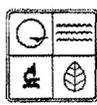


PERMIT BOOK

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: 122011-008

Project Number: 2011-10-048  
Installation Number: 111-0036

Parent Company: Ursa Farmers Cooperative

Parent Company Address: 202 West Maple Street, Ursa, IL 62376

Installation Name: Ursa Farmers Cooperative-Canton

Installation Address: 900 South 4th Street, Canton, MO 63535

Location Information: Lewis County, S35, T62N, R6W

Application for Authority to Construct was made for:  
Ursa Farmers Cooperative (UFC) plans to erect an agriculture elevator to purchase grain, primarily corn and beans, from farmers in northeast Missouri and load barges on the Mississippi River. 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.

DEC - 7 2011

EFFECTIVE DATE

*Nancy Vit for Kyra L. Moore*

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 upon permit approval 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 upon permit approval 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.	2011-10-048

**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."*

Ursa Farmers Cooperative-Canton  
Lewis County, S35, T62N,R6W

1. Emission Limitation
  - A. Ursa Farmers Cooperative-Canton shall emit less than 15.0 tons of particulate matter less than ten microns in aerodynamic diameter (PM<sub>10</sub>) in any consecutive 12-month period from the emission points in the table below.

Table 1: Emission Units

Emission Unit	Description	Maximum Hourly Design Rate (tons/hour)	Bottlenecked Design Rate (tons/hour)
EP-01	Straight truck receiving	1,800	675
EP-02	Hopper truck receiving	1,800	675
EP-03	Column Dryer	141	141
EP-04	Head house and grain handling	1,800	1350
EP-05	Storage Bins	1,800	1350
EP-06	Grain Cleaning	450	450
EP-07	Shipping, Truck	450	450
EP-08	Shipping, Barge	900	900
EP-09	Haul Roads	Varies per segment	

- 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 1.A.

Page No.	4
Permit No.	
Project No.	2011-10-048

## SPECIAL CONDITIONS:

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

### 2. Control Device Requirement-Baghouse

- A. Ursa Farmers Cooperative-Canton shall control emissions from three (3) Truck Receiving Pits (EP-01 Straight truck, EP-02 Hopper Truck), two (2) elevators (EP-04) to the headhouse, elevator Wet Leg (EP-04) to the Brock Grain Dryer, Dry Leg elevator (EP-4) to the distributor, and River Belt Conveyor (EP-4) using the baghouse as specified in the permit application.
- B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources' employees may easily observe them.
- C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
- D. Ursa Farmers Cooperative-Canton shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. If any emission unit listed in Table 1 operates during a day (24-hour period), then a pressure drop reading must be recorded regardless of the length of time operating. If during the 24-hour period none of the emission units in Table 1 operates, then Ursa Farmers Cooperative-Canton can simply record no operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
- E. Ursa Farmers Cooperative shall maintain an operating and maintenance log for the baghouses which shall include the following:
  - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
  - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

### 3. Control Device Requirement-Pit Baffles

Ursa Farmers Cooperative shall install and operate one way gravity flow baffles on each of the three (3) receiving pits (EP-01, EP-02). The baffles shall be

Page No.	5
Permit No.	
Project No.	2011-10-048

#### SPECIAL CONDITIONS:

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

operated and maintained in accordance with the manufacturer's specification.

4. Application of Chemical Dust Suppressants
  - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
  - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources personnel upon request.
5. Record Keeping and Reporting Requirements
  - A. Ursa Farmers Cooperative-Canton shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
  - B. Ursa Farmers Cooperative-Canton shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

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

Project Number: 2011-10-048  
Installation ID Number: 111-0036  
Permit Number:

Ursa Farmers Cooperative-Canton  
900 South 4th Street  
Canton, MI 63535

Complete: August, 2012

Parent Company:  
Ursa Farmers Cooperative-Canton  
900 South 4th Street  
Canton, MI 63535

Lewis County, S35, T62N,R6W

REVIEW SUMMARY

- Ursa Farmers Cooperative-Canton has applied for authority to erect an agriculture elevator to purchase grain, primarily corn and beans, from farmers in Northeast Missouri and load barges on the Mississippi River. The cooperative currently has over 200 members in Northeast Missouri.
- Hazardous Air Pollutant (HAP) emissions are expected from the combustion of natural gas from the column dryer.
- None of the New Source Performance Standards (NSPS) apply to the installation. 40 CFR Part 60 Subpart DD, *Standards of Performance for Grain Elevators* does not apply.
- 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.
- A baghouse is being used to control the Particulate Matter (PM), Particulate Matter less than 10 microns in aerodynamic diameter (PM<sub>10</sub>), and Particulate Matter less than 2.5 microns aerodynamic diameter (PM<sub>2.5</sub>) emissions from the equipment in this permit.
- 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 are above de minimis levels, but below major source levels. Potential emissions of PM<sub>10</sub> are conditioned below de minimis levels.
- This installation is located in Lewis 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 for PM<sub>10</sub> since potential emissions are conditioned below the de minimis level. Modeling was not performed for PM<sub>2.5</sub> since potential emissions are indirectly conditioned below the de minimis level. Modeling is not required for PM.
- Emissions testing is not required for the equipment.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

### INSTALLATION/PROJECT DESCRIPTION

Ursa Farmers Cooperative (UFC) plans to erect an agriculture elevator to purchase grain, primarily corn and beans, from farmers in Northeast Missouri and load barges on the Mississippi River. The cooperative currently has over 200 members in Northeast Missouri who presently market their products by taking them by truck across a ferry in Canton, MO to a UFC elevator in Meyer, Illinois.

No permits have been issued to Ursa Farmers Cooperative-Canton from the Air Pollution Control Program.

An unpaved road will be built that takes trucks from Route B to unload the grain into the elevator pits. Grain will be stored, dried or directly loaded onto barges. Loaded grain (hopper and straight) trucks will enter the property and travel to one of three truck receiving pits for unloading. One pit will be dedicated to unloading to the barge and the other two will load to the elevator. Each pit will unload directly into a separate enclosed drag elevator leg, which will carry the grain to the top of the facility or directly to a barge. Each of the legs will discharge into separate enclosed drag conveyors on top of the elevator bins. These upper drags will carry and discharge grain into the grain bins for storage.

The grain dryer will be fed by an enclosed bucket elevator leg (wet leg). This leg will be fed by an enclosed drag conveyor, which will be fed through gates on the side of two storage bins. The grain goes through the tower dryer and then discharges into an enclosed drag conveyor below the dryer, which feeds another bucket elevator leg (dry leg). The dry leg will transport the grain to the top of the elevator bins and into an enclosed drag conveyor. This conveyor will carry grain into the grain bins for storage. All inlets, outlets, transitions and spouting will be enclosed with flanged and bolted connections. The grain dryer will be a Brock BCT 4700, which is a 4,700 bushel per hour grain dryer fired by natural gas.

Grain shipping by barge (estimated minimum 90% of grain to be shipped by barge) will

start where grain stored in bins or grain directly from trucks dump pits will discharge into an enclosed belt conveyor. This will carry the grain to a barge loading spout.

UFC may occasionally load trucks at this facility as well (anticipated less than 10% of grain to be loaded onto trucks). This will be accomplished via a separate loadout bin.

The throughput of the proposed grain facility is limited by the shipping capacity. The MHDR (Maximum Hourly Design Rate) for the installation was the MHDR for the shipping; truck shipping 450 tons/hr and barge shipping 900 tons/hr totaling to 1350 tons/hr.

This is a new installation, so the Potential To Emit (PTE) of the project equals the PTE of the installation.

### 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 & Processes* May 2003, and Section 13.2.1 *Unpaved Roads*, November, 2006. The emission factors used in the analysis of the column dryer were obtained from AP-42, Section 1.4, *Natural Gas Combustion* (July, 1998).

- Three truck receiving pits (EP-1, EP-2) will have proposed pit grate baffles and baghouse intake inside the pit. This design was assigned 80 percent capture efficiency and 99 percent control efficiency for an overall removal efficiency of 79.2 percent for PM, PM<sub>10</sub>, and PM<sub>2.5</sub>.
- Column dryer (EP-3) has no controls. Natural gas fuels the burner for the dryer.
- All conveyors, legs transitions, inlets, outlets, and spouts (EP-4 Grain handling) will be totally enclosed with flanged and bolted connections and routed to the baghouse. These units were assigned 100 percent capture efficiency and 99 percent control efficiency.
- Storage bin vent (EP-5) emissions were evaluated without any control devices.
- Grain cleaning (EP-6) is an enclosed system with no negative pressure; it was assigned 95 percent capture efficiency and 100 percent control efficiency.
- Truck shipping (EP-7) and barge shipping (EP-8) have no controls.
- Unpaved haul roads will use chemical suppressants as stated in the Special Conditions and was assigned 90% efficiency.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	De Minimis	Unconditioned PTE of the Project	Conditioned PTE of the Installation
PM	25.0	766.23	52.17
PM <sub>10</sub>	15.0	220.30	<15.0
PM <sub>2.5</sub>	10.0	38.75	2.64
SO <sub>x</sub>	40.0	0.12	0.05
NO <sub>x</sub>	40.0	20.53	8.76
VOC	40.0	1.13	0.48
CO	100.0	17.24	7.36
Combined HAPs	25.0	0.39	0.17

### 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 installation. Potential emissions of PM are above de minimis levels, but below major source levels.

### APPLICABLE REQUIREMENTS

Ursa Farmers Cooperative-Canton 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
- *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

## 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  
Environmental Engineer

---

Date

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated October 24, 2011, received October 24, 2011, designating Ursa Farmers Cooperative-Canton 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, November 8, 2011 .



Mr. Gerald Jenkins  
General Manager  
Ursa Farmers Cooperative-Canton  
202 West Maple Street  
Ursa, IL 62376

RE: New Source Review Permit - Project Number: 2011-10-048

Dear Mr. Jenkins:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application 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 Kolb, Kathy, 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**

Susan Heckenkamp  
New Source Review Unit Chief

SH:kk1

Enclosures

c: Northeast Regional Office  
PAMS File: 2011-10-048

Permit Number: