



## 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: **082013-006** Project Number: 2013-05-010  
Installation Number: 117-0031

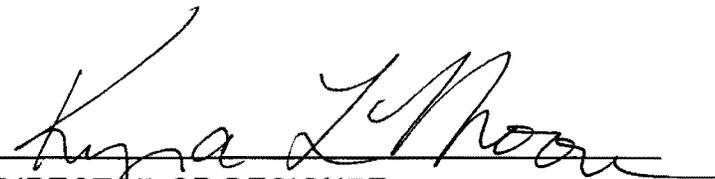
Parent Company: Chula Farmers Cooperative  
Parent Company Address: 215 Manning Street, Chula, MO 64635  
Installation Name: Chula Farmers Cooperative  
Installation Address: 215 Manning Street, Chula, MO 64635  
Location Information: Livingston County, S22, T56N, R23W

Application for Authority to Construct was made for:  
Replacement of an existing grain dryer with a higher efficiency grain dryer, along with the replacement of associated grain bins and overhead compartment tank. The dump pit and rail loadout spout will also be relocated. 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.

AUG 12 2013

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.

Page No.	3
Permit No.	
Project No.	2013-05-010

### 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."*

Chula Farmers Cooperative  
Livingston County, S22, T56N, R23W

1. **Superseding Condition**  
The conditions of this permit supersede Special Conditions 2. found in the previously issued construction permit 082009-004 issued by the Air Pollution Control Program.
2. **PM<sub>10</sub> Emission Limitation**
  - A. Chula Farmers Cooperative shall emit less than 15.0 tons of PM<sub>10</sub> in any consecutive 12-month period from the entire installation (see Table 2).
  - B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 2.A.
3. **Record Keeping and Reporting Requirements**
  - A. Chula Farmers Cooperative shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include MSDS for all materials used
  - B. Chula Farmers Cooperative shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 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 (6) REVIEW

Project Number: 2013-05-010  
Installation ID Number: 117-0031  
Permit Number:

Chula Farmers Cooperative  
215 Manning Street  
Chula, MO 64635

Complete: May 3, 2013

Parent Company:  
Chula Farmers Cooperative  
215 Manning Street  
Chula, MO 64635

Livingston County, S22, T56N, R23W

REVIEW SUMMARY

- Chula Farmers Cooperative has applied for authority to replace the existing grain dryer with a higher efficiency grain dryer, along with the replacement of associated grain bins and overhead compartment tanks. The dump pit and rail loadout spout will also be relocated.
- HAP emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- No air pollution control equipment is being used in association with the new equipment.
- 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<sub>10</sub> are conditioned below the de minimis limit. Potential of PM remains at minor source levels.
- This installation is located in Livingston 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 are not required for the equipment.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

Chula Farmers Cooperative is an existing grain elevator and fertilizer blending facility. It has a PM<sub>10</sub> emission limit of 15 tons per year for the entire facility.

The following New Source Review permits have been issued to Chula Farmers Cooperative from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0497-028	Four grain bins with a total capacity of 94,400 bushels and a portable auger
092001-011	One grain bin and leg
112003-009	One grain receiving pit
082009-004	One 7,500 bu/hr receiving pit, one 9,500 bu/hr leg, and two 105,000 bushel bins

In 2009, there have been three notices of violation that have issued to Chula Farmers Cooperative, each for failure to obtain a construction permit before installing equipment. Another NOV was issued in 2012 (NER2012092809443504) for failure to apply mineral oil for dust control as stated in Permit 082009-004, Special Condition 3. This recent NOV does not apply to this application.

Table 2: Installation Emission Source List

Emission Point	Description	Maximum Hourly Design Rate (MHDR)	MHDR Units
EP-01	Combined receiving	517.5	tph
EP-02	Internal handling*	585 (bottlenecked to 517.5)	tph
EP-03	Storage bin vents	585 (bottlenecked to 517.5)	tph
EP-04	Shipping - semi	120	tph
EP-05	Haul road #1 – receiving straight truck	4.36	Vehicle Miles Traveled
EP-06	Haul road #2 – receiving hopper semi	1.31	Vehicle Miles Traveled
EP-07	Haul road #3 – shipping semi	0.30	Vehicle Miles Traveled
EP-08	Fertilizer receiving	19	tph
EP-09	Fertilizer shipping	19	tph
EP-10	Fertilizer blending	19	tph
EP-11	Fertilizer leg	19	tph
EP-12	Grain leg feeding the grain dryer*	72 (bottlenecked to 43.2)	tph
EP-14	Grain dryer*	23.825	mmBtu

\* EP-12 and EP-14 are existing pieces of equipment that are being replaced in this project but were not listed in the previous permit 082009-004. EP-12 is listed in the application and also in the EIQ. This

emission point should be removed because its emissions are already counted in the EP-02 as Internal handling. This project will also replace various tanks and overhead bins associated with EP-02.

## PROJECT DESCRIPTION

The Chula Farmers Cooperative proposes the following changes to their facility:

- Removal of existing grain dryer (EP-14) and replacing it with a higher efficiency grain dryer.
- Removal of the 2,500 bushel/hr leg (EP-12) that feeds the grain dryer and replacing it with a new 2,500 bushel/hr leg for the grain dryer. This leg is bottlenecked by the grain dryer which has a MHDR of 2,400 bu/hr. (The emissions from this leg are already counted in EP-02 and should not have its own emission point [EP-12].)
- Moving the dump pit five feet from its current position.
- Removal of two 8,000 bushel bins (EP-3) and replacing them with two 28,000 bushel bins.
- Removal of three 2,200 bushel overhead tanks (EP-2) and replacing them with one 3,000 bushel tank.

Although there will be a net increase of storage capacity in the bins (EP-3), the emissions for the bin vents will not increase due to the fact the MHDR of the internal handling is not increasing.

The leg (EP-12) capacity to the grain dryer is not increasing and will be a like-kind exchange. However, the grain dryer is equipped with a four inch supply line for the natural gas that would allow a MHDR of 2,400 bushels per hour according to the manufacturer's specification. The natural gas line that supplies the grain dryer will be only two inches in diameter, thus restricting the flow of natural gas. (The entire town of Chula has only a two inch supply line.) For this project, the emissions for the grain dryer were calculated at the dryer's maximum capacity. This would alleviate the need to amend this permit if the supply lines would be replaced with a larger diameter.

## EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 9.9.1 *Grain Elevators and Processes*, May 2003, and from Section 1.4 Natural Gas Combustion, July 1998. Greenhouse gases (GHG) emission factors were obtained from 40 CFR 98, Mandatory Greenhouse Gas Reporting, October 30, 2009, Tables C-1 and C-2; 100 year Global Warming Potentials, Table A-1.

The following table provides an emissions summary for this project. Existing potential emissions were taken from Permit 082009-004. Existing actual emissions were incorrectly reported in the installation's 2012 EIQ. The last full EIQ was done in 2002 and a reduced EIQ has been submitted the following years since that date. Permits 112003-009 and 082009-004 have been issued since 2002, but the equipment changes/throughputs are not reflected on their EIQ. A full EIQ must be submitted after each construction permit so that the equipment list and throughputs are updated.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year).

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	<sup>1</sup> Existing Potential Emissions	<sup>2</sup> Existing Actual Emissions (2012 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	43.24	0.0	69.38	42.66
PM <sub>10</sub>	15.0	<15.0	0.0	18.93	<15.0
PM <sub>2.5</sub>	10.0	N/D	0.0	3.55	N/D
SO <sub>x</sub>	40.0	N/D	0.0	0.06	0.05
NO <sub>x</sub>	40.0	N/D	0.0	10.23	8.56
VOC	40.0	N/D	0.0	0.56	0.47
CO	100.0	N/D	0.0	8.59	7.19
GHG (CO <sub>2</sub> e)	75,000 / 100,000	N/D	0.0	12,354.77	10,337.02
GHG (mass)	0.0 / 100.0 / 250.0	N/D	0.0	12,277.18	10,272.10
HAPs	10.0/25.0	N/D	0.0	0.19	0.16

N/D = Not Determined

<sup>1</sup>Existing Potential Emissions as stated in Permit 082009-004.

<sup>2</sup>Last full EIQ was in 2002, reduced EIQ the following years.

### 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<sub>10</sub> are conditioned below de minimis levels for the entire facility, and the indirectly conditioned PM remains above de minimis level, but below major source levels.

### APPLICABLE REQUIREMENTS

Chula Farmers Cooperative shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065, does not apply. Potential emissions of PM<sub>10</sub> are conditioned below de minimis levels for the entire facility
- *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. The bin vents are subject and comply.

#### 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.

---

Kathy Kolb  
New Source Review Unit

---

Date

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 2, 2013, received May 3, 2013, designating Chula Farmers Cooperative as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

## Attachment A – PM<sub>10</sub> Compliance Worksheet

Chula Farmers' Cooperative  
 Livingston County, S22, T56N, R23W  
 Project Number: 2013-05-010  
 Installation ID Number: 117-0031  
 Permit Number: \_\_\_\_\_

This sheet covers the period from \_\_\_\_\_ to \_\_\_\_\_.  
 (month, year) (month, year)

<b>Date (month/year)</b>	<i>example</i>	<i>example</i>						
<b>Grain Received - Hopper Semi (tons)</b>	36,000	50,000						
<b>Emission Factor – Hopper Semi</b>	0.01989	0.01989	0.01989	0.01989	0.01989	0.01989	0.01989	0.01989
<b><sup>1</sup>Emissions - Grain by Hopper Semi</b>	716.04	994.50						
<b>Number of Semis Unloading</b>	1,200	1,650						
<b>Emission Factor – Semi Haul Road</b>	0.15083	0.15083	0.15083	0.15083	0.15083	0.15083	0.15083	0.15083
<b><sup>2</sup>Emissions - Semi Haul Road</b>	180.97	248.87						
<b>Grain Received - Straight Truck (tons)</b>	10,800	10,000						
<b>Emission Factor – Straight Truck</b>	0.07109	0.07109	0.07109	0.07109	0.07109	0.07109	0.07109	0.07109
<b><sup>1</sup>Emissions - Grain by Straight Truck</b>	767.77	710.90						
<b>Number of Straight Trucks Unloading</b>	1,200	1,100						
<b>Emission Factor – Straight Truck</b>	0.09524	0.09524	0.09524	0.09524	0.09524	0.09524	0.09524	0.09524
<b><sup>2</sup>Emissions - Straight Truck Haul Road</b>	114.29	104.76						
<b>Grain Shipped (tons)</b>	20,000	30,000						
<b>Emission Factor - Shipping</b>	0.01373	0.01373	0.01373	0.01373	0.01373	0.01373	0.01373	0.01373
<b><sup>1</sup>Emissions - Shipping</b>	274.60	411.90						
<b>Fertilizer Processed (tons)</b>	1,000	0						
<b>Emission Factor – Fertilizer</b>	0.080	0.080	0.080	0.080	0.080	0.080	0.080	0.080
<b><sup>3</sup>Emissions - Fertilizer</b>	80.00	0						
<b>Grain Dried</b>	5,000	8,000						
<b>Emission Factor-Grain Dryer</b>	0.0568	0.0568	0.0568	0.0568	0.0568	0.0568	0.0568	0.0568
<b><sup>4</sup>Emissions-Grain Dryer</b>	284	454.4						
<b><sup>5</sup>Monthly Installation Emissions</b>	2,417.67	2,925.33						
<b><sup>6</sup>Monthly Installation Emissions (tons)</b>	1.21	1.46						
<b><sup>7</sup>12-month PM<sub>10</sub> Emissions (tons)</b>	1.21	2.67						

Note 1: Multiply Grain Received - Hopper Semi, Grain Received - Straight Truck, and Grain Shipped by their respective emission factors. Record the values in pounds. Emission factor units are pounds of PM<sub>10</sub> per ton of grain received.

Note 2: Multiply the Number of Semis Unloading and Straight Trucks Unloading by their respective emission factors. Record the values in pounds. Emission factor units are pounds of PM<sub>10</sub> per semi or truck.

Note 3: Multiply Fertilizer Processed this month by the appropriate emission factor. Record the value in pounds. Emission factor units are pounds of PM<sub>10</sub> per ton of fertilizer.

Note 4: Multiply Grain Dried this month by the appropriate emission factor. Record the value in pounds. Emission factor units are pounds of PM<sub>10</sub> per ton of Grain Dried.

Note 5: Sum the six Monthly Emissions cells. Record the value in pounds.

Note 6: Divide the Monthly Installation Emissions in pounds by 2,000 to yield Monthly Installation Emissions in tons.

Note 7: Sum the previous 12 Monthly Installation Emissions in tons. A total of less than 15.0 tons in any consecutive 12 month period indicates compliance.

Copy this compliance worksheet as needed.

## APPENDIX A

### Abbreviations and Acronyms

<b>%</b> .....	percent	<b>m/s</b> .....	meters per second
<b>°F</b> .....	degrees Fahrenheit	<b>Mgal</b> .....	1,000 gallons
<b>acfm</b> .....	actual cubic feet per minute	<b>MW</b> .....	megawatt
<b>BACT</b> .....	Best Available Control Technology	<b>MHDR</b> .....	maximum hourly design rate
<b>BMPs</b> .....	Best Management Practices	<b>MMBtu</b> ....	Million British thermal units
<b>Btu</b> .....	British thermal unit	<b>MMCF</b> .....	million cubic feet
<b>CAM</b> .....	Compliance Assurance Monitoring	<b>MSDS</b> .....	Material Safety Data Sheet
<b>CAS</b> .....	Chemical Abstracts Service	<b>NAAQS</b> ...	National Ambient Air Quality Standards
<b>CEMS</b> .....	Continuous Emission Monitor System	<b>NESHAPs</b>	
<b>CFR</b> .....	Code of Federal Regulations	.....	National Emissions Standards for Hazardous Air Pollutants
<b>CO</b> .....	carbon monoxide	<b>NO<sub>x</sub></b> .....	nitrogen oxides
<b>CO<sub>2</sub></b> .....	carbon dioxide	<b>NSPS</b> .....	New Source Performance Standards
<b>CO<sub>2e</sub></b> .....	carbon dioxide equivalent	<b>NSR</b> .....	New Source Review
<b>COMS</b> .....	Continuous Opacity Monitoring System	<b>PM</b> .....	particulate matter
<b>CSR</b> .....	Code of State Regulations	<b>PM<sub>2.5</sub></b> .....	particulate matter less than 2.5 microns in aerodynamic diameter
<b>dscf</b> .....	dry standard cubic feet	<b>PM<sub>10</sub></b> .....	particulate matter less than 10 microns in aerodynamic diameter
<b>EQ</b> .....	Emission Inventory Questionnaire	<b>ppm</b> .....	parts per million
<b>EP</b> .....	Emission Point	<b>PSD</b> .....	Prevention of Significant Deterioration
<b>EPA</b> .....	Environmental Protection Agency	<b>PTE</b> .....	potential to emit
<b>EU</b> .....	Emission Unit	<b>RACT</b> .....	Reasonable Available Control Technology
<b>fps</b> .....	feet per second	<b>RAL</b> .....	Risk Assessment Level
<b>ft</b> .....	feet	<b>SCC</b> .....	Source Classification Code
<b>GACT</b> .....	Generally Available Control Technology	<b>scfm</b> .....	standard cubic feet per minute
<b>GHG</b> .....	Greenhouse Gas	<b>SIC</b> .....	Standard Industrial Classification
<b>gpm</b> .....	gallons per minute	<b>SIP</b> .....	State Implementation Plan
<b>gr</b> .....	grains	<b>SMAL</b> .....	Screening Model Action Levels
<b>GWP</b> .....	Global Warming Potential	<b>SO<sub>x</sub></b> .....	sulfur oxides
<b>HAP</b> .....	Hazardous Air Pollutant	<b>SO<sub>2</sub></b> .....	sulfur dioxide
<b>hr</b> .....	hour	<b>tph</b> .....	tons per hour
<b>hp</b> .....	horsepower	<b>tpy</b> .....	tons per year
<b>lb</b> .....	pound	<b>VMT</b> .....	vehicle miles traveled
<b>lbs/hr</b> .....	pounds per hour	<b>VOC</b> .....	Volatile Organic Compound
<b>MACT</b> .....	Maximum Achievable Control Technology		
<b>µg/m<sup>3</sup></b> .....	micrograms per cubic meter		

Mr. Dan Murphy  
Manager  
Chula Farmers Cooperative  
P.O. Box 10  
Chula, MO 64635

RE: New Source Review Permit - Project Number: 2013-05-010

Dear Mr. Murphy:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Kathy Kolb, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp  
New Source Review Unit Chief

SH:kk1

Enclosures

c: Northeast Regional Office  
PAMS File: 2013-05-010

Permit Number: