

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: **052011-011** Project Number: 2011-03-034

Installation Number: 103-0008

Parent Company: ADM Grain Company

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

Installation Name: ADM Grain Company - Novelty Elevator

Installation Address: Hwy 156 and Hwy 15, Novelty, MO 63460

Location Information: Knox County, S18, T60N, R11W

Application for Authority to Construct was made for:

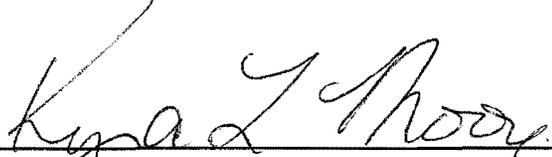
A propane fired grain dryer, ■ million bushel grain bin, grain shipping equipment, and two ■ million bushel grain piles. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

MAY 25 2011

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.	2011-03-034

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 - Novelty Elevator
Knox County, S18, T60N, R11W

1. Emission Limitation
 - A. ADM Grain Company - Novelty Elevator shall emit less than 15.0 tons of particulate matter less than ten microns in diameter (PM₁₀) in any consecutive 12-month period from the project emission units listed in Table 1.
 - B. Attachments A and B or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 1.A.
2. Haul Road Control
ADM Grain Company - Novelty Elevator shall apply water, lignin sulfate, or other controls approved by the Air Pollution Control Program to haul roads whenever conditions exist which would cause visible fugitive emissions to enter the ambient air beyond the property boundary.
3. Grain Storage Piles Equipment Limitation
The grain storage piles shall be filled, emptied, and aerated exclusively with portable equipment.
4. Record Keeping and Reporting Requirements
 - A. ADM Grain Company - Novelty 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 Material Safety Data Sheets (MSDS) for all materials used.
 - B. ADM Grain Company - Novelty 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 shows an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2011-03-034
Installation ID Number: 103-0008
Permit Number:

ADM Grain Company - Novelty Elevator
Hwy 156 and Hwy 15
Novelty, MO 63460

Complete: March 14, 2011

Parent Company:
ADM Grain Company
4666 Faires Parkway
Decatur, IL 62525

Knox County, S18, T60N, R11W

REVIEW SUMMARY

- ADM Grain Company - Novelty Elevator has applied for authority to construct a propane fired grain dryer, ■ million bushel grain bin, grain shipping equipment, and two ■ million bushel grain piles.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are from the combustion of propane.
- None of the New Source Performance Standards (NSPS) apply to the installation. NSPS Subpart DD *Standards of Performance for Grain Elevators* August 1978, does not apply to the installation. The installation does not mill or extract oil from grain. The total storage capacity of the installation including this project is ■ million bushels. EPA Region VII determined the storage piles as temporary storage. Permanent storage capacity of the installation is ■ million bushels.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- Undocumented watering or lignin sulfate is being used to control particulate matter emissions from the grain piles unpaved haul roads.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of particulate matter less than 10 microns in diameter (PM₁₀) are conditioned below de minimis levels. Potential emissions of particulate matter (PM) remain at minor source levels. Other pollutants are proportionately reduced to 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 for PM₁₀ and particulate matter less than 2.5 microns in diameter (PM_{2.5}) was not performed since potential emissions of the application for these pollutants are below de minimis levels. Modeling is not required for PM.
- Emissions testing are not required for the equipment.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Archer Daniels Midland (ADM) operates a grain elevator east of Novelty, Missouri. ADM purchased the elevator in the 1990's from Quincy Soybean. Emission units at the existing installation consist of grain receiving, handling/conveying, storage bin vents, shipping via truck, and unpaved haul roads. No permits have been issued to ADM Grain Company - Novelty Elevator from the Air Pollution Control Program.

PROJECT DESCRIPTION

ADM proposes to install a model U4718 Sukup grain dryer. It is tower design and propane fired. The dryer is rated at █ bushels per hour and █ million British thermal units per hour heat input. ADM also proposes to install associated wet and dry legs for the dryer, a one million bushel grain bin and associated conveyors, a truck scale, grain loadout/shipping equipment, and two █ million bushel grain piles with portable filling and emptying conveyors. The storage piles will be constructed of a prepared lime base, steel panel sidewalls attached to each other and staked to the ground, removable tarp, and removable aeration. They will be filled by a portable conveyor and emptied by a tractor mounted portable conveyor. Minimal scooping by a front-end loader may be necessary. Some grain stored in the pile may be processed through the dryer and elevator legs. EPA Region VII determined the piles qualify as temporary storage. Emissions from the dryer and piles are uncontrolled. Haul roads associated with the piles will be controlled by undocumented watering or lignin sulfate. Conservatively, fifty percent of grain received at the piles was assumed to arrive in straight trucks which are typically smaller and have greater emissions associated with them compared to hopper trucks. This is a conservative assumption because industry-wide more hopper bottom trucks are being used than straight trucks, and the trend towards hopper bottom trucks is growing.

The application does not describe a change in grain receiving rate for the existing or

new legs or bins. Since the receiving rate of the existing equipment is not changing, there is no change in grain handling, bin vent, or grain loadout rate (each on an annual basis) even though a bin and loadout are being constructed. ADM has requested confidentiality for process rates and storage capacities. This is the confidential version of the permit. A public version is available under project 2011-03-034.

Table 1: Project Emission Units

Emission Unit	Description	Maximum Hourly Design Rate (MHDR)– Limited Basis (tons of grain per hour)
EU-03	Sukup U4718 Tower Dryer	
EU-04	Storage Piles – Hopper Bottom Receiving	
EU-04a	Storage Piles – Straight Truck Receiving	
EU-05	Storage Piles – Portable Filling Conveyor	
EU-06	Storage Piles – Grain Shipping by Truck	
EU-07	Storage Piles – Unpaved Receiving Road	¹
EU-07a	Storage Piles – Unpaved Shipping Road	²

¹ Receiving Road MHDR also expressed as \square vehicular miles traveled per hour (VMT/hr).

² Shipping Road MHDR also expressed as \square VMT/hr.

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, Section 1.5 *Liquified Petroleum Gas Combustion* July 2008, and Section 13.2.2 *Unpaved Roads* November 2006.

On an annual basis, all grain loadout equipment is bottlenecked by the receiving rate. Since the receiving rate has not changed, no increase in emissions is associated with the new handling, bin vent, and loadout equipment. The wet/dry legs and conveyors associated with filling and emptying the new dryer and bin are considered part of the grain handling emission factor in AP-42. No increase in emissions is associated with the legs and conveyors. Even though the project will handle corn more than any other grain, the highest density for grains to be handled was used to convert processing rates in bushels to tons, 60 pounds per bushel. Therefore, no special condition is required for throughputs of corn, beans, wheat, or other grains. The dryer PM₁₀ and PM_{2.5} emissions have been adjusted to include condensables from propane combustion.

Any grain movement in the storage piles by a front-end loader is not considered an emission unit for this project because of its minimal proposed usage. Also, the maximum design rate of shipping from the piles is higher not considering a front-end loader. Fifty percent control efficiency was applied to the undocumented watering of unpaved haul roads.

Conditioned potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year), including a voluntary limit on PM₁₀ emissions to avoid refined modeling. PM and PM_{2.5} emissions from the

entire project and combustion emissions from the dryer have been proportionately reduced. The installation's Emissions Inventory Questionnaire has not been completed since 1995. The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (EIQ)	Conditioned Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	N/D	N/D	49.96	N/A
PM ₁₀	15.0	N/D	N/D	< 15.0	N/A
PM _{2.5}	10.0	N/D	N/D	2.29	N/A
SO _x	40.0	N/D	N/D	1.50	N/A
NO _x	40.0	N/D	N/D	12.98	N/A
VOC	40.0	N/D	N/D	0.49	N/A
CO	100.0	N/D	N/D	7.49	N/A
HAPs	10.0/25.0	N/D	N/D	0.17	N/A

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 PM₁₀ are conditioned below de minimis levels. Potential emissions of PM remain at minor source levels. Other pollutants are proportionately reduced to de minimis levels.

APPLICABLE REQUIREMENTS

ADM Grain Company - Novelty 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. 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. The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of a hardcopy Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions. Alternatively, submission of an electronic copy via MoEIS is required May 1.
- *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

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

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated March 8, 2011, received March 14, 2011, designating ADM Grain Company as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Northeast Regional Office Site Survey, dated March 25, 2011.

Ms. Miranda Gerard
Environmental Specialist
ADM Grain Company - Novelty Elevator
4666 Faires Parkway
Decatur, IL 62525

RE: New Source Review Permit - Project Number: 2011-03-034

Dear Ms. Gerard:

Enclosed with this letter is your permit to construct. Please study it carefully. 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 David Little, at the Department's 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

Kendall B. Hale
New Source Review Unit Chief

KBH:dll

Enclosures

c: Northeast Regional Office
PAMS File: 2011-03-034

Permit Number: