

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: 122015-010

Project Number: 2015-09-028  
Installation Number: 147-0049

Parent Company: Green Plains, Inc.

Parent Company Address: 450 Regency Parkway, Suite 400, Omaha, NE 68114

Installation Name: Green Plains Grain Company, LLC

Installation Address: 200 North Railroad Street, Hopkins, MO 64461

Location Information: Nodaway County (S1, T66N, R35W)

Application for Authority to Construct was made for:

Increasing the grain receiving rate of the south Hopkins grain facility from 7,500 bushels per hour to 15,000 bushels per hour. 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.

*Susan Heckenkamp*

Prepared by Ryan Schott  
New Source Review Unit

*Kyra L Moore*

Director or Designee  
Department of Natural Resources

DEC 22 2015

Effective Date

## 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 startup 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 startup 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.

**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."*

Green Plains Grain Company, LLC  
Nodaway County (S1, T66N, R35W)

1. PM<sub>10</sub> Emission Limitation
  - A. Green Plains Grain Company, LLC shall emit less than 15.0 tons of PM<sub>10</sub> in any consecutive 12-month period from the emission points listed below:
    - 1) EP-01 Grain Receiving (north and south)
    - 2) EP-02 Internal Grain Handling (north and south)
    - 3) EP-03 Storage Bin Vents (north and south)
    - 4) EP-04 Grain Storage Pile (south)
    - 5) EP-05 Grain Shipping (north and south)
    - 6) HR-01 Haul Road 1 (south)
  - B. Attachment A or an equivalent form, such as an electronic form approved by the Air Pollution Control Program, shall be used to demonstrate compliance with Special Condition 1.A.
2. Record Keeping and Reporting Requirements
  - A. Green Plains Grain Company, LLC 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. Green Plains Grain Company, LLC 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: 2015-09-028  
Installation ID Number: 147-0049  
Permit Number:

Installation Address:

Green Plains Grain Company, LLC  
200 North Railroad Street  
Hopkins, MO 64461  
Nodaway County (S1, T66N, R35W)

Parent Company:

Green Plains, Inc.  
450 Regency Parkway, Suite 400  
Omaha, NE 68114

REVIEW SUMMARY

- Green Plains Grain Company, LLC has applied for authority to increase the grain receiving rate of the south Hopkins grain facility from 7,500 bushels per hour to 15,000 bushels per hour.
- The application was deemed complete on October 7, 2015.
- HAP emissions are not expected from the proposed equipment.
- None of the NSPS, NESHAPs, or currently promulgated MACT regulations apply to the installation.
- No air pollution control equipment is being used 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 are above the de minimis level but below the major source level, and all other pollutants are conditioned below de minimis levels.
- This installation is located in Nodaway 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.
- Emissions testing is not required for the equipment.
- Submittal of an application to amend your Basic Operating Permit is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

## INSTALLATION DESCRIPTION

Green Plains Grain Company, LLC operates a grain receiving and handling facility in Hopkins, Missouri (previously known as Horizon Grain of Hopkins). Currently, Green Plains Grain Company, LLC has equipment at two locations in Hopkins – a north and a south facility. The north facility has two grain receiving pits, two grain elevators, three storage bins, two grain silos, a grain dryer, and a flat storage building. The south facility has one grain receiving pit, one grain elevator, two storage bins, three surge bins, and a grain storage pile. The entire facility (both locations) has a total grain storage capacity (permanent and temporary) of approximately 2,987,000 bushels. Permanent grain storage capacity remains below 2,500,000 bushels. The facility has a basic operating permit (project 2011-09-041) which expires on September 14, 2016.

No construction permits have previously been issued to Green Plains Grain Company, LLC from the Air Pollution Control Program.

## PROJECT DESCRIPTION

Green Plains Grain Company, LLC plans to increase the height of the truck receiving leg and increase the grain receiving rate of the south Hopkins grain facility from 7,500 bushels per hour to 15,000 bushels per hour. This change will increase the overall maximum design rate of the south facility to 15,000 bushels per hour (420 tons per hour) but will not affect the north facility.

## 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, Section 9.9.1, *Grain Elevators & Processes* (May 2003). It was assumed that all grain processed through the facility weighs 56 pounds per bushel. Haul road emissions were calculated using the predictive equation found in AP-42 Section 13.2.2 *Unpaved Roads* (November 2006).

Potential emissions were calculated for the entire facility (north and south locations) because the calculated grain throughputs are representative of the entire facility's total receiving and handling capabilities, not just the south location's. However, equipment at the north location is not actually affected by the change in maximum design rate of the south location, so emissions from non-integral equipment at the north location, such as the grain dryer and the flat storage building, were not included in the calculations.

The following table provides an emissions summary for this project. Because this facility has never previously received a construction permit from the Air Pollution Control Program, existing potential emissions are unknown. Existing actual emissions were taken from the installation's 2014 EIQ. Potential emissions of the application represent the potential of the modified equipment, assuming the maximum throughput of grain is processed per year. Conditioned potential emissions take into account a voluntary PM<sub>10</sub> de minimis limit.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2014 EIQ)	Potential Emissions of the Application	Conditioned Potential Emissions of the Application
PM	25.0	N/D	N/D	757.44	40.72
PM <sub>10</sub>	15.0	N/D	4.34	279.02	<15.0
PM <sub>2.5</sub>	10.0	N/D	1.01	45.91	2.47
SO <sub>x</sub>	40.0	N/D	N/D	N/A	N/D
NO <sub>x</sub>	40.0	N/D	N/D	N/A	N/D
VOC	40.0	N/D	N/D	N/A	N/D
CO	100.0	N/D	N/D	N/A	N/D
Total HAPs	25.0	N/D	N/D	N/A	N/D

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 are above the de minimis level but below the major source level, and all other pollutants are conditioned below de minimis levels.

### APPLICABLE REQUIREMENTS

Green Plains Grain Company, LLC 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
- *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*, it is recommended that this permit be granted with special conditions.

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated September 10, 2015, received September 14, 2015, designating Green Plains, Inc. as the owner and operator of the installation.



## 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>	National Emissions Standards for Hazardous Air Pollutants
<b>CFR</b> .....	Code of Federal Regulations	<b>NO<sub>x</sub></b> .....	nitrogen oxides
<b>CO</b> .....	carbon monoxide	<b>NSPS</b> .....	New Source Performance Standards
<b>CO<sub>2</sub></b> .....	carbon dioxide	<b>NSR</b> .....	New Source Review
<b>CO<sub>2e</sub></b> .....	carbon dioxide equivalent	<b>PM</b> .....	particulate matter
<b>COMS</b> .....	Continuous Opacity Monitoring System	<b>PM<sub>2.5</sub></b> .....	particulate matter less than 2.5 microns in aerodynamic diameter
<b>CSR</b> .....	Code of State Regulations	<b>PM<sub>10</sub></b> .....	particulate matter less than 10 microns in aerodynamic diameter
<b>dscf</b> .....	dry standard cubic feet	<b>ppm</b> .....	parts per million
<b>EQ</b> .....	Emission Inventory Questionnaire	<b>PSD</b> .....	Prevention of Significant Deterioration
<b>EP</b> .....	Emission Point	<b>PTE</b> .....	potential to emit
<b>EPA</b> .....	Environmental Protection Agency	<b>RACT</b> .....	Reasonable Available Control Technology
<b>EU</b> .....	Emission Unit	<b>RAL</b> .....	Risk Assessment Level
<b>fps</b> .....	feet per second	<b>SCC</b> .....	Source Classification Code
<b>ft</b> .....	feet	<b>scfm</b> .....	standard cubic feet per minute
<b>GACT</b> .....	Generally Available Control Technology	<b>SDS</b> .....	Safety Data Sheet
<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. Brian Durham  
Project Manager  
Green Plains Grain Company, LLC  
450 Regency Parkway, Suite 400  
Omaha, NE 68114

RE: New Source Review Permit - Project Number: 2015-09-028

Dear Mr. Durham:

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 and with your amended 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 were adversely affected by this permit decision, you may be entitled to pursue 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 it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, Truman State Office [www.aa.mo.gov/ahc](http://www.aa.mo.gov/ahc). If you have any questions regarding this permit, please do not hesitate to contact Ryan Schott, at the Department of Natural Resources' 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:rs1

Enclosures

c: Kansas City Regional Office  
PAMS File: 2015-09-028  
Permit Number: