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: 0 5 2 0 1 1 - 0 1 1  
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, X million bushel grain bin, grain shipping equipment, and two X 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

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 source(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.”_

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 (PM$_{10}$) 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.
ADM Grain Company - Novelty Elevator Complete: March 14, 2011
Hwy 156 and Hwy 15
Novelty, MO 63460

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 PM$_{10}$ 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 [Insert bushels per hour] and [Insert 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 [Insert 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 conveyer and emptied by a tractor mounted portable conveyer. 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

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

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

EMISSIONS/CONTROLS EVALUATION


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 PM2.5 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 PM2.5 emissions from the
entire project and combustion emissions from the dryer have been proportionately reduced. The installation’s Emissions Inventory Questionaire has not been completed since 1995. The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

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<tr>
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<tbody>
<tr>
<td>PM</td>
<td>25.0</td>
<td>N/D</td>
<td>N/D</td>
<td>49.96</td>
<td>N/A</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>15.0</td>
<td>N/D</td>
<td>N/D</td>
<td>&lt; 15.0</td>
<td>N/A</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>10.0</td>
<td>N/D</td>
<td>N/D</td>
<td>2.29</td>
<td>N/A</td>
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<tr>
<td>SOx</td>
<td>40.0</td>
<td>N/D</td>
<td>N/D</td>
<td>1.50</td>
<td>N/A</td>
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<tr>
<td>NOx</td>
<td>40.0</td>
<td>N/D</td>
<td>N/D</td>
<td>12.98</td>
<td>N/A</td>
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<tr>
<td>VOC</td>
<td>40.0</td>
<td>N/D</td>
<td>N/D</td>
<td>0.49</td>
<td>N/A</td>
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<tr>
<td>CO</td>
<td>100.0</td>
<td>N/D</td>
<td>N/D</td>
<td>7.49</td>
<td>N/A</td>
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<tr>
<td>HAPs</td>
<td>10.0/25.0</td>
<td>N/D</td>
<td>N/D</td>
<td>0.17</td>
<td>N/A</td>
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</table>

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$_{10}$ 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 Questionaire (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  Date
Environmental Engineer

**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.


• Northeast Regional Office Site Survey, dated March 25, 2011.
Attachment A: Project PM$_{10}$ Compliance Worksheet

ADM Grain Company - Novelty Elevator  
Knox County, S18, T60N, R11W  
Project Number: 2011-03-034  
Installation ID Number: 103-0008  
Permit Number: ________

This sheet covers the period from _______ to _______. (Copy this sheet as needed.)

<table>
<thead>
<tr>
<th>(a) Date (Month, Year)</th>
<th>(b) Throughput (tons of grain dried)</th>
<th>(c) Dryer Composite Emission Factor (lb PM$_{10}$ / ton grain)</th>
<th>(d) Throughput (tons of grain received into storage piles)</th>
<th>(e) Storage Piles Composite Emission Factor (lb PM$_{10}$ / ton grain)</th>
<th>(f) Monthly Emissions (lbs PM$_{10}$)</th>
<th>(g) Current Monthly Emissions (tons PM$_{10}$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>example 12,000 0.0569</td>
<td>27,000 0.0984</td>
<td>3,339.6 1.67</td>
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Instructions:
(a) Record the current year and month.
(b) Record the total tons of grain dried this month. Convert bushels to pounds using 60 pounds per bushel.
(d) Record the total tons of grain received into the storage piles this month. Convert bushels to pounds using 60 pounds per bushel.
(f) Multiply the respective throughput by the emission factor \([b] \times (c) + (d) \times (e) = (f)]\).
(g) Divide the monthly emissions in pounds by 2,000 \([f] / 2,000 = (g)]\). See Attachment B for further instructions.

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### Attachment B: Project PM$_{10}$ Compliance Worksheet

ADM Grain Company - Novelty Elevator  
Knox County, S18, T60N, R11W  
Project Number: 2011-03-034  
Installation ID Number: 103-0008  
Permit Number: _______

This sheet covers the period from ________ to ________. (Copy this sheet as needed.)

| (a) Current month’s PM$_{10}$ emissions (tons) |  |
| (b) 12-month total (d) from previous month’s Attachment B (tons) |  |
| (c) This month’s PM$_{10}$ emissions (a) from previous 12-months Attachment B (tons) |  |
| (d) Current 12-month total PM$_{10}$ emissions (tons) [(a) + (b) – (c) = (d)] |  |

#### Instructions:
(a) Record the current month’s PM$_{10}$ emissions (tons) from Attachment A.
(b) Record the 12-month total (d) from the previous month’s Attachment B.
(c) Record the one month PM$_{10}$ emissions (a) from the previous 12-month Attachment B. For example, the monthly emissions from one year ago this month.
(d) Calculate the new 12-month PM$_{10}$ emissions total. A 12-month PM$_{10}$ emissions total of less than 15.0 tons indicates compliance.
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: