device Requirement – Permit Amendment
 - A. This special condition shall apply only when the grain handling oil system in Special Condition 6 is not operating.
 - B. ADM Grain Company - New Madrid shall report to the Air Pollution Control Program’s Compliance/Enforcement Section and Permit Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the commencement of operation of the devices required in Special Conditions

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

- 7, 8 and 9. At minimum the report shall include the date each device commenced operation, oil application locations, and hood design. The oil application locations shall be shown on design drawings or photographs. The hood design shall be shown with engineering calculations and photographs.
- C. ADM Grain Company – New Madrid shall submit an application to amend this permit no later than 30 days after the commencement of operation of the devices required in Special Conditions 7, 8 and 9. The permit application shall account for the higher PTE as a result of using different control devices than this permit's PTE considers. If requested throughputs remain unchanged from those in this permit's Special Condition 2, then a revised AAQIA is not required. The permit amendment application shall be accompanied by a basic operating permit application.
11. Control Device Requirement – Barge Shipping
ADM Grain Company – New Madrid shall construct and operate a telescopic spout that choke flows all grain processed through barge shipping (EP-04). The spout shall be operated such that the free-fall height of grain exiting the spout is minimal with respect to river elevation and barge draft.
12. Haul Roads
- A. ADM Grain Company – New Madrid shall pave all haul roads with materials such as asphalt, concrete, or other materials subject to approval by the Air Pollution Control Program.
- B. Maintenance and/or repair of the road surface shall 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 installation is receiving grain or shipping grain via truck.
13. Haul Roads – Silt Loading
- A. Silt loading shall not exceed 0.1 grams per meter squared (g/m^2) on any paved haul road sample.
- B. Compliance with the silt loading limitation in Special Condition 13.A. shall be demonstrated by conducting silt loading sampling (as defined in Appendix C.1 and C.2 of AP-42 *Compilation of Air Pollution Emission Factors*, Fifth Edition). Silt loading sampling shall be conducted using a

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

vacuum equipped with HEPA filtration. The silt loading sampling shall be representative (as defined in Appendix C of AP-42).

- C. Sampling shall be conducted at the midpoint of the cleaning cycle (i.e. if cleaning is scheduled every 24 hours, then sampling shall be conducted at the midpoint of 12 hours). The cleaning frequency shall be conducted at the same frequency that corresponds to a compliant test, or more often. Cleaning may be temporarily suspended during adequate precipitation or inclement weather (i.e. rain exceeding 0.25 inches per day being sufficient to maintain no visible emissions, or roads covered in snow or ice). If rain exceeding 0.25 inches per day occurs, then sampling shall be conducted at the midpoint of the next cleaning cycle. Record of the cleaning schedule, actual cleanings conducted, and daily precipitation shall be kept on site.
- D. Testing shall be conducted in accordance with ASTM C 136 method. The silt calculation shall add all mass retained in the vacuum bag to the mass passing the #200 sieve.
- E. Testing shall be conducted once a quarter for four quarters following the issuance of this permit. The initial test shall be conducted within 30 days of this permit's issuance. If each test demonstrates compliance with Special Condition 13.A, then testing is required once annually. If any test exceeds the limit in Special Condition 13.A, then the four quarterly tests restart.
- F. The annual test and at least one quarterly test shall be performed at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate (█ tons per day grain receiving) allowed by the permit.
- G. A copy of the written report of the silt loading test results must be submitted to the Compliance/Enforcement Section and Permit Section within 30 days of completion of the testing. At a minimum, the report must include sample road segment locations, recent weather conditions, HEPA vacuum bag model number, cleaning schedule and sampling date/time, tons of grain received on the sampling day, legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required EPA Method for at least one sample run.

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SPECIAL CONDITIONS:

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

- H. If the results of the silt loading testing show that the silt loading exceeds $0.1\text{g}/\text{m}^2$ on any test, then ADM Grain Company – New Madrid shall evaluate what effects the exceedance would have had on the permit applicability and modeling applicability of this project. ADM Grain Company – New Madrid shall submit the results of any such evaluation, in an amendment application, within 30 days of submitting the silt loading test results report required in Special Condition 13.G. of this permit.
14. Record Keeping and Reporting Requirements
- A. ADM Grain Company– New Madrid 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 SDS for all materials used.
 - B. ADM Grain Company – New Madrid 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: 2014-03-031
Installation ID Number: 143-0074
Permit Number:

ADM Grain Company - New Madrid
734 County Road 305
Marston, MO 63866

Complete: April 1, 2014

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

New Madrid County, S20 & 29, T22N, R14E

REVIEW SUMMARY

- ADM Grain Company - New Madrid (herein ADM) has applied for authority to increase throughput limits.
- HAP emissions are expected from the combustion of natural gas in the dryer EU-02.
- None of the New Source Performance Standards (NSPS) apply to the installation. The total permanent storage volume of the installation is ■ non-packed bushels, according to correspondence in 2011 with the Missouri Department of Agriculture. ADM does not have a ground storage pile. Permanent storage capacity is less than 2.5 million bushels. The installation does not mill grain or have soybean oil extraction capabilities. Therefore, the installation does not meet the definition of grain terminal elevator or grain storage elevator according to 40 CFR 60 Subpart DD, *Standards of Performance for Grain Elevators*.
- None of the NESHAPs under 40 CFR 61 apply to this installation.
- None of the MACTs under 40 CFR 63 apply to this installation.
- Enclosure routed to a baghouse, conveyor enclosure, dust oil suppression, and a choke loading spout are being used to control the PM, PM₁₀, and PM_{2.5} emissions.
- 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 and PM₁₀ are at minor source levels.
- This installation is located in New Madrid 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.
- An ambient air quality impact analysis was performed for PM₁₀.
- Silt testing is required for the haul roads.
- If Special Condition 10 applies, then submittal of a basic operating permit application is required. Potential PM₁₀ emissions from non-fugitive emission units exceed the de minimis level when the grain handling oil system is not used.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

ADM is a modern grain elevator located along the Mississippi River in Marston, Missouri. Grain is received by truck and shipped predominantly by barge. ADM is a minor source for NSR permits and previously has not needed an operating permit. The following NSR permits have been issued to ADM from the Air Pollution Control Program. ADM exceeded permit throughput limits in several of the past years' fall harvests. The Air Pollution Control Program's Compliance/Enforcement Section has granted variances.

Table 1: Permit History

Permit Number	Description
032005-001	New grain elevator (permit expired)
102008-006	New grain elevator
112009-003	Throughput increase
112009-003A	Correction of a special condition
112009-003B	Throughput increase

PROJECT DESCRIPTION

ADM has requested increased throughput limits and removal of time-of-day restrictions. Also incorporated into the project is increased haul road silt content following test results exceeding a limit. No new emission units are being installed for this project. All received grain will be oiled prior to entering the bucket elevator. Also, the requirement to oil all grain to be dried before entering the dryer has been removed. Alternatively, barge shipping emissions are to be controlled using a hood routed to a baghouse. Also part of the alternative control system, oiling grain to be dried will be reinstated. ADM requested and was granted confidentiality for MHDR, emission factors, and control efficiencies. This is the public permit. A confidential version was issued under project 2014-03-032.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, *Food and Agricultural Industries*, Section 9.9.1, May 2003; *Natural Gas Combustion*, Section 1.4, July 1998; and *Paved Roads*, Section 13.2.1, January 2011. For discussion of the potential emission calculations from previously permitted emission units please see permits 112009-003 and 112009-003B.

The oil application method, rate, and control efficiency were obtained from the EPA documents, *Oil Suppression of Particulate Matter at Grain Elevators*, July 1994, and AP-42 Section 9.9.1. Ranges of application rates and corresponding control efficiencies are given in the 1994 EPA document, with some tested application rates up to 1,000 ppm. To obtain the upper end of the control efficiency range, oil should be applied as early as possible before the emission unit needing control. Also, thorough mixing of the grain following the application of oil is one of the most critical elements in control efficiency. Application rates of 60 to 200 ppm are described in the June 30, 1997 letter from the National Grain and Feed Association to the EPA, and correspond to the range of █ to █% control efficiency listed in AP-42 Section 9.9.1. The upper end of the range, █% control, was selected for PM and PM₁₀. The lower end of the range, █% control, was estimated for PM_{2.5}. Since █% control was chosen for PM₁₀, the permit requires a minimum application rate of 200 ppm and thorough mixing by applying the oil immediately downstream of receiving. The permit minimum application rate is the maximum white mineral oil application rate for human consumption in the CFR Title 21 *Food and Drugs* Part 172.878. Recordkeeping of grain destined for human consumption and feed versus other uses is not required by this permit, as the FDA regulation exists outside the scope of New Source Review. ADM has stated they understand the federal regulations regarding maximum usage of certain oils (white mineral oil) on food and feed.

If oil is not applied to all received grain after receiving, then alternatively ADM will operate a hood and baghouse at barge shipping and oil all grain to be processed through the dryer. The new installation conditioned potential represents the regular control scenario, not the alternative. The potential emissions of the alternative scenario are higher than the regular scenario, but are still less than major source levels. Operation under the alternative scenario requires a permit amendment. Hood velocity and flowrate were developed using the American Conference of Governmental Industrial Hygienists' document, *Industrial Ventilation a Manual of Recommended Practice*, Chapters 3 and 10, 23rd edition, 1998. Site specific dimensions were used as appropriate.

The following table provides an emissions summary for this project. Existing potential emissions were obtained from permit 112009-003B. Existing actual emissions were obtained from the installation's 2013 EIQ. The new installation conditioned potential represents the potential of the entire installation, assuming new throughput limits and control devices.

Table 2: Emissions Summary (tpy)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2013 EIQ)	New Installation Conditioned Potential
PM	25.0	112.66	N/A	62.45
PM ₁₀	15.0	31.37	7.06	17.88
PM _{2.5}	10.0	6.78	1.23	7.34
SO ₂	40.0	0.19	0.01	0.19
NOx	40.0	31.30	1.00	31.30
VOC	40.0	1.72	0.06	1.72
CO	100.0	26.30	0.84	26.30
GHG (CO ₂ e)	100,000	N/D	N/A	37,788.17
GHG (mass)	250.0	N/D	N/A	37,566.35
HAPs	10.0 / 25.0	0.59	0.02	0.59

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

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 and PM₁₀ are at minor source levels.

APPLICABLE REQUIREMENTS

ADM Grain Company - New Madrid 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 applies to the installation. Fugitive particulate matter emissions shall not be visible beyond the property boundary.
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220 applies to the installation, including but not limited to barge shipping. Compliance shall be demonstrated by a qualified observer or COMS.
- *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. The bin vents are in compliance using the AP-42 bin vent emission factor.

AMBIENT AIR QUALITY IMPACT ANALYSIS

An AAQIA was performed for PM₁₀. Modeling was performed in order to ensure that violations of the increment standard were not occurring from individual sources in the region surrounding Noranda Aluminum, Inc. Based upon the model, ADM will not cause or contribute to any violation of the PM₁₀ increment. Additional analysis for secondary impacts shows either no analysis is required or adverse impacts are not likely to occur. For a more thorough discussion of the modeling methodology used and the results, please refer to the attached memorandum entitled "Ambient Air Quality Impact Analysis (AAQIA) for Archer Daniels Midland, Marston Facility –March 17, 2014 Submittal Date". After compliant modeling was conducted, ADM proposed changes to the control devices that further reduced emissions. Higher potential emissions and the compliant modeling were based upon the alternative control scenario (Special Conditions 7, 8, and 9). The normal control scenario (Special Condition 6) was not modeled, but this scenario represents the new installation conditioned potential emissions in Table 2. If the alternative control scenario is used and the throughput limits in Special Condition 2 remain unchanged, then a revised AAQIA is not required.

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 III, PE

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated March 13, 2014, received March 17, 2014, designating Archer Daniels Midland Company 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

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

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

RE: New Source Review Permit - Project Number: 2014-03-031

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 information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you were adversely affected by this permit decision, you may be entitled to an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty 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 received by the administrative hearing commission. Administrative Hearing Commission, Truman State Office Building, P.O. Box 1557, Jefferson City, Missouri 65102 : www.ao.mo.gov/ahc.

If you have any questions regarding this permit, please do not hesitate to contact David Little, at the Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:dll

Enclosures

c: Southeast Regional Office
PAMS File: 2014-03-031
Permit Number: