



# Minnesota Pollution Control Agency

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December 7, 2010

Mr. Ben Brown  
CEO  
Heartland Corn Products  
PO Box A  
Winthrop, MN 55396-0429

RE: Air Emission Permit No. 14300014-009

Dear Mr. Brown:

The enclosed permit, Air Emission Permit No. 14300014-009, authorizes modification and operation of your facility located at 53331 State Highway 19 East, Winthrop, Sibley County, Minnesota.

The amendment is effective from the issuance date of the amendment until the expiration date of the permit. Please read through the permit and review its conditions and requirements. Distribute the permit to staff members responsible for ensuring compliance with the conditions and limitations in the permit. If appropriate, post the permit at the facility.

We appreciate your cooperation and compliance with environmental laws. If you have questions about the permit, please contact me at 651-757-2404.

Sincerely,

A handwritten signature in black ink, appearing to read "Tarik Hanafy".

Tarik Hanafy  
Engineer  
Air Quality Permits Section  
Industrial Division

TH:mn

Enclosure

cc: Jennifer Lovett, MPCA  
AQ File No. 2632



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Permit action 005, a reissuance of the total facility permit as a Part 70 permit, authorized a plant expansion from 34.6 million gallons per year to 99 million gallons of 200 proof ethanol per year. A by-product of the ethanol process is Dry Distillers' Grain with Solubles (DDGS), which is used as livestock feed.

### **Major Amendment 006**

This amendment incorporated several design changes into the permit as follows:

- Increase in air flow through two dust collectors/stacks, SV014 from 10,000 cfm to 41,800 cfm and SV015 from 6,240 cfm to 27,500 cfm.
- Adding a new dust collector for DDGS handling, CE035/SV024, 6,400 cfm.
- Routing distillation vent gases (EU061 through EU070) to a scrubber (CE008) instead of the thermal oxidizer (CE012).
- Installation of an additional 2 million gallon denatured ethanol storage tank.

### **Administrative Amendment 007**

An administrative amendment, extended the date for performance tests from June 30, 2007, to October 30, 2007.

### **Major Amendment 008**

This amendment consisted of the following changes:

- Upon permit issuance, the facility became a PSD minor source; this is because the total facility PTE was below the revised PSD thresholds for ethanol production facilities (PSD threshold was 100 tpy, but changed to 250 tpy for criteria pollutants).
- Instead of regulating process and thermal Nitrogen Oxides (NO<sub>x</sub>) separately, an aggregate NO<sub>x</sub> emission limit was placed at the stacks for each of the two Valveless Regenerative Thermal Oxidizers (VRTOs) at the facility. The new aggregate NO<sub>x</sub> limits were expressed in terms of lb/hour and ppm by volume.
- Several miscellaneous control device monitored operating parameters were revised. This group of changes was requested because facility staff's experience with operating the existing devices has shown that the devices perform more effectively at slightly different parameter ranges than those specified in the existing permit (an example is revising the distillation scrubber required water flow rate from 6.0 to 6.7 gpm).

The permittee requested addition of a new fermenter to the facility to allow for longer fermentation times. The new fermenter will not be used for increased production, and there will not be any associated emissions increases.

### **Major Amendment 009**

This amendment will increase the ethanol production limit in the permit to  $\leq$  103.9 million gal/yr (previously 99 million gal/yr). The facility is also proposing to increase the Particulate Matter (PM) and PM smaller than 10 microns (PM<sub>10</sub>) Best Available Control Technology (BACT) emission limits on the VRTO No.1 stack (SV011) due to previously failed performance tests. The limits will be raised to 5.75 lb/hr of PM and PM<sub>10</sub> (previously 3.47 lb/hr for each). Also, limits of 0.0217 gr/dscf will be amended to 0.0253 gr/dscf for PM and PM<sub>10</sub>. Performance testing will be placed back into the permit following initial tests conducted for permit action 007. Pressure drop and water flow limits will be updated for CE003 and CE008 and the temperature limit for CE012 will also be updated based on previous performance test results. Administrative corrections were made to some citations and requirements and PTE was updated.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item:	Total Facility
What to do	Why to do it
COMPLIANCE WITH NATIONAL AND MINNESOTA AMBIENT AIR STANDARDS	hdr
The Permittee shall comply, and upon written request demonstrate compliance, with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080.	40 CFR pt. 50; Minn. Stat. Sec. 116.07, subds. 4a and 9; Minn. R. 7007.0100, subps. 7A, 7L and 7M; Minn. R. 7007.0800, subps. 1, 2, and 4; Minn. R. 7009.0010-7009.0080
FACILITY WIDE LIMITS	hdr
HAPs - Total: less than or equal to 24 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period.	Title I Condition: Limit to avoid major source classification under 40 CFR Section 63.2 and Minn. R. 7011.7000
HAP-Single: less than or equal to 9 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period.	Title I Condition: Limit to avoid major source classification under 40 CFR Section 63.2 and Minn. R. 7011.7000
Monthly Recordkeeping - HAP Emissions. By the 15th of the month, the Permittee shall calculate and record the following using the formulas specified in this permit: 1). The total HAP containing materials used in the previous calendar month using the daily production records. This record shall also include the individual hours of operation. The Permittee shall establish an emissions factor based on site-specific performance test data, and use this data to calculate actual individual and total HAP emissions. 2). The total and individual HAP emissions for the previous month using the formulas specified in this permit. 3). The 12 month rolling sum total and individual HAP emissions for the previous 12 month period by summing the monthly emissions data for the previous 12 months. 4). The total and individual HAP emissions produced as byproducts of the fermentation process.	Minn. R. 7007.0800, subps. 4 and 5
Monthly Calculation -- HAP Emissions. The Permittee shall calculate each individual HAP and total HAP emissions using the following equations:  HAP Emissions (tons/month) = H - W H = (A1 x B1) + (A2 x B2) + (A3 x B3) + ..... W = (C1 x D1) + (C2 x D2) + (C3 x D3) + .....	Minn. R. 7007.0800, subps. 4 and 5
Monthly HAP Emissions Calculation Continued:  Where: H = the amount of each pollutant (either total HAP or each individual HAP), produced, in tons/month. A# = Amount HAP emitting material produced in the previous month, in tons/month. B# = emissions factor of each individual or total HAP in A# (e.g., amount of HAP per ton of DDGS Dried, etc.). W = the amount of each pollutant (either total HAP or each individual HAP) shipped in waste, in tons/month. C# = amount, in tons/month, of each HAP containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero. D# = weight percent of each individual or total HAP in C#, as a fraction.	Minn. R. 7007.0800, subps. 4 and 5
OPERATIONAL LIMITS	hdr
Production: less than or equal to 103.9 million gallons/year using 12-month Rolling Sum of fuel ethanol (pure ethanol, prior to addition of denaturant).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; BACT and Minn. R. 7007.3000
Recordkeeping: By the 15th day of every month, record the gallons of ethanol produced during the previous month, and the gallons of ethanol produced during the previous 12 months (12-month rolling sum).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; BACT and Minn. R. 7007.3000
OPERATIONAL REQUIREMENTS	hdr
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 - 7007.1500
Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 - 7019.3010
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 - 7002.0095
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
RECORDKEEPING	hdr
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. For expiring permits, these records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.	Minn. R. 7007.1200, subp. 4
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.	Minn. R. 7017.2025
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A and/or B.	Minn. R. ch. 7017
Performance Test Notifications and Submittals:  Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements.  Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test  The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subps. 1-4, and Minn. R. 7017.2035, subps. 1 and 2
DISPERSION MODELING REQUIREMENTS	hdr

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item:** GP 001 Tanks subject to NSPS subp. Kb**Associated Items:** TK 002 Ethanol  
TK 003 Unleaded Gas  
TK 004 Ethanol  
TK 005 Ethanol & Unleaded Gas  
TK 006 Ethanol and Water  
TK 007 Ethanol  
TK 009 Unleaded Gas  
TK 010 Ethanol & Unleaded Gas  
TK 011 Ethanol & Unleaded Gas  
TK 013 Ethanol

<b>What to do</b>	<b>Why to do it</b>
Recordkeeping: Maintain records showing the dimensions of each tank and an analysis showing each tank's capacity.	40 CFR Section 60.116b(b); Minn. R. 7011.1520(C)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item: GP 003 Baghouse Monitoring Requirements**

- Associated Items:** CE 001 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
 CE 002 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
 CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
 CE 007 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
 CE 035 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
 SV 001 Grain Handling (CE 001)  
 SV 002 Hammermill (CE 002)

What to do	Why to do it
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent collection efficiency	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent collection efficiency	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Visible Emissions: The Permittee shall check each fabric filter stack (SV 001, SV 002, SV 014, SV 015) for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5
Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit.  Pressure drop is specified under SV001, SV002, SV014, SV015, SV024, CE001, CE002, CE006 and CE007.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5
The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: 40 CFR Section 52.21 (j) BACT and Minn. R. 7007.3000
Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7007.0800, subp. 4
Operation and Maintenance of Fabric Filter: The Permittee shall operate and maintain the fabric filter according to the control equipment manufacturer's specifications.	Minn. R. 7007.0800, subp. 14
The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; - the recorded pressure drop is outside the required operating range; or - the fabric filter or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter	Minn. R. 7007.0800, subps. 4, 5, and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subps. 2 and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item:** GP 005 Cyclone Monitoring Requirements

**Associated Items:** CE 004 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

CE 009 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

SV 011 VRTO #1 Stack (CE010)

What to do	Why to do it
Record the pressure drop at each cyclone once each day of operation.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Corrective Action: If the applicable pressure drop is not within the permitted range specified under CE 004 and/or CE 009, the Permittee shall take corrective action as soon as possible to achieve the required operating values. Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. The Permittee shall keep a record of the type and date of all corrective actions taken.	Minn. R. 7007.0800, subps. 4, 5, and 14
Inspect quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2 and 14
Inspect monthly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2 and 14
Calibrate the pressure drop gauge annually, or as often as required by manufacturer's specifications and maintain a written record of the calibration and any action resulting from the calibration.	Minn. R. 7007.0800, subps. 2 and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products  
 Permit Number: 14300014 - 009

**Subject Item:** GP 007 VOC Equipment Leaks  
**Associated Items:** EU 073 Fermenter #11  
 FS 004 VOC Service Equipment  
 FS 010 New Equipment Leaks

What to do	Why to do it
STANDARDS: PUMPS	40 CFR Section 60.482-2; Minn. R. 7011.2900
Pumps in light liquid service:  (a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR Section 60.485(b), except as provided in 40 CFR Section 60.482-1(c) and paragraphs (d), (e), and (f).  (2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the seal.	40 CFR Section 60.482-2(b) and (c); Minn. R. 7011.2900
(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.  (2) If there are indications of liquids dripping from the pump seal, a leak is detected.  (c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR Section 60.482-9 (Delay of Repair).  (2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	40 CFR Section 60.482-2(b) and (c); Minn. R. 7011.2900
STANDARDS: COMPRESSORS	hdr
(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in 40 CFR Section 60.482-1(c) and 40 CFR Section 60.482-3(h) and (i).	40 CFR Section 60.482-3(a); Minn. R. 7011.2900
(b) Each compressor seal system shall be:  (1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or  (2) Equipped with a barrier fluid system that is connected by a closed vent system to a control device that complies with the requirements of 40 CFR Section 60.482-10; or  (3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.	40 CFR Section 60.482-3(b); Minn. R. 7011.2900
(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.  (d) Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.	40 CFR Section 60.482-3(c) and (d); Minn. R. 7011.2900
(e)(1) Each sensor shall be checked daily or shall be equipped with an audible alarm.  (2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.	40 CFR Section 60.482-3(e); Minn. R. 7011.2900
(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2), a leak is detected.	40 CFR Section 60.482-3(f); Minn. R. 7011.2900
(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected except as provided in 40 CFR Section 60.482-9 (Delay of Repair).  (2) A first attempt at repair shall be made no later than 5 calendar days after it is detected, except as provided in 40 CFR Section 60.482-9.	40 CFR Section 60.482-3(g); Minn. R. 7011.2900
STANDARDS: PRESSURE RELIEF DEVICES IN GAS/VAPOR SERVICE	hdr
(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background as determined by the methods specified in 40 CFR Section 60.485(c).	40 CFR Section 60.482-4(a); Minn. R. 7011.2900

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

<p>(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.</p> <p>(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR Section 60.482-9 (delay of repair).</p> <p>(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.</p>	<p>40 CFR Section 60.482-8(b) and (c); Minn. R. 7011.2900</p>
<p>(d) First attempts at repair include, but are not limited to, the best practices described under 40 CFR Section 60.482-7(e).</p>	<p>40 CFR Section 60.482-8(d); Minn. R. 7011.2900</p>
<p><b>DELAY OF REPAIR</b></p>	<p>hdr</p>
<p>(a) Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.</p> <p>(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.</p>	<p>40 CFR Section 60.482-9(a) and (b); Minn. R. 7011.2900</p>
<p>(c) Delay of repair for valves will be allowed if:</p> <p>(1) The owner or operator demonstrates that emissions of purged material resulting from the immediate repair are greater than the fugitive emissions likely to result from delay of repair, and</p> <p>(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR Section 60.482-10.</p>	<p>40 CFR Section 60.482-9(c); Minn. R. 7011.2900</p>
<p>(d) Delay of repair for pumps will be allowed if:</p> <p>(1) Repair required the use of a dual mechanical seal system that includes a barrier fluid system, and</p> <p>(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.</p>	<p>40 CFR Section 60.482-9(d); Minn. R. 7011.2900</p>
<p>(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.</p>	<p>40 CFR Section 60.482-9(e); Minn. R. 7011.2900</p>
<p><b>TESTING PROCEDURES</b></p>	<p>hdr</p>
<p>Compliance shall be determined by the methods specified in 40 CFR Section 60.485.</p>	<p>40 CFR Section 60.486(b); Minn. R. 7011.2900</p>
<p><b>RECORDKEEPING</b></p>	<p>hdr</p>
<p>(b) When each leak is detected, the following requirements apply:</p> <p>(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.</p> <p>(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR Section 60.482-7(c) and no leak has been detected during those 2 months.</p> <p>(3) The identification on equipment except on a valve, may be removed after it has been repaired.</p>	<p>40 CFR Section 60.486(b); Minn. R. 7011.2900</p>
<p>(c) When each leak is detected the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:</p> <p>(1) The instrument and operator identification numbers and the equipment identification number.</p> <p>(2) The date the leak was detected and the dates of each attempt to repair the leak.</p> <p>(3) Repair methods applied in each attempt to repair the leak.</p> <p>(4) Above 10,000 is the maximum instrument reading measured by the methods specified in 40 CFR Section 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.</p>	<p>40 CFR Section 60.486(c); Minn. R. 7011.2900</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item: SV 001 Grain Handling (CE 001)**

**Associated Items:** EU 001 Corn Dump Pit/Auger

EU 004 Corn Bin

EU 005 Corn Bin

EU 006 Corn Bin

EU 007 Corn Bin

EU 046 Corn Elevator #1

EU 047 Scalper #1

GP 003 Baghouse Monitoring Requirements

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.43 lbs/hour	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
PM < 10 micron: less than or equal to 0.43 lbs/hour	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
POLLUTION CONTROL REQUIREMENTS	hdr
Total Particulate Matter: greater than or equal to 99 percent control efficiency	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
PM < 10 micron: greater than or equal to 99 percent control efficiency	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item: SV 003 Fermentation (CE 003)**

- Associated Items:** EU 022 Fermenter  
 EU 023 Fermenter  
 EU 024 Fermenter  
 EU 025 Fermenter  
 EU 033 Fermenter  
 EU 039 Fermenter #6  
 EU 040 Beer Well #1  
 GP 004 Scrubber Monitoring Requirements

What to do	Why to do it
EMISSION LIMITS	hdr
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Volatile Organic Compounds: less than or equal to 2.73 lbs/hour as total mass of VOC.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
POLLUTION CONTROL REQUIREMENTS	hdr
Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or less than or equal to 20 ppm VOC if the inlet is less than 200 ppm VOC as total mass of VOC.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
TESTING REQUIREMENTS	hdr
Performance Test: due before end of each 60 months starting 10/17/2007 to measure VOC in lb/hr. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.	Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 60 months starting 10/17/2007 to measure HAP emissions from SV 003. Testing must include all chemicals listed in Appendix IV of this permit. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.	Minn. R. 7017.2020, subp. 1
Performance Test Notifications and Submittals;  Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 days after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subps. 1-2

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products  
 Permit Number: 14300014 - 009

**Subject Item:** SV 011 VRTO #1 Stack (CE010)  
**Associated Items:** EU 015 DDGS Dryer  
 EU 035 DDGS Dryer #2  
 EU 060 VRTO #1  
 GP 005 Cyclone Monitoring Requirements

What to do	Why to do it
<b>EMISSION LIMITS</b>	hdr
Total Particulate Matter: less than or equal to 5.75 lbs/hour	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.	Minn. R. 7011.0610, subp. 1(A)(1)
PM < 10 micron: less than or equal to 5.75 lbs/hour	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 8.87 lbs/hour as total mass of VOC.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 10.79 lbs/hour . This limit includes total NOx of both thermal and process origin.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 31.00 parts per million by volume, wet gas basis. This limit includes total NOx of both thermal and process origin.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 11.3 lbs/hour	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Sulfur Dioxide: less than or equal to 2.93 lbs/hour	Title I Condition: 40 CFR Section 52.21 (j): and Minn. R. 7007.3000
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0610, subp. 1(A)(2)
<b>POLLUTION CONTROL REQUIREMENTS</b>	hdr
Carbon Monoxide: greater than or equal to 90 percent control efficiency or less than or equal to 100 ppm	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
PM < 10 micron: less than or equal to 0.0253 grains/dry standard cubic foot	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Total Particulate Matter: less than or equal to 0.0253 grains/dry standard cubic foot	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or less than or equal to 20 ppm VOC if the inlet is less than 200 ppm VOC as total mass of VOC.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
<b>TESTING REQUIREMENTS</b>	hdr
Performance Test: due 180 days after 11/30/2009 to measure total NOx emissions from SV 011 on both a lbs/hour basis and a parts per million by weight basis. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.	Minn. R. 7017.2020, subp. 1
Performance Test: due 180 days after Permit Issuance to measure PM10 in gr/dscf and lb/hr. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.	Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 60 months starting 10/17/2007 to measure Particulate Matter in gr/dscf and lb/hr. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.	Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 60 months starting 10/17/2007 to measure SO2 in lb/hr. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.	Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 60 months starting 10/17/2007 to measure VOC in lb/hr. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.	Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 60 months starting 10/17/2007 to measure HAP emissions from the dryers. Testing must include all chemicals listed in Appendix IV of this permit. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.	Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 36 months starting 10/17/2007 to measure CO in lb/hr. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.	Minn. R. 7017.2020, subp. 1

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item: SV 014 Grain Handling Baghouse #2 (CE 006)**

**Associated Items:** EU 048 Corn Dump Pit/Auger #2

EU 049 Corn Elevator #2

EU 050 Scalper #2

EU 051 Corn Bin #5

EU 052 Corn Bin #6

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000
PM < 10 micron: less than or equal to 0.005 grains/dry standard cubic foot	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000
PM < 10 micron: less than or equal to 1.79 lbs/hour	Title I Condition: 40 CFR Section 52.21 (k) and Minn. R. 7007.3000
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
POLLUTION CONTROL REQUIREMENTS	hdr
Total Particulate Matter: greater than or equal to 99 percent control efficiency	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000
PM < 10 micron: greater than or equal to 99 percent control efficiency	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item: SV 016 CO2 Scrubber #2 (CE 008)**

- Associated Items:**
- EU 055 Fermenter #7
  - EU 056 Fermenter #8
  - EU 057 Fermenter #9
  - EU 058 Fermenter #10
  - EU 059 Beer Well #2
  - EU 061 Beer Stripper #2
  - EU 062 Rectifier #2
  - EU 063 Side Stripper #2
  - EU 064 Molecular Sieve #2
  - EU 065 Evaporator #2
  - EU 066 Liquifaction Tank #3
  - EU 067 Liquifaction Tank #4
  - EU 068 Slurry Tank #2
  - EU 069 Yeast Tank #2
  - EU 070 190 Proof Run-Down Tank
  - EU 073 Fermenter #11
  - GP 004 Scrubber Monitoring Requirements

What to do	Why to do it
<b>EMISSION LIMITS</b>	hdr
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Volatile Organic Compounds: less than or equal to 6.59 lbs/hour as total mass of VOC.	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000
<b>POLLUTION CONTROL REQUIREMENTS</b>	hdr
Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or less than or equal to 20 ppm VOC if the inlet is less than 200 ppm VOC as total mass of VOC.	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000
<b>TESTING REQUIREMENTS</b>	hdr
Performance Test: due before end of each 60 months starting 08/16/2007 to measure VOC in lb/hr. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.	Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 60 months starting 08/16/2007 to measure HAP emissions from SV 016. Testing must include all chemicals listed in Appendix IV to this permit. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.	Minn. R. 7017.2020, subp. 1
Performance Test Notifications and Submittals;  Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 days after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subps. 1-2

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

<p>Performance Test Notifications and Submittals;</p> <p>Performance Test Notification (written): due 30 days before each Performance Test                  Performance Test Plan: due 30 days before each Performance Test                  Performance Test Pre-Test Meeting: due 7 days before each Performance Test                  Performance Test Report: due 45 days after each Performance Test                  Performance Test Report - Microfiche Copy or CD: due 105 days after each Performance Test.                  The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.</p>	<p>Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subps. 1-2</p>
<p>Thermal Oxidizer Burnouts and Other Maintenance Activities: During thermal oxidizer malfunctions and any other maintenance for which the manufacturer recommends dryer emissions bypass the thermal oxidizer, the dryer shall be shutdown. Wet DDGS shall be stored and handled to minimize VOC emissions and odors during these maintenance activities.</p> <p>The Permittee shall maintain a record of such maintenance activities in the O &amp; M plan for CE 010.</p>	<p>Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800 subp. 15 (j)</p>
<p>Thermal Oxidizer Breakdown: In the event of a breakdown of the thermal oxidizer, the Permittee shall stop feed into the dryer as soon as the breakdown is discovered. Dryer operation may continue as long as necessary to empty the dryer. The Permittee shall also submit the notification required by Minn. R. 7019.1000, subp. 2, if required.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Wet cake storage limitation: When wet cake by-product is produced, it will be stored for no longer than 72 hours on-site unless the outside temperature is less than 55 degrees (daily maximum). In all cases, the wet cake will be moved off-site as soon as possible.</p>	<p>Minn. R. 7007.0800, subp. 2</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-27 12/07/10

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item:** EU 018 Boiler**Associated Items:** CE 014 Low NOx Burners

GP 006 NOx Emissions From Fuel Combustion

SV 020 Utility Boiler Stack

<b>What to do</b>	<b>Why to do it</b>
Carbon Monoxide: less than or equal to 0.04 lbs/million Btu heat input	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000
Recordkeeping: Record and maintain records of the amounts of each fuel combusted on a monthly basis for the previous calendar month. These records may consist of fuel meter readings or fuel bills/purchase receipts.	40 CFR Section 60.13(i) to comply with 40 CFR Section 60.48c(g) and (i); Minn. R. 7011.0570
Fuel Burned: Limited to natural gas only.	Minn. Stat. 116.07, subp. 4a and Minn. R. 7007.0800, subp. 2

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item:** EU 034 Boiler

**Associated Items:** CE 015 Low NOx Burners

GP 006 NOx Emissions From Fuel Combustion

SV 020 Utility Boiler Stack

What to do	Why to do it
Carbon Monoxide: less than or equal to 0.04 lbs/million Btu heat input	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000
Recordkeeping: Record and maintain records of the amounts of each fuel combusted on a monthly basis for the previous calendar month. These records may consist of fuel meter readings or fuel bills/purchase receipts.	40 CFR Section 60.13(i) and February 20, 1992, EPA memorandum to meet requirements of 40 CFR Section 60.48c(g) and (i); Minn. R. 7011.0570
Fuel Burned: Limited to natural gas only.	Minn. Stat. 116.07, subp. 4a and Minn. R. 7007.0800, subp. 2

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-31 12/07/10

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item:** EU 073 Fermenter #11**Associated Items:** CE 008 Packed-Gas Adsorption Column

GP 007 VOC Equipment Leaks

SV 016 CO2 Scrubber #2 (CE 008)

What to do	Why to do it
Notification of any physical or operational change which increases emission rate: due 60 days (or as soon as practical) before the change is commenced.	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item:** EU 075 Utility Boiler #4

**Associated Items:** CE 017 Low NOx Burners

SV 020 Utility Boiler Stack

What to do	Why to do it
Nitrogen Oxides: less than or equal to 0.04 lbs/million Btu heat input . This limit includes all NOx generated by natural gas combustion.	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 0.04 lbs/million Btu heat input	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000
Fuel Burned: Natural gas only.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2
Performance Test: due before end of each 60 months starting 08/14/2007 to measure CO in lb/mmBtu. The performance test shall be conducted at maximum capacity of the emission unit.	Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each year starting 07/17/2009 to measure NOx in lb/mmBtu. The performance test shall be conducted at maximum capacity of the emission unit.	Minn. R. 7017.2020, subp. 1
Performance Test Notifications and Submittals; Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 days after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subps. 1-2

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item:** EU 079 Ethanol Loading Rack/Flare #2

**Associated Items:** CE 019 Flaring

SV 022 EtOH Loading Rack Flare #2 (CE 019)

What to do	Why to do it
Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or less than or equal to 20 ppm VOC if the inlet is less than 200 ppm VOC as total mass of VOC.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Opacity: not greater than 0 percent opacity using a 6-minute average except for periods not to exceed 5 minutes in any 2 consecutive hours.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Operate the flare only with a net heating value of the gas combusted of 300 Btu/scf or greater with a steam-assisted or air assisted flare; or with the net heating value of the gas being combusted of 200 Btu/scf with a nonassisted flare.	Minn. R. 7007.0800, subp. 14
The Permittee shall operate and maintain the flare any time that any process equipment controlled by the flare is in operation.	Minn. R. 7007.0800, subp. 16J
The Permittee shall operate and maintain the flare in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M plan available on site for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Monitoring Equipment: The Permittee shall install and maintain thermocouples to monitor the presence of a pilot flame. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required.	Minn. R. 7007.0800, subp. 4
Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory and electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.	Minn. R. 7007.0800, subps. 4, 5, and 14
Corrective Actions: If a pilot flame is not present or if the flare or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective action shall result in return to operation of the pilot flame and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the flare. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subps. 4, 5, and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products  
 Permit Number: 14300014 - 009

**Subject Item:** CE 001 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

- Associated Items:** EU 001 Corn Dump Pit/Auger  
 EU 004 Corn Bin  
 EU 005 Corn Bin  
 EU 006 Corn Bin  
 EU 007 Corn Bin  
 EU 046 Corn Elevator #1  
 EU 047 Scalper #1  
 FS 002 Grain and DDGS Fugitive Emissions  
 FS 007 New Grain Receiving Fugitives  
 GP 003 Baghouse Monitoring Requirements

What to do	Why to do it
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent control efficiency	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 0.5 inches of water column and less than or equal to 8.0 inches of water column , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pressure drop at least once every 24 hours when in operation.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Visible Emissions: The Permittee shall check each fabric filter stack (SV 001) for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5
Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item:** CE 003 Packed-Gas Adsorption Column

**Associated Items:** EU 022 Fermenter

EU 023 Fermenter

EU 024 Fermenter

EU 025 Fermenter

EU 033 Fermenter

EU 039 Fermenter #6

EU 040 Beer Well #1

GP 004 Scrubber Monitoring Requirements

What to do	Why to do it
Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or less than or equal to 20 ppm VOC if the inlet is less than 200 ppm VOC as total mass of VOC.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 3.0 inches of water column , unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new minimum shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The new minimum is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pressure drop at least once every 24 hours when in operation.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Water flow rate: greater than or equal to 31.5 gallons/minute , unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new minimum shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The minimum is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the flowrate at least once every 24 hours when in operation.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item: CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**

**Associated Items:** EU 048 Corn Dump Pit/Auger #2

EU 049 Corn Elevator #2

EU 050 Scalper #2

EU 051 Corn Bin #5

EU 052 Corn Bin #6

EU 082 DDGS Bin #1

EU 083 DDGS Bin #2

GP 003 Baghouse Monitoring Requirements

What to do	Why to do it
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent control efficiency	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 0.5 inches of water column and less than or equal to 8.0 inches of water column , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pressure drop at least once every 24 hours when in operation.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Visible Emissions: The Permittee shall check the fabric filter stack (SV 014) for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5
Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item:** CE 008 Packed-Gas Adsorption Column

- Associated Items:** EU 055 Fermenter #7  
 EU 056 Fermenter #8  
 EU 057 Fermenter #9  
 EU 058 Fermenter #10  
 EU 059 Beer Well #2  
 EU 061 Beer Stripper #2  
 EU 062 Rectifier #2  
 EU 063 Side Stripper #2  
 EU 064 Molecular Sieve #2  
 EU 065 Evaporator #2  
 EU 066 Liquifaction Tank #3  
 EU 067 Liquifaction Tank #4  
 EU 068 Slurry Tank #2  
 EU 069 Yeast Tank #2  
 EU 070 190 Proof Run-Down Tank  
 EU 073 Fermenter #11  
 GP 004 Scrubber Monitoring Requirements

What to do	Why to do it
Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or less than or equal to 20 ppm VOC if the inlet is less than 200 ppm VOC as total mass of VOC.	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 19.5 inches of water column , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pressure drop at least once every 24 hours when in operation.	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000
Water flow rate: greater than or equal to 60.3 gallons/minute , unless a new range is set by permit reopening or permit amendment, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the water flow rate once every 24 hours when in operation.	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: CE 012 VRTO

Associated Items: EU 071 DDGS Dryer #3

What to do	Why to do it
Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or no higher than 10 ppm outlet VOC concentration as total mass of VOC.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Temperature: greater than or equal to 1580 degrees F as a 3-hour rolling average at the combustion chamber outlet, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new limit shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The limit is final upon issuance of a permit amendment incorporating the change. If the 3-hour rolling average temperature is below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average temperature is above the minimum temperature limit. This shall be reported as a deviation.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
The Permittee shall operate and maintain the thermal oxidizer any time that any process equipment controlled by the thermal oxidizer is in operation. The Permittee shall document periods of non-operation of the control equipment.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three hour rolling average temperatures for the combustion chamber.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5
Daily Monitoring: The Permittee shall physically verify the operation of the temperature recording device at least once each operating day to verify that it is working and recording properly. The Permittee shall maintain a written record of the daily verifications.	Minn. R. 7007.0800, subps. 4 and 5
Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required.	Minn. R. 7007.0800, subp. 4
The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.	Minn. R. 7007.0800, subps. 4 and 5
Quarterly Inspections: At least once per calendar quarter, or as required by the manufacturer, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory, heat exchanger, and electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.	Minn. R. 7007.0800, subps. 4, 5, and 14
Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration.	Minn. R. 7007.0800, subps. 4, 5, and 14
For periods when the thermal oxidizer is operated above the minimum combustion chamber temperature, the Permittee shall use either one of the following when completing calculations as required elsewhere in this permit: a. The overall control efficiency limit specified in this permit for this equipment (95%); or b. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5
Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the thermal oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subps. 4, 5, and 14
The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item:** FS 002 Grain and DDGS Fugitive Emissions**Associated Items:** CE 001 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

What to do	Why to do it
Opacity: less than or equal to 5 percent opacity for fugitive emissions from grain unloading, grain or DDGS handling activities, or DDGS railcar loading.	Minn. R. 7011.1005, subp. 3(A)
Opacity: less than or equal to 10 percent opacity for fugitive emissions from DDGS truck loading.	Minn. R. 7011.1005, subp. 3(B)
Clean up commodities spilled on the driveway and other facility property as required to minimize fugitive emissions to a level consistent with RACT (Reasonably Available Control Technology).	Minn. R. 7011.1005, subp. 1(A)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-49

12/07/10

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

**Subject Item: FS 008 New DDGS Loadout Fugitives**

What to do	Why to do it
Opacity: less than or equal to 5 percent opacity for fugitive emissions from DDGS handling activities or DDGS railcar loading.	Minn. R. 7011.1005, subp. 3(A)
Opacity: less than or equal to 10 percent opacity for fugitive emissions from DDGS truck loading.	Minn. R. 7011.1005, subp. 3(B)
Clean up commodities spilled on the driveway and other facility property as required to minimize fugitive emissions to a level consistent with RACT (Reasonably Available Control Technology).	Minn. R. 7011.1005, subp. 1(A)

## TABLE B: SUBMITTALS

B-1 12/07/10

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak  
Air and Radiation Branch  
EPA Region V  
77 West Jackson Boulevard  
Chicago, Illinois 60604

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency  
Clean Air Markets Division  
1200 Pennsylvania Avenue NW (6204N)  
Washington, D.C. 20460

Send any application for a permit or permit amendment to:

AQ Permit Technical Advisor  
Industrial Division  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Unless another person is identified in the applicable Table, send all other submittals to:

AQ Compliance Tracking Coordinator  
Industrial Division  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

**TABLE B: RECURRENT SUBMITTALS**

B-3 12/07/10

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

<b>What to send</b>	<b>When to send</b>	<b>Portion of Facility Affected</b>
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 05/22/1998 . The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Compliance Certification	due 30 days after end of each calendar year starting 05/22/1998 (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX MATERIAL

Facility Name: Heartland Corn Products  
 Permit Number: 14300014-009

**Appendix I:**

**Insignificant Activities and Applicable Requirements**

The table below lists the insignificant activities that are currently at the facility and their associated general applicable requirements.

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
3(A)	Fuel use: space heaters fueled by natural gas or propane. <i>These space heaters will have less than 30,000 BTU/hr heating capacity.</i>	Minn. R. 7011.0510/0515
3(E)(1)	Small gasoline storage tanks (1-10 gallon fuel cans) for lawn mowers and other small equipment, etc.	Minn. R. 7011.1505, subp. 3
3(G)	The Facility will have a product testing laboratory.	Minn. R. 7011.0715
3(H)(3) 3(H)(4)	Welding Equipment for plant maintenance Normal-scale office equipment will be present in the facility office.	Minn. R. 7011.0710/0715
3(J)	Fugitive Emissions from roads and parking lots. Main facility haul roads will be paved. Unpaved pull-offs may exist but are not used on a regular basis.	Minn. R. 7011.0150
3(K)	Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source, such as spray painting of buildings, machinery, vehicles, and other supporting equipment.	Minn. R. 7011.0710/0715

\*\*\*\*\*  
\* Modeling Parameters Summary \*  
\* for Air Modeling Submittal in Directory(s) Below \*  
\*\*\*\*\*  
This MPCA computer-generated summary report includes:

Directory of AERMOD Model Output Files, followed by:  
Model Setup Options Summary  
Emission Sources  
Source Groups  
Misc. Info. (e.g. ECHO, INCLUDED, meteorology, etc.)

See corresponding input/output files for other items:  
building and terrain information, more urban details,  
sample meteorological data and wind speed categories,  
emission scalars, receptors, plot/post/other outputs,  
and other EPA AERMOD dispersion model features/items.

Pathname Description:  
Pathname has 3 parts: fixed MPCA; flexible MPCA; USER  
Pathname Part1(MPCA): X:\...\Air\_Modeling\Projects\  
Pathname Part2(MPCA): \PermitId\_CompanyName\YEARMNDY\  
Pathname Part3(USER): user folder name and file name.  
Filenames with spaces were replaced with underscores.

Please direct questions about this summary report to:  
Dennis Becker 651-757-2217 Dennis.Becker@state.mn.us.  
\*\*\*\*\*

Directory of  
X:\Agency\_Files\Outcomes\Risk\_Eval\_Air\_Mod\Air\_Modeling\Projects\14300014\_HeartlandCornProducts\2  
0080109  
12/26/2007 03:27 PM 1,840,662 HCP\_Dec2007\_Maj\_Mod\_PM\_and\_NOx\_Modeling\_86\_PMTEN.LST  
12/26/2007 05:15 PM 1,840,669 HCP\_Dec2007\_Maj\_Mod\_PM\_and\_NOx\_Modeling\_87\_PMTEN.LST  
12/26/2007 07:04 PM 1,840,662 HCP\_Dec2007\_Maj\_Mod\_PM\_and\_NOx\_Modeling\_88\_PMTEN.LST  
12/26/2007 08:52 PM 1,840,662 HCP\_Dec2007\_Maj\_Mod\_PM\_and\_NOx\_Modeling\_89\_PMTEN.LST  
12/26/2007 10:36 PM 1,840,662 HCP\_Dec2007\_Maj\_Mod\_PM\_and\_NOx\_Modeling\_90\_PMTEN.LST  
12/26/2007 10:43 PM 151,671 HCP\_Dec2007\_Maj\_Mod\_PM\_and\_NOx\_Modeling\_86\_NOX.LST  
12/26/2007 10:51 PM 151,678 HCP\_Dec2007\_Maj\_Mod\_PM\_and\_NOx\_Modeling\_87\_NOX.LST  
12/26/2007 10:58 PM 151,671 HCP\_Dec2007\_Maj\_Mod\_PM\_and\_NOx\_Modeling\_88\_NOX.LST  
12/26/2007 11:05 PM 151,671 HCP\_Dec2007\_Maj\_Mod\_PM\_and\_NOx\_Modeling\_89\_NOX.LST  
12/26/2007 11:12 PM 151,671 HCP\_Dec2007\_Maj\_Mod\_PM\_and\_NOx\_Modeling\_90\_NOX.LST



















\*\*\* AERMOD - VERSION 07026 \*\*\*  
\*\*\* 12/26/07

\*\*\* Heartland Corn Products

\*\*\* Modeling Change in Emissions; PM and NOx at SV011 & SV018

Dec 2007 M \*\*\* 22:36:50

\*\*MODELOPTs:

PAGE 3

CONC

DFAULT ELEV

NOWARN

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

GROUP ID

SOURCE IDs

PREAMEND OLDSV011, SV013 , OLDSV018, SV020 , SV021 , SV022 , SV023 ,  
POSTAMEN SV013 , SV020 , SV021 , SV022 , SV023 , NEWSV011, NEWSV018,

### Appendix III:

## Fence Diagram & Base Factors



Fence

0 200 400



Appendix VII  
HCP Fence Requirements  
Winthrop, Minnesota

DATE: 10/1/01	
REVISION: 02/28/08	
SCALE: 8:1000	
DESIGN: ENR/PLANNING	
BY: C. J. [unreadable]	
DATE: 10/1/01	

## **Appendix IV:**

### **HAP Performance Testing**

When conducting performance testing for HAP, the Permittee must test for:

CO2 Scrubber and Process Scrubber Compounds: ethanol, acetaldehyde, ethyl acetate, isoamyl alcohol, acetic acid, acrolien, formaldehyde, and methanol

Cooling Cyclone and RTO Compounds: acetaldehyde, ethyl acetate, methanol, ethanol, acetone, 2,3-butadione, formaldehyde, isoamyl alcohol, acetic acid, furfural, 2,3-butanediol, formic acid, and acrolien

Additional chemicals may be required by the MPCA Performance Test Coordinator.

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**AIR EMISSION PERMIT NO. 14300014-009**

This technical support document (TSD) is intended for all parties interested in the permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp. 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the determination to issue the permit.

**1. General Information**

**1.1 Applicant and Stationary Source Location:**

**Table 1. Applicant and Source Address**

Applicant/Address	Stationary Source/Address (SIC Code: 2869)
Heartland Corn Products Post Office Box A Winthrop, Minnesota 55396	Heartland Corn Products 53331 State Highway 19 E Winthrop, Sibley County, MN 55396
Contact: Paul Mordorski Phone: 612-347-6794	

**1.2 Facility Description**

Heartland Corn Products is a fuel ethanol production plant located on East Highway 19 in Winthrop, Sibley County, Minnesota. This permit action will authorize a plant expansion from 99 million gallons per year to 103.9 million gallons of 200 proof ethanol per year. A by-product of the ethanol production process is Dry Distillers' Grain with Solubles (DDGS) which is used for livestock feed.

**1.3 Description of the Activities Allowed by this Permit Action**

This major amendment will increase the limit of production of undenatured ethanol from 99 to 103.9 million gallons/yr. Since this is an increase of only 4.9 million gallons, environmental review is not triggered. This amendment will also incorporate two storage tanks into the facility description (TK012 and TK013). TK012 is an 18,000 gallon fixed roof tank storing denaturant. TK013 is a 100,000 gallon floating roof tank constructed in compliance with 40 CFR pt. 60, subp. Kb storing 200 proof ethanol. TK001 will also be corrected to a fixed roof tank. TK013 will be added to GP001 and 002. TK001 and 008 will be removed from GP001. The additional throughput of ethanol from the proposed increase in production will affect emissions from all tanks at the facility as well as the ethanol loading rack flares (EU078-079). The emissions increases will be for CO, NO<sub>x</sub> and VOC. This permit action will also increase Best Available Control Technology (BACT) limits at SV011 (VRTO #1) to 0.0253 gr/dscf (previously 0.0217gr/dscf) and 5.75 lb/hr (previously 3.47 lb/hr) for both PM and PM<sub>10</sub>.

**Table 4. Facility Classification**

<b>Classification</b>	<b>Major/Affected Source</b>	<b>Synthetic Minor</b>	<b>Minor</b>
PSD		X	
Part 70 Permit Program	X		
Part 63 NESHAP		X	

**2. Regulatory and/or Statutory Basis**

New Source Review

The previous permit action (008) established the facility as a PSD minor source because the total facility PTE was below the revised PSD thresholds for ethanol production facilities (250 tpy). This amendment's PTE increases will keep the facility's status as a PSD minor source. However, the requested change to the PM and PM<sub>10</sub> limits for VRTO #1 (SV011) and the requested production increase will require a revision of the original BACT determination. Sibley County is not listed on the Fish & Wildlife Service (FWS) endangered and threatened species list from a 7/20/10 email from Region V attached to this TSD. Heartland Corn Products will therefore not be conducting an ESA consultation for this permit action.

Part 70 Permit Program

The facility is a major source under the Part 70 permit program.

New Source Performance Standards (NSPS)

Several of the liquid storage tanks in this permit are subject to 40 CFR pt. 60, subp. Kb (Volatile Organic Liquid Storage Tanks). Natural gas fired boilers are subject to 40 CFR pt. 60, subp. Dc (Small Industrial-Commercial-Institutional Steam Generators). The entire facility is subject to 40 CFR pt. 60, subp. VV (Leaks of VOC in the Synthetic Organic Chemicals Industry). Permit action 009 does not add any additional NSPS requirements.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility has accepted limits on HAP emissions such that it is a non-major source under 40 CFR pt. 63. Thus, no major source NESHAPs apply.

Compliance Assurance Monitoring (CAM)

CAM does not apply to the modification allowed in this permit amendment.

Environmental Review & AERA

The facility is limiting its production increase such that it is not subject to environmental review, i.e. an Environmental Assessment Worksheet (EAW), and is not required to perform an Air Emissions Risk Analysis (AERA). The proposed increase in ethanol production of 4.9 million gallons per year is below the threshold that would require an EAW (5 million gallons/year).

Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards of Performance:

Potential emissions from the rest of the facility were provided in an updated BACT analysis received 8/6/10. These calculations update and revise the PTE since permit no. 14300014-005.

### Ongoing Enforcement Action

HCP failed three performance tests for SV011 conducted on October 17, 2007, October 20, 2009, and on December 15, 2009. This is the stack to the valveless regenerative thermal oxidizer #1 (VRTO #1). HCP included with this permit action a revised BACT analysis proposing to increase the BACT limits on SV011 from 0.0217 gr/dscf and 3.47 lb/hr PM and PM<sub>10</sub> to 0.48 lb PM and PM<sub>10</sub>/ton DDGS and 6.78 lb/hr PM and PM<sub>10</sub>. MPCA had rejected HCP's original proposal to increase the BACT limits on SV011 and SV018 in April 2009 and cited insufficient information to raise the limits. Since then, two failed performance tests on SV011 and additional information were submitted by HCP as evidence that the PM and PM<sub>10</sub> BACT limits were set too low from the 2002 Consent Decree. Natural Resource Group (NRG) submitted the raw data used to propose revised BACT limits for SV011 via email on July 8, 2010. Upon review of the raw data, MPCA proposed a more stringent revised BACT limit of 4.70 lb/hr PM and PM<sub>10</sub>. Part of the rationale for rejecting the BACT limit proposal of 6.78 lb/hr was that the log regression equation used to best fit the data did not appear to be based on the raw data itself. The log regression equation used by NRG to arrive at 6.78 lb/hr PM and PM<sub>10</sub> was:

$$\text{Emission Limit (lb PM/hr)} = 2 * \text{LN}(38.2 \text{ MMGal EtOH/yr}) - 0.5 = 6.78 \text{ lb/hr}$$

where 38.2 million gallons/year is the annual production of the east (old) plant. Detailed statistical analysis of the raw data resulted in an MPCA proposed revised BACT limit of 4.70 lb/hr. This limit was chosen by taking the 2-tail 99% upper prediction level of the raw data. Upon review of the draft permit, HCP and their consultant commented on the proposed lb/hr limit on SV011 stating the 4.70 lb/hr limit did not directly correlate to either the existing gr/dscf or proposed lb/ton DDGS limit. HCP requested a limit that was source specific to their process. The 4.70 lb/hr limit was based on stack test data provided by the consultant from HCP and other ethanol plants. A second proposed limit correlating lb/hr to gr/dscf was suggested at 5.75 lb/hr PM and PM<sub>10</sub>. This was derived from taking the air flow results from the previous three stack tests on SV011 and correlating it to the proposed 0.0230 gr/dscf limit and adding a 10% buffer to the result. A 10% buffer was also added to the initially proposed grain loading limit resulting in a revised grain loading limit of 0.0253 gr/dscf. See BACT Revision Calcs attached to this TSD. See also SV011 limit calculations in section 3.1 below.

### Ethanol Production Limit Increase

HCP is requesting to increase the ethanol production limit from 99 to 103.9 million gallons/yr (MMGPY). The facility's 12-month rolling sum is on pace to exceed the current permit limit of 99 MMGPY in the coming months. No change in operation, increase in throughputs (other than ethanol) or expansion of equipment is associated with the higher production rate. The facility has become more efficient than anticipated and is maintaining higher average production rates. Ethanol yield was originally estimated to be approximately 2.6 gallons/bushel of corn. Due to improvements in operating efficiency, the facility is able to maintain an ethanol yield of approximately 2.8 gallons/bushel of corn.

bushels per year in the 99 MMGPY production scenario and the grain throughput needed for the 103.9 MMGPY production will not exceed this amount.

*Hammermilling:* The only technologically feasible control options for the hammermilling operations were baghouse and cyclone. Baghouse, the top control option, was selected for controlling emissions from the hammermilling process. Therefore, no change in control technology is warranted.

The hammermilling equipment will have the same short-term physical operating capacity and the grain loading on the baghouse will be unchanged. The BACT limit for the hammermilling operations baghouse is based on the filter media design guarantee of 0.005 gr/dscf. Therefore, the BACT limit for the hammermilling system is still applicable at the increased annual production limit.

The lb/hr emission limit for the hammermilling operations is based on the hammermilling baghouse fan rating and the outlet grain loading. As indicated above, these will not change; therefore, the lb/hr emission limit for the hammermilling baghouse will not change. There is no emission limit on the fugitive emissions and these emissions are not to be included in determining facility major source status under the PSD or Title V programs because ethanol plants using natural fermentation are not a listed source category; however, these fugitive emissions will not increase due to the annual ethanol production increase because the annual grain throughput will not increase. The grain throughput has been estimated at 36 million bushels per year in the 99 MMGPY production scenario and the grain throughput needed for the 103.9 MMGPY production will not exceed this amount.

*Fermentation Process:* Wet scrubbing was the highest ranking control based on efficiency and energy and environmental considerations. HCP chose to install the top technologically feasible control option for the fermentation process. Therefore, no change in control technology is warranted.

Wet scrubbing can achieve 98% reduction of VOC emissions from the fermentation process or less than 143 parts per million, dry (ppm,d) VOC as carbon at the outlet. HCP completed compliance testing on the west (new) plant CO<sub>2</sub> scrubber (SV016) on August 16, 2007. The plant operated at an ethanol production rate of 126 gal/min. In order to produce 103.9 MMGPY, approximately 67.5 MMGPY (128.4 gal/min) would need to be produced at the west (new) plant. Even though the proposed annual production increase will not increase potential emissions from the fermentation scrubber the projected actual emissions are estimated based on the August 2007 stack testing scaled linearly by production rate. The estimated VOC emissions are below the current permit limit. (See section 3.1.) Therefore, no emission limit increase is requested for the west plant fermentation scrubber.

MPCA policy requires that the facility produce within 10% of maximum during testing. This would require an ethanol production rate of at least 115.6 gal/min during compliance testing. HCP has already exceeded this during the 2007 test. Therefore, HCP has shown through testing, the current BACT control and short-term emission limits require no changes as a result of this production rate increase and no additional testing is necessary in order to increase production to 103.9 MMGPY.

This must occur because distillers' grains co-product must be removed from the process regardless of whether it is dried and sold as the intended products or RTO failure would shut down the entire facility. Because the emissions from this AOS are minimal compared to normal operations and HCP is not likely to make significant amounts of wetcake, this emissions source has not been reviewed for the proposed annual production limit increase.

*DDGS Cooler:* Thermal oxidation was the only technologically feasible control option for the DDGS coolers. The west plant DDGS cooler is already routed to VRTO#2 (SV018) and the east plant DDGS cooler will not have an emission increase because the annual production increase is expected to occur at the west plant. Therefore, no change in BACT control technology is warranted for the proposed increase in annual production. Because the east plant will not increase production, no further analysis of the east plant DDGS cooler is necessary. The west plant DDGS cooler is routed to VRTO#2 (SV018). See projected actual emissions increases in section 3.1.

*Natural Gas Boilers:* The BACT evaluations on the boilers were completed based on the maximum design capacity and continuous maximum operation (8760 hours/yr at equipment capacity). Therefore, no additional review of the control technologies or emission limits for these units is necessary.

*Ethanol Loadout:* Flaring was identified as the top technologically feasible add-on control for ethanol loadout vapors. HCP chose to install the top ranked control technology. Therefore, no change in control technology is warranted as a result of the proposed production increase. The increased annual production will slightly increase the emissions from the ethanol loadout process (see section 3.1). However, the BACT limit of 98% control efficiency will remain unchanged. The short-term emission rates (lb/hr) from the west plant ethanol loadout flare will increase slightly but these are not set as BACT limits.

*Storage Tanks:* The only technologically feasible control options for the storage tanks were floating roofs. HCP chose to install the technologically feasible control option. The floating roofs were installed on the tanks as required by new source performance standard (NSPS) subpart Kb. Therefore, no change in control technology is warranted as a result of the proposed production increase.

There is not a numeric BACT emission limit for the storage tanks. Therefore, no change in BACT limit is necessary for the storage tanks.

*Cooling Towers:* The only technologically feasible control option identified for the cooling towers was drift eliminators. HCP chose to install the top control technology on the cooling towers. Therefore, no change in control technology is warranted as a result of the proposed production increase.

There is not a numeric BACT emission limit for the cooling towers. Therefore, no change in BACT limit is necessary for the cooling towers.

#### Annual Grain Handling Throughput

The grain handling operations are limited based on their conveyor capacity. The east (old) plant has 15,000 bushels/hr of conveyor capacity and the west (new) plant has 30,000 bushels/hr of conveyor capacity. Corn ethanol plants have grain handling equipment that are physically

emission limits at the proposed annual production limit of 103.9 MMGPY.  
Stack test data are summarized in Table 6 below.

**Table 6. Performance Test Rates as Percent of Maximum Capacity**

Source	Test Date	200-Proof Production During Test (gpm)	Historical 200-Proof Max at Molecular Sieves (gpm)*	Percent of Max *
Distillation Scrubber East Plant (SV007)	10/18/2007	67.7	70.8	95.6%
CO <sub>2</sub> Scrubber East Plant (SV003)	10/18/2007	67.7	70.8	95.6%
VRTO#1 (SV011)	10/17/2007	69.0	70.8	97.5%
CO <sub>2</sub> Scrubber West Plant (SV016)	8/16/2007	126.0	133.2	94.6%
VRTO#2 (SV018)	8/15/2007	124.7	133.2	93.2%

\* percent of max based on continuous metering of 200-proof EtOH coming off the molecular sieves  
As stated above, HCP had proposed to change the throughput limit on SV011 from units of gr/dscf to lb PM and PM<sub>10</sub>/ton DDGS. The consultant had proposed the facility would measure the throughput of DDGS during performance testing to meet a lb/ton DDGS limit but had no means to continuously monitor the DDGS throughput when not conducting a test. Also, by analyzing the performance test results for HCP for a given amount of grain throughput in the driers controlled by VRTO#1, there was not enough certainty that the lb/hr particulate limits would be met. For these reasons, the limit will remain in units of gr/dscf and be raised to 0.0253 gr/dscf.

Performance Testing

Initial performance testing requirements were located at SV and EU levels of permit action 007. These initial testing requirements were removed in the subsequent permit action and are being placed back into the permit in this permit action. The initial performance test for HAP at EU031 was cited as BACT in PER007 and is being reinstated in the permit. A table listing the SV or EU location of the performance test in the permit, the pollutant(s) being tested, the due date and the units in which the performance test will be measured is shown below. All performance testing shall be conducted at maximum capacity of the equipment to show compliance with permitted limits.

**Table 7. Future Performance Testing**

Location	Pollutants	Frequency	Due by	Units
SV003	VOC, HAP	60 months	10/17/12	lb/hr
SV007	VOC, HAP	36 months	10/17/10	lb/hr
SV011	PM, SO <sub>2</sub> , VOC, HAP	60 months	10/17/12	lb/hr, gr/dscf (PM)
SV011	CO	36 months	10/17/10	lb/hr
SV016	VOC, HAP	60 months	8/16/12	lb/hr
SV018	PM, PM <sub>10</sub> , SO <sub>2</sub> , VOC, HAP, CO	60 months	8/15/12	lb/hr, gr/dscf (PM)
EU031	PM, PM <sub>10</sub>	60 months	10/17/12	lb/hr
EU031	VOC, HAP	36 months	10/17/10	lb/hr

12/15/2009	27400	26500
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$26500 \text{ dscfm} * 0.0230 \text{ gr/dscf} * 60 \text{ min/hr} * 1 \text{ lb/7000 gr} * 110\% = 5.75 \text{ lb/hr}$

$0.0230 \text{ gr/dscf} * 110\% = 0.0253 \text{ gr/dscf}$

Increase in emissions for loadout flares resulting from the production increase are shown below:

Pollutant (99 mil)	tpy	Existing Fac.	New Fac.
NO <sub>x</sub>	0.87	0.32	0.55
CO	2.04	0.75	1.29
VOC	7.68	2.82	4.85

Pollutant (103.9 mil)	tpy	Existing Fac.	New Fac.
NO <sub>x</sub>	0.89	0.31	0.58
CO	2.09	0.73	1.36
VOC	7.87	2.76	5.11

Projected Actual Emissions Increases

Stack test results for each potentially affected source were reviewed to estimate future projected emissions. The submittal from February 2010 assumed projected emissions balanced over the entire facility (east and west plants) by multiplying the most recent test results by 103.9/99. The August 2010 submittal revised this estimation to conservatively assume the entire 4.9 MMGPY production increase would occur at the west plant (going from 62.6 to 67.5 MMGPY). The most recent test data were used in instances where these data were higher than previous tests. In some cases, the modeled or estimated emission rate was scaled up. Projected actual emissions increases for PM, NO<sub>x</sub> and VOC at the west plant are calculated below.

**PM Increases** (SV018, VRTO#2 test on Aug. 14-16, 2007, assumes equal increases in PM, PM<sub>10</sub> and PM<sub>2.5</sub>)

$2.19 \text{ lb/hr} * 67.5/62.6 = 2.36 \text{ lb/hr}$      $2.36 \text{ lb/hr} - 2.19 \text{ lb/hr} * 8760/2000 = 0.74 \text{ tpy}$

SV018 permit limit: 5.97 lb/hr

**NO<sub>x</sub> Increases** (SV018, VRTO#2 test on Oct. 17-19, 2007)

$9.86 \text{ lb/hr} * 67.5/62.6 = 10.63 \text{ lb/hr}$      $10.63 \text{ lb/hr} - 9.86 \text{ lb/hr} * 8760/2000 = 3.37 \text{ tpy}$

SV018 permit limit: 15.00 lb/hr

**NO<sub>x</sub> Increases** (SV022, Loadout flare #2 PER008 modeled emission rate)

$0.126 \text{ lb/hr} * 67.5/62.6 = 0.136 \text{ lb/hr}$      $0.136 \text{ lb/hr} - 0.126 \text{ lb/hr} * 8760/2000 = 0.044 \text{ tpy}$

No NO<sub>x</sub> limit at SV022

Note: This compares to the 0.03 tpy calculated increase in NO<sub>x</sub> from the tables above (italics).

**VOC Increases** (SV016, CO<sub>2</sub> Scrubber test on Aug. 14-16, 2007)

$2.83 \text{ lb/hr} * 67.5/62.6 = 3.05 \text{ lb/hr}$      $3.05 \text{ lb/hr} - 2.83 \text{ lb/hr} * 8760/2000 = 0.96 \text{ tpy}$

SV016 permit limit: 6.59 lb/hr

**VOC Increases** (SV018, VRTO#2 test on Aug. 14-16, 2007)

$1.08 \text{ lb/hr} * 67.5/62.6 = 1.16 \text{ lb/hr}$      $1.16 \text{ lb/hr} - 1.08 \text{ lb/hr} * 8760/2000 = 0.35 \text{ tpy}$

SV018 permit limit: 15.26 lb/hr

Level*	Requirement (rule basis)	Additional Monitoring	Discussion
	gr/dscf 40 CFR 52.21(j): BACT, Minn. R. 7007.3000		
CE003	Water flow: $\geq 31.5$ gal/min Minn. R. 7007.0800, subps. 2 and 14	See GP004 for monitoring/record keeping requirements	There are no monitoring/recordkeeping requirements at CE003 in the permit. See GP004 for these requirements.
CE008	Pressure Drop: $\geq 19.5$ in. w.c. Water flow: $\geq 60.3$ gal/min Title I Condition: 40 CFR Section 52.21(j): BACT & Minn. R. 7007.3000	See GP004 for monitoring/record keeping requirements	There are no monitoring/recordkeeping requirements at CE008 in the permit. See GP004 for these requirements. These limits were updated based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated.
CE012	Temp: $\geq 1580$ °F Minn. R. 7007.0800, subps. 2 and 14	Record 3-hr rolling average temp	

\*Where the requirement appears in the permit (e.g., EU, SV, GP, etc.).

### 3.3 Insignificant Activities

Heartland Corn Products has several operations which are classified as insignificant activities. These are listed in Appendix I to the permit.

The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this Facility are only subject to general applicable requirements. Using the criteria outlined earlier in this TSD, the following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities.

**Table 9. Insignificant Activities**

Insignificant Activity	General Applicable Emission limit	Discussion
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system will not automatically generate the necessary enforcement notices or documents. Staff must generate these.

### **3.5 Comments Received**

Public Notice Period: October 21, 2010 - November 19, 2010

EPA 45-day Review Period: October 21, 2010 - December 6, 2010

Comments were not received from the public during the public notice period. Comments were not received from EPA during their review period.

### **4. Permit Fee Assessment**

Attachment 4 to this TSD contains the MPCA's assessment of Application and Additional Points used to determine the permit application fee for this permit action as required by Minn. R. 7002.0019. The permit action includes one major amendment permit application, received after the effective date of the rule (July 1, 2009). The permit action includes BACT review for PM and PM<sub>10</sub> limits on SV011.

### **5. Conclusion**

Based on the information provided by Heartland Corn Products, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 14300014-009 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Tarik Hanafy (permit writer/engineer)  
Jennifer Lovett (enforcement)  
Curtis Stock (stack testing)  
Hongming Jiang, Ph.D., P.E. (BACT calculation review)  
Jessica Forsberg (peer reviewer)

AQ File No. 2632; DQ 3011

Attachments: 1. Facility Description and CD-01 Forms  
2. BACT Revision Calculation Spreadsheets  
3. Region V ESA email  
4. Points Calculator

Attachment 1  
Facility Description and CD-01 Forms



**FACILITY DESCRIPTION: GROUPS (GP)**

Show: Active and Pending Records

Action: PER 009

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

ID No.	Group Status	Added By (Action)	Retired By (Action)	Include in EI	Operator ID for Item	Group Description	Group Items
1	Active	PER 006		<input type="checkbox"/>		Tanks subject to NSPS subp. Kb	TK 001, TK 002, TK 003, TK 004, TK 005, TK 006, TK 007, TK 008, TK 009, TK 010, TK 011
2	Active	PER 009		<input type="checkbox"/>		Tanks subject to NSPS subp. Kb	TK 002, TK 003, TK 004, TK 005, TK 006, TK 007, TK 009, TK 010, TK 011, TK 013
3	Active	PER 006		<input type="checkbox"/>		Denatured Ethanol Tanks	TK 003, TK 004, TK 005, TK 007, TK 009, TK 010, TK 011
4	Active	PER 009		<input type="checkbox"/>		Denatured Ethanol Tanks	TK 003, TK 004, TK 005, TK 007, TK 009, TK 010, TK 011, TK 013
5	Active	PER 006		<input type="checkbox"/>		Baghouse Monitoring Requirements	CE 001, CE 002, CE 006, CE 007, CE 035, SV 001, SV 002
6	Active	PER 005		<input type="checkbox"/>		Scrubber Monitoring Requirements	CE 003, CE 005, CE 008, SV 003, SV 007, SV 016
7	Active	PER 005		<input type="checkbox"/>		Cyclone Monitoring Requirements	CE 004, CE 009, SV 011
8	Active	PER 005		<input type="checkbox"/>		NOx Emissions From Fuel Combustion	CE 010, EU 015, EU 018, EU 034, EU 035
9	Active	PER 008		<input type="checkbox"/>		VOC Equipment Leaks	EU 073, FS 004, FS 010



MINNESOTA POLLUTION CONTROL AGENCY  
 AIR QUALITY  
 520 LAFAYETTE ROAD  
 ST. PAUL, MN 55155-4194

**FACILITY DESCRIPTION: STACK/VENTS (SV)**

Show: Active and Pending Records  
 Action: PER 009  
 AQD Facility ID: 14300014  
 Facility Name: Heartland Corn Products

ID No.	Stack/ Vent Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Operators Description	Height of Opening From Ground (feet)	Inside Dimensions		Design Flow Rate at Top (ACFM)	Exit Gas Temperature at Top (°F)	Flow Rate/ Temperature Information Source	Discharge Direction
							Diameter or Length (feet)	Width (feet)				
1	SV 001	Active	PER 005		Grain Handling (CE 001)	15	2		10000		Estimate	Up, With Cap
2	SV 002	Active	PER 002		Hammermill (CE 002)	12	1		3000		Estimate	Up, With Cap
3	SV 003	Active	PER 005		Fermentation (CE 003)	15	2		6240	90	Estimate	Up, No Cap
4	SV 004	Removed	EIS 004		DDGS Dryer (CE 004)	60	2.83		20234	210	Estimate	Up, No Cap
5	SV 005	Removed	PER 005		Distillation (CE 005)	45	.67		400	90	Estimate	Up, No Cap
6	SV 006	Removed	PER 005		Boiler	30	2.67		22512	410	Estimate	Up, No Cap
7	SV 007	Active	PER 006		Distillation Scrubber Stack (CE 005)	60	0.83		323	Estimate	Estimate	Horizontal
8	SV 008	Removed	PER 005		Grain Storage Building Ventilation (CE 020)	30	3	3	21000	Estimate	Estimate	Horizontal
9	SV 009	Removed	PER 005		DDGS Cooling Cyclone (EU 031)	15	1.5		9000	94	Estimate	Up, No Cap
10	SV 010	Removed	PER 005		Boiler	30			13500	410	Estimate	Up, No Cap
11	SV 011	Active	PER 005		VRTO #1 Stack (CE010)	80	6		62300	285	Estimate	Up, No Cap
12	SV 012	Removed	PER 005		DDGS Storage	37	2.67		4925	68	Manufacturer	Up, No Cap
13	SV 013	Active	PER 005		Biorethanol Flare #1	11	1.42		3200	800	Estimate	Up, No Cap
14	SV 014	Active	PER 006		Grain Handling Baghouse #2 (CE 006)	155	3.17		41800	80	Estimate	Up, No Cap
15	SV 015	Active	PER 006		Hammermill Baghouse #2 (CE 007)	155	3.67		27500	100	Estimate	Up, No Cap
16	SV 016	Active	PER 005		CO2 Scrubber #2 (CE 008)	60	2		8188	Estimate	Estimate	Up, No Cap
17	SV 017	Active	PER 005		DDGS Cooler #1(CE 011)	60	2		19700	80	Estimate	Up, No Cap
18	SV 018	Active	PER 005		VRTO #2 (CE 012)	100	6		107000	285	Estimate	Up, No Cap
19	SV 019	Active	PER 005		DDGS Cooler #2 (CE 013)	60	2		33680	80	Estimate	Up, No Cap
20	SV 020	Active	PER 005		Utility Boiler Stack				72000	Estimate	Estimate	Up, No Cap
21	SV 021	Active	PER 005		EIOH Loading Rack Flare #1 (CE 018)	32	3.5		6000	800	Estimate	Up, No Cap
22	SV 022	Active	PER 005		EIOH Loading Rack Flare #2 (CE 019)	32	3.5		6000	800	Estimate	Up, No Cap
23	SV 023	Active	PER 005		Biorethanol Flare #2 (CE 021)	11	1.42		3200	800	Estimate	Up, No Cap
24	SV 024	Active	PER 006		DDGS Handling Baghouse	155	1.83		6400	80	Estimate	Up, No Cap



**FACILITY DESCRIPTION: CONTROL EQUIPMENT (CE)**

Show: Active and Pending Records

Action: PER 009

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

ID No.	Control Equip. Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Control Equip. Type	Control Equipment Description	Manufacturer	Model	Pollutants Controlled	Capture Efficiency (%)	Destruction/Collection Efficiency (%)	Afterburner Combustion Parameters
1	CE 001	Active	PER 001		018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Mac Environmental	96AVS64 Style III	PM10 PM	100 100	99 99	
2	CE 002	Active	PER 005		018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	Mac Environmental	39AVRC32	PM	100	99	
3	CE 003	Active	PER 001		050	Packed-Gas Adsorption Column	Broin & Associates		VOC	100	98	
4	CE 004	Active	PER 001		076	Multiple Cyclone w/o Fly Ash Reinjection - Most Multicyclones	Millerbernd		PM10 PM	100 100	99.9 99.9	
5	CE 005	Active	PER 001		050	Packed-Gas Adsorption Column	Broin & Associates		VOC	100	98	
6	CE 006	Active	EIS 004		018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F	ICM	custom	PM10 PM	80 80	99 99	
7	CE 007	Active	PER 005		018	Fabric Filter - Low Temperature, i.e., T<180 Degrees F			PM	100	99	
8	CE 008	Active	PER 005		050	Packed-Gas Adsorption Column			VOC	100	98	
9	CE 009	Active	PER 005		076	Multiple Cyclone w/o Fly Ash Reinjection - Most Multicyclones						
10	CE 010	Active	PER 008		099	VRTO	Eisenmann		CO PM VOC	100 100 100	0 0 95	
11	CE 011	Active	PER 008		075	Single Cyclone			PM	100	99	
12	CE 012	Active	PER 008		099	VRTO	Eisenmann		CO PM VOC	100 100 100	0 0 95	
13	CE 013	Removed	PER 008		099	Reserved						
14	CE 014	Active	PER 008		099	Low NOx Burners			NOx	100	0	
15	CE 015	Active	PER 008		099	Low NOx Burners			NOx	100	0	
16	CE 016	Active	PER 008		099	Low NOx Burners			NOx	100	0	
17	CE 017	Active	PER 008		099	Low NOx Burners			NOx	100	0	
18	CE 018	Active	PER 005		023	Flaring						
19	CE 019	Active	PER 005		023	Flaring						
20	CE 020	Active	PER 005		023	Flaring						
21	CE 021	Active	PER 005		023	Flaring						
22	CE 022	Active	PER 005		099	Leak Detection Program			VOC	100	95	
23	CE 023	Removed	PER 008		015	Mist Eliminator - Low Velocity i.e., V<250 Ft/Min			PM	100		
24	CE 024	Removed	PER 008		099	Internal Floating Roof						
25	CE 025	Removed	PER 008		099	Internal Floating Roof						



MINNESOTA POLLUTION CONTROL AGENCY  
 AIR QUALITY  
 520 LAFAYETTE ROAD  
 ST. PAUL, MN 55155-4194

**FACILITY DESCRIPTION: EMISSION UNIT (EU)**

Show: Active and Pending Records

Action: PER 009

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

ID No.	Emission Unit Status	Added By (Action)	Retired By (Action)	Insignif. Activity	Operator ID for Item	Stack/Vent ID No(s)	Control Equip. ID No(s)	Operator Description	Manufacturer	Model Number	SIC	Max. Design Capacity	Maximum Design Capacity		Max Fuel Input (mil Btu)	
													Materials	Units n		Units d
1	EU 001	Active	PER 005	<input type="checkbox"/>		SV 001 (M)	CE 001	Corn Dump Pit/Auger	J & D		2869	10000		Ft3(s)	Min	
2	EU 002	Removed	EIS 004	<input type="checkbox"/>		SV 001 (M)		Corn Elevator	J & D		2869	7500		Bushel	Hr	
3	EU 003	Removed	EIS 004	<input type="checkbox"/>		SV 001 (M)		Scalper	J & D		2869	7500		Bushel	Hr	
4	EU 004	Active	PER 001	<input type="checkbox"/>		SV 001 (M)	CE 001	Corn Bin	J & D		2869	23000		Bushel		
5	EU 005	Active	PER 001	<input type="checkbox"/>		SV 001 (M)	CE 001	Corn Bin	J & D		2869	68000		Bushel		
6	EU 006	Active	PER 001	<input type="checkbox"/>		SV 001 (M)	CE 001	Corn Bin	J & D		2869	12000		Bushel		
7	EU 007	Active	PER 001	<input type="checkbox"/>		SV 001 (M)	CE 001	Corn Bin	J & D		2869	68000		Bushel		
8	EU 008	Active	EIS 004	<input type="checkbox"/>		SV 002 (M)	CE 002	Hammermill #1	Bliss	EU-2630-TF	2869	26000		Lb	Hr	
9	EU 009	Removed	EIS 004	<input type="checkbox"/>		SV 005 (M)		Beer Stripper	Arrow Tank		2869	300		Gal	Min	
10	EU 010	Active	PER 005	<input type="checkbox"/>		SV 007	CE 005	Side Stripper	Badger Co		2869	200		Gal	Min	
11	EU 011	Removed	EIS 004	<input type="checkbox"/>		SV 005 (M)		Side Stripper	Badger Co		2869	100		Gal	Min	
12	EU 012	Removed	EIS 004	<input type="checkbox"/>		SV 005 (M)		Molecular Sieve	Kleespie		2869	50		Gal	Min	
13	EU 013	Removed	EIS 004	<input type="checkbox"/>				Grain Storage Building	NA		2869	495000		Ft3		
14	EU 014	Active	PER 005	<input type="checkbox"/>		SV 007 (M)	CE 005	Evaporator	Goslin-Birmingham		2869					
15	EU 015	Active	PER 005	<input type="checkbox"/>		SV 011 (M)	CE 004 CE 010	DDGS Dryer	Broin & Associates		2869	45	Heat	Mmbtu	Hr	45
16	EU 016	Removed	PER 005	<input type="checkbox"/>		SV 001 (M)		DDGS Dump Pit/Auger	J & D		2869	5000		Bushel	Hr	
17	EU 018	Active	PER 005	<input type="checkbox"/>		SV 020	CE 014	Boiler	Superior	8-X-7500-S150-M	2869	1500	Energy	HP		62.8
18	EU 019	Removed	PER 005	<input type="checkbox"/>				Distillation Building	NA		2869	60000		Ft3		
19	EU 020	Removed	PER 005	<input type="checkbox"/>		SV 001 (M)		DDGS Elevator/Truck Loadout	J&D		2869	5000		Bushel	Hr	
20	EU 022	Active	PER 001	<input type="checkbox"/>		SV 003 (M)	CE 003	Fermenter	BMT		2869	285000		Gal		
21	EU 023	Active	PER 001	<input type="checkbox"/>		SV 003 (M)	CE 003	Fermenter	BMT		2869	285000		Gal		
22	EU 024	Active	PER 001	<input type="checkbox"/>		SV 003 (M)	CE 003	Fermenter	BMT		2869	285000		Gal		
23	EU 025	Active	EIS 004	<input type="checkbox"/>		SV 003 (M)	CE 003	Fermenter	BMT		2869	285000		Gal		
24	EU 026	Active	PER 005	<input type="checkbox"/>		SV 007 (M)	CE 005	Liquefaction Tank 1	Miller/Bernd	N/A	2869	10000		Gal		
25	EU 027	Active	PER 005	<input type="checkbox"/>		SV 007 (M)	CE 005	Liquefaction Tank 2	Miller/Bernd	N/A	2869	10000		Gal		
26	EU 028	Active	PER 005	<input type="checkbox"/>		SV 007 (M)	CE 005	Slurry Tank	Miller/Bernd	N/A	2869	7000		Gal		



MINNAPOLITIA  
AIR CONTROL  
520 LAFAYETTE ROAD  
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**FACILITY DESCRIPTION: EMISSION UNIT (EU)**

Show: Active and Pending Records

Action: PER 009

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

ID No.	Emission Unit Status	Added By (Action)	Retired By (Action)	Insignificant Activity	Operator ID for Item	Stack/Vent ID No(s)	Control Equip. ID No(s)	Operator Description	Manufacturer	Model Number	SIC	Max. Design Capacity	Maximum Design Capacity		Max Fuel Input (mil Btu)
													Materials	Units	
27	EU 029	Active	PER 005	<input type="checkbox"/>		SV 007 (M)	CE 005	Yeast Tank	MillerBernd	N/A	2869	10000		Gal	
28	EU 030	Active	PER 005	<input type="checkbox"/>		SV 007 (M)	CE 005	190 Proof Run-Down	B4A	42144	2869	950		Gal	
29	EU 031	Active	PER 005	<input type="checkbox"/>		SV 017	CE 011	DDGS Cooling Cyclone	Millerbernd	N/A	2869	13		Ton	Hr
30	EU 032	Active	PER 006	<input type="checkbox"/>		SV 017	CE 011	Ethanol Loading Rack	Determan	N/A	2869	800		Gal	Min
31	EU 033	Active	PER 001	<input type="checkbox"/>		SV 003 (M)	CE 003	Fermenter	BMT		2869	285000		Gal	
32	EU 034	Active	PER 005	<input type="checkbox"/>		SV 020	CE 015	Boiler	ICM	custom	2869	1500	Energy	Hp	62.8
33	EU 035	Active	PER 005	<input type="checkbox"/>		SV 011	CE 004 CE 010	DDGS Dryer #2	ICM	custom	2869	55	Heat	Mmbtu	30
34	EU 036	Active	PER 005	<input type="checkbox"/>		SV 007	CE 005	Beer Stripper	ICM	custom	2869	4100		Gal	Hr
35	EU 037	Active	PER 005	<input type="checkbox"/>		SV 007	CE 005	Rectifier	ICM	custom	2869	4100		Gal	Hr
36	EU 038	Active	PER 005	<input type="checkbox"/>		SV 007	CE 005	Molecular Sieve	ICM	custom	2869	4100		Gal	Hr
37	EU 039	Active	EIS 004	<input type="checkbox"/>		SV 003	CE 003	Fermenter #6	ICM	custom	2869	500,000		Gal	
38	EU 040	Active	EIS 004	<input type="checkbox"/>		SV 003	CE 003	Beer Well #1	ICM	custom	2869	500,000		Gal	
39	EU 041	Removed	PER 005	<input type="checkbox"/>		SV 001		Corr Bin #5	ICM	custom	2869	68,000		Bushel	
40	EU 042	Removed	PER 005	<input type="checkbox"/>		SV 001		Corr Bin #6	ICM	custom	2869	68,000		Bushel	
41	EU 043	Removed	PER 005	<input type="checkbox"/>				DDGS Storage Building	na	na	2869				
42	EU 044	Active	PER 005	<input type="checkbox"/>		SV 013	CE 020	Methanator Flare #1	ICM	custom	2869				0.0294
43	EU 045	Active	PER 005	<input type="checkbox"/>		SV 002	CE 002	Hammermill #2	ICM	custom	2869	21.6		Ton	Hr
44	EU 046	Active	PER 005	<input type="checkbox"/>		SV 001	CE 001	Corn Elevator #1	ICM	custom	2869	15,000		Bushel	Hr
45	EU 047	Active	PER 005	<input type="checkbox"/>		SV 001	CE 001	Scalper #1	ICM	custom	2869	15,000		Bushel	Hr
46	EU 048	Active	PER 006	<input type="checkbox"/>		SV 014	CE 006	Corn Dump Pit/Auger #2	ICM	Custom	2869				
47	EU 049	Active	PER 005	<input type="checkbox"/>		SV 014	CE 006	Corn Elevator #2	ICM	Custom	2869				
48	EU 050	Active	PER 005	<input type="checkbox"/>		SV 014	CE 006	Scalper #2	ICM	Custom	2869				
49	EU 051	Active	PER 005	<input type="checkbox"/>		SV 014	CE 006	Corn Bin #5	ICM	Custom	2869				
50	EU 052	Active	PER 005	<input type="checkbox"/>		SV 014	CE 006	Corn Bin #6	ICM	Custom	2869				
51	EU 053	Active	PER 005	<input type="checkbox"/>		SV 015	CE 007	Hammermill #3	ICM	Custom	2869				
52	EU 054	Active	PER 005	<input type="checkbox"/>		SV 015	CE 007	Hammermill #4	ICM	Custom	2869				



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Action: PER 009

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

ID No.	Emission Unit Status	Added By (Action)	Retired By (Action)	Insignificant Activity	Operator ID for Item	Stack/Vent ID No(s)	Control Equip. ID No(s)	Operator Description	Manufacturer	Model Number	SIC	Max. Design Capacity	Maximum Design Capacity Materials	Units n	Units d	Max Fuel Input (mil Btu)
53	EU 055	Active	PER 005	<input type="checkbox"/>		SV 016	CE 008	Fermenter #7	ICM	Custom	2869					
54	EU 056	Active	PER 005	<input type="checkbox"/>		SV 016	CE 008	Fermenter #8	ICM	Custom	2869					
55	EU 057	Active	PER 005	<input type="checkbox"/>		SV 016	CE 008	Fermenter #9	ICM	Custom	2869					
56	EU 058	Active	PER 005	<input type="checkbox"/>		SV 016	CE 008	Fermenter #10	ICM	Custom	2869					
57	EU 059	Active	PER 005	<input type="checkbox"/>		SV 016	CE 008	Beer Well #2	ICM	Custom	2869					
58	EU 060	Active	PER 005	<input type="checkbox"/>		SV 011		VRTO #1	ICM	Custom	2869					
59	EU 061	Active	PER 006	<input type="checkbox"/>		SV 016 (M)	CE 008	Beer Stripper #2	ICM	Custom	2869					
60	EU 062	Active	PER 006	<input type="checkbox"/>		SV 016 (M)	CE 008	Rectifier #2	ICM	Custom	2869					
61	EU 063	Active	PER 006	<input type="checkbox"/>		SV 016 (M)	CE 008	Side Stripper #2	ICM	Custom	2869					
62	EU 064	Active	PER 006	<input type="checkbox"/>		SV 016 (M)	CE 008	Molecular Sieve #2	ICM	Custom	2869					
63	EU 065	Active	PER 006	<input type="checkbox"/>		SV 016 (M)	CE 008	Evaporator #2	ICM	Custom	2869					
64	EU 066	Active	PER 006	<input type="checkbox"/>		SV 016 (M)	CE 008	Liquification Tank #3	ICM	Custom	2869					
65	EU 067	Active	PER 006	<input type="checkbox"/>		SV 016 (M)	CE 008	Liquification Tank #4	ICM	Custom	2869					
66	EU 068	Active	PER 006	<input type="checkbox"/>		SV 016 (M)	CE 008	Slurry Tank #2	ICM	Custom	2869					
67	EU 069	Active	PER 006	<input type="checkbox"/>		SV 016 (M)	CE 008	Yeast Tank #2	ICM	Custom	2869					
68	EU 070	Active	PER 006	<input type="checkbox"/>		SV 016 (M)	CE 008	190 Proof Run-Down Tank	ICM	Custom	2869					
69	EU 071	Active	PER 005	<input type="checkbox"/>		SV 018	CE 012	DDGS Dryer #3	ICM	Custom	2869					
70	EU 072	Active	PER 005	<input type="checkbox"/>		SV 018		VRTO #2	ICM	Custom	2869					
71	EU 073	Active	PER 008	<input type="checkbox"/>		SV 016 (M)	CE 008	Fermenter #11	ICM	Custom	2869					
72	EU 074	Active	PER 005	<input type="checkbox"/>		SV 020	CE 016	Utility Boiler #3	ICM	Custom	2869					
73	EU 075	Active	PER 005	<input type="checkbox"/>		SV 020	CE 017	Utility Boiler #4	ICM	Custom	2869					
74	EU 076	Active	PER 006	<input type="checkbox"/>		SV 017	CE 011	Truck Ethanol Loadout #2	ICM	Custom	2869					
75	EU 077	Active	PER 006	<input type="checkbox"/>		SV 017	CE 011	Rail Ethanol Loadout	ICM	Custom	2869					
76	EU 078	Active	PER 005	<input type="checkbox"/>		SV 021	CE 018	Ethanol Loading Rack/Flare #1	ICM	Custom	2869					
77	EU 079	Active	PER 005	<input type="checkbox"/>		SV 022	CE 019	Ethanol Loading Rack/Flare #2	ICM	Custom	2869					
78	EU 080	Active	PER 005	<input type="checkbox"/>		SV 023	CE 021	Methanator Flare #2	ICM	Custom	2869					



MINNAPOLITIA  
 AIR QUALITY  
 520 LAFAYETTE ROAD  
 ST. PAUL, MN 55155-4194

**FACILITY DESCRIPTION: EMISSION UNIT (EU)**

Show: Active and Pending Records

Action: PER 009

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

ID No.	Emission Unit Status	Added By (Action)	Retired By (Action)	Insignificant Activity	Operator ID for Item	Stack/Vent ID No(s)	Control Equip. ID No(s)	Operator Description	Manufacturer	Model Number	SIC	Max. Design Capacity	Maximum Design Capacity		Max Fuel Input (mill Btu)
													Materials	Units	
79	EU 081	Active	PER 005	<input type="checkbox"/>				Wetake Loadout and Storage	ICM	Custom	2869				
80	EU 082	Active	PER 006	<input type="checkbox"/>		SV 024	CE 006	DDGS Bin #1	ICM	Custom	2869				
81	EU 083	Active	PER 006	<input type="checkbox"/>		SV 024	CE 006	DDGS Bin #2	ICM	Custom	2869				



MINNESOTA POLLUTION CONTROL AGENCY  
AIR QUALITY  
520 LAFAYETTE ROAD  
ST. PAUL, MN 55155-4194

6 October, 2010 15:04

# FACILITY DESCRIPTION: STORAGE TANKS (TK)

Show: Active and Pending Records

Action: PER 009

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

ID No.	Tank Status	Added By (Action)	Retired By (Action)	Insignificant Activity	Operator ID for Item	Control Equip. ID No(s)	Product Stored	Interior Height (ft.)	Interior Diameter (ft.)	Capacity (1000 gal)	Construction Type
1 TK 001	Active	PER 005		<input type="checkbox"/>		CE 024	Ethanol & Water	30	15	39.72	Internal Floating Roof
2 TK 001	Active	PER 009		<input type="checkbox"/>		CE 024	Ethanol & Water	30	15	39.72	Fixed Roof
3 TK 002	Active	PER 005		<input type="checkbox"/>		CE 025	Ethanol	38	25	120	Internal Floating Roof
4 TK 003	Active	PER 005		<input type="checkbox"/>		CE 026	Unleaded Gas	30	15	39	Internal Floating Roof
5 TK 004	Active	PER 005		<input type="checkbox"/>		CE 027	Ethanol	33	25	120	Internal Floating Roof
6 TK 005	Active	PER 005		<input type="checkbox"/>		CE 028	Ethanol & Unleaded Gas	42	45	120	Internal Floating Roof
7 TK 005	Active	PER 009		<input type="checkbox"/>		CE 028	Ethanol & Unleaded Gas	42	45	500	Internal Floating Roof
8 TK 006	Active	PER 005		<input type="checkbox"/>		CE 029	Ethanol and Water	27	25	100	Internal Floating Roof
9 TK 007	Active	PER 005		<input type="checkbox"/>		CE 030	Ethanol	27	25	100	Internal Floating Roof
10 TK 008	Active	PER 005		<input type="checkbox"/>			Corrosion Inhibitor	6	8.2	2.3	Fixed Roof
11 TK 009	Active	PER 005		<input type="checkbox"/>		CE 032	Unleaded Gas	27	25	100	Internal Floating Roof
12 TK 010	Active	PER 005		<input type="checkbox"/>		CE 033	Ethanol & Unleaded Gas	54	82	2000	Internal Floating Roof
13 TK 011	Active	PER 006		<input type="checkbox"/>		CE 033	Ethanol & Unleaded Gas	54	82	2000	Internal Floating Roof
14 TK 012	Active	PER 009		<input type="checkbox"/>			Denaturant	20	12	18	Fixed Roof
15 TK 013	Active	PER 009		<input type="checkbox"/>			Ethanol	27	25	100	Internal Floating Roof



MINNESOTA POLLUTION CONTROL AGENCY  
 AIR QUALITY  
 520 LAFAYETTE ROAD  
 ST. PAUL, MN 55155-4194

**FACILITY DESCRIPTION: FUGITIVE SOURCES (FS)**

Show: Active and Pending Records

Action: PER 009

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

ID No.	Fugitive Source Status	Added By (Action)	Retired By (Action)	Insignificant Activity	Operator ID for Item	Pollutant(s) Emitted	Control Equip. ID No(s)	Fugitive Source Description	Year Installed	Year Removed
1	FS 001	Active	PER 001	<input type="checkbox"/>		PM		Facility Truck Traffic Fugitive Emissions		
2	FS 002	Active	PER 005	<input type="checkbox"/>		PM	CE 001	Grain and DDGS Fugitive Emissions		
3	FS 003	Active	PER 001	<input type="checkbox"/>		VOC		Ethanol Product Loading Fugitive Emissions		
4	FS 004	Active	PER 005	<input type="checkbox"/>		VOC	CE 022	VOC Service Equipment		
5	FS 005	Active	PER 005	<input type="checkbox"/>		PM	CE 023	Cooling Towers Original (6 cells)		
6	FS 006	Active	PER 005	<input type="checkbox"/>		PM	CE 023	New Cooling Towers (6 cells)		
7	FS 007	Active	PER 005	<input type="checkbox"/>		PM	CE 001	New Grain Receiving Fugitives		
8	FS 008	Active	PER 005	<input type="checkbox"/>		PM		New DDGS Loadout Fugitives		
9	FS 009	Active	PER 005	<input type="checkbox"/>		PM		New Truck Traffic		
10	FS 010	Active	PER 005	<input type="checkbox"/>		VOC	CE 022	New Equipment Leaks		

**FACILITY DESCRIPTION: Potential-to-emit (by item)**

Show: Active and Pending Records

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>EU 011</b>							
	PM < 2.5 micron	PER 008					
	PM < 10 micron	PER 005					
<b>EU 018</b>							
	Nitrogen Oxides	PER 009		2.51E+00	1.10E+01	1.10E+01	
	PM < 2.5 micron	PER 008		4.50E-01	1.99E+00	1.99E+00	
	PM < 10 micron	PER 005		4.50E-01	1.99E+00	1.99E+00	
	Total Particulate Matter	PER 005		4.50E-01	1.99E+00	1.99E+00	
	Sulfur Dioxide	PER 005		3.60E-02	1.60E-01	1.60E-01	
<b>EU 034</b>							
	Nitrogen Oxides	PER 009		2.51E+00	1.10E+01	1.10E+01	
	PM < 2.5 micron	PER 008		4.50E-01	1.99E+00	1.99E+00	
	PM < 10 micron	PER 005		4.50E-01	1.99E+00	1.99E+00	
	Total Particulate Matter	PER 005		4.50E-01	1.99E+00	1.99E+00	
	Sulfur Dioxide	PER 005		3.60E-02	1.60E-01	1.60E-01	
<b>EU 074</b>							
	Nitrogen Oxides	PER 005		3.94E+00	1.73E+01	1.73E+01	
	Nitrogen Oxides	PER 009		3.96E+00	1.73E+01	1.73E+01	
	PM < 2.5 micron	PER 008		7.10E-01	3.14E+00	3.14E+00	
	PM < 2.5 micron	PER 009		7.20E-01	3.14E+00	3.14E+00	
	PM < 10 micron	PER 005		7.10E-01	3.14E+00	3.14E+00	
	PM < 10 micron	PER 009		7.20E-01	3.14E+00	3.14E+00	
	Total Particulate Matter	PER 005		7.10E-01	3.14E+00	3.14E+00	
	Total Particulate Matter	PER 009		7.20E-01	3.14E+00	3.14E+00	
	Sulfur Dioxide	PER 005		5.70E-02	2.50E-01	2.50E-01	
<b>EU 075</b>							
	Nitrogen Oxides	PER 005		3.94E+00	1.73E+01	1.73E+01	
	Nitrogen Oxides	PER 009		3.96E+00	1.73E+01	1.73E+01	
	PM < 2.5 micron	PER 008		7.10E-01	3.14E+00	3.14E+00	
	PM < 2.5 micron	PER 009		7.20E-01	3.14E+00	3.14E+00	
	PM < 10 micron	PER 005		7.10E-01	3.14E+00	3.14E+00	
	PM < 10 micron	PER 009		7.20E-01	3.14E+00	3.14E+00	
	Total Particulate Matter	PER 005		7.10E-01	3.14E+00	3.14E+00	
	Total Particulate Matter	PER 009		7.20E-01	3.14E+00	3.14E+00	
	Sulfur Dioxide	PER 005		5.70E-02	2.50E-01	2.50E-01	
<b>FS 001</b>							
	PM < 2.5 micron	PER 008		8.70E-01	3.77E+00	3.77E+00	
	PM < 2.5 micron	PER 009		7.50E-02	3.30E-01	3.30E-01	
	PM < 10 micron	PER 005		8.70E-01	3.77E+00	3.77E+00	
	PM < 10 micron	PER 009		3.00E-01	1.32E+00	1.32E+00	
	Total Particulate Matter	PER 005		2.19E+00	9.65E+00	9.65E+00	
	Total Particulate Matter	PER 009		1.54E+00	6.76E+00	6.76E+00	
<b>FS 002</b>							
	PM < 2.5 micron	PER 008		3.00E-02	1.40E-01	1.40E-01	
	PM < 2.5 micron	PER 009		5.00E-03	2.30E-02	2.30E-02	
	PM < 10 micron	PER 005		3.00E-02	1.40E-01	1.40E-01	

**FACILITY DESCRIPTION: Potential-to-emit (by item)**

Show: Active and Pending Records

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>GP 006</b>							
	Carbon Monoxide	PER 005					
	Nitrogen Oxides	PER 005					
	PM < 2.5 micron	PER 008					
	PM < 10 micron	PER 005					
	Total Particulate Matter	PER 005					
	Sulfur Dioxide	PER 005					
	Volatile Organic Compounds	PER 005					
<b>SV 001</b>							
	PM < 2.5 micron	PER 008		4.30E-01	1.88E+00	1.88E+00	
	PM < 10 micron	PER 005		4.30E-01	1.88E+00	1.88E+00	
	Total Particulate Matter	PER 005		4.30E-01	1.88E+00	1.88E+00	
<b>SV 002</b>							
	PM < 2.5 micron	PER 008		2.70E-01	1.17E+00	1.17E+00	
	PM < 10 micron	PER 005		2.70E-01	1.17E+00	1.17E+00	
	Total Particulate Matter	PER 005		2.70E-01	1.17E+00	1.17E+00	
<b>SV 003</b>							
	Acetaldehyde	PER 009		3.59E-01	1.57E+00	1.57E+00	
	Acrolein	PER 009		4.00E-03	1.77E-02	1.77E-02	
	Formaldehyde	PER 009		1.00E-02	4.20E-02	4.20E-02	
	Methanol	PER 009		1.00E-02	4.20E-02	4.20E-02	
	HAPs - Total	PER 009		3.83E-01	1.67E+00	1.67E+00	
	Volatile Organic Compounds	PER 005		2.70E+00	1.20E+01	1.20E+01	
	Volatile Organic Compounds	PER 009		2.73E+00	1.20E+01	1.20E+01	
<b>SV 004</b>							
	PM < 2.5 micron	PER 008					
	PM < 10 micron	EIS 004					
	Total Particulate Matter	EIS 004					
	Volatile Organic Compounds	EIS 004					
<b>SV 005</b>							
	Volatile Organic Compounds	PER 005					
<b>SV 007</b>							
	Acetaldehyde	PER 009		1.72E-01	7.51E-01	7.51E-01	
	Acrolein	PER 009		3.60E-04	1.56E-03	1.56E-03	
	Formaldehyde	PER 009		2.40E-03	1.03E-02	1.03E-02	
	Methanol	PER 009		1.36E-03	5.94E-03	5.94E-03	
	HAPs - Total	PER 009		1.76E-01	7.69E-01	7.69E-01	
	Volatile Organic Compounds	PER 005		9.90E-01	4.35E+00	4.35E+00	
<b>SV 008</b>							
	PM < 2.5 micron	PER 008					
	PM < 10 micron	EIS 004					
	Total Particulate Matter	EIS 004					
<b>SV 009</b>							
	PM < 2.5 micron	PER 008					
	PM < 10 micron	PER 005					
	Total Particulate Matter	PER 005					

**FACILITY DESCRIPTION: Potential-to-emit (by item)**

Show: Active and Pending Records

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>SV 017</b>							
	PM < 10 micron	PER 009		1.06E+00	4.64E+00	4.64E+00	
	Total Particulate Matter	PER 005		1.05E+00	4.64E+00	4.64E+00	
	Total Particulate Matter	PER 009		1.06E+00	4.64E+00	4.64E+00	
	Volatile Organic Compounds	PER 005		3.54E+00	1.56E+01	1.56E+01	
	Volatile Organic Compounds	PER 009		3.56E+00	1.56E+01	1.56E+01	
<b>SV 018</b>							
	Acetaldehyde	PER 009		4.60E-01	2.01E+00	2.01E+00	
	Acrolein	PER 009		4.80E-02	2.10E-01	2.10E-01	
	Carbon Monoxide	PER 005		1.93E+01	8.50E+01	8.50E+01	
	Carbon Monoxide	PER 009		1.94E+01	8.50E+01	8.50E+01	
	Formaldehyde	PER 009		3.20E-01	1.40E+00	1.40E+00	
	Methanol	PER 009		1.90E-01	8.30E-01	8.30E-01	
	HAPs - Total	PER 009		1.02E+00	4.45E+00	4.45E+00	
	Nitrogen Oxides	PER 008		1.50E+01	6.57E+01	4.54E+01	
	Nitrogen Oxides	PER 009		1.50E+01	6.57E+01	6.57E+01	
	PM < 2.5 micron	PER 008		5.94E+00	2.61E+01	2.61E+01	
	PM < 2.5 micron	PER 009		5.97E+00	2.62E+01	2.62E+01	
	PM < 10 micron	PER 005		5.94E+00	2.61E+01	2.61E+01	
	PM < 10 micron	PER 009		5.97E+00	2.62E+01	2.62E+01	
	Total Particulate Matter	PER 005		5.94E+00	2.61E+01	2.61E+01	
	Total Particulate Matter	PER 009		5.97E+00	2.62E+01	2.62E+01	
	Sulfur Dioxide	PER 005		5.02E+00	2.21E+01	2.21E+01	
	Sulfur Dioxide	PER 009		5.05E+00	2.21E+01	2.21E+01	
	Volatile Organic Compounds	PER 005		1.52E+01	6.68E+01	6.68E+01	
	Volatile Organic Compounds	PER 009		1.53E+01	6.68E+01	6.68E+01	
<b>SV 020</b>							
	Carbon Monoxide	PER 005		1.29E+01	5.67E+01	5.67E+01	
	Carbon Monoxide	PER 009		1.29E+01	5.67E+01	5.67E+01	
	Volatile Organic Compounds	PER 005		1.69E+00	7.42E+00	7.42E+00	
	Volatile Organic Compounds	PER 009		1.70E+00	7.42E+00	7.42E+00	
<b>SV 021</b>							
	Carbon Monoxide	PER 005		1.70E-01	7.50E-01	7.50E-01	
	Carbon Monoxide	PER 009		1.70E-01	7.30E-01	7.30E-01	
	Nitrogen Oxides	PER 009		7.10E-02	3.10E-01	3.10E-01	
	Volatile Organic Compounds	PER 005		6.40E-01	2.82E+00	2.82E+00	
	Volatile Organic Compounds	PER 009		6.30E-01	2.76E+00	2.76E+00	
<b>SV 022</b>							
	Carbon Monoxide	PER 005		2.90E-01	1.29E+00	1.29E+00	
	Carbon Monoxide	PER 009		3.10E-01	1.36E+00	1.36E+00	
	Nitrogen Oxides	PER 009		1.30E-01	5.80E-01	5.80E-01	
	Volatile Organic Compounds	PER 005		1.10E+00	4.85E+00	4.85E+00	
	Volatile Organic Compounds	PER 009		1.17E+00	5.11E+00	5.11E+00	
<b>SV 024</b>							
	PM < 2.5 micron	PER 008		2.70E-01	1.18E+00	1.18E+00	
	PM < 10 micron	PER 006		2.70E-01	1.18E+00	1.18E+00	

**FACILITY DESCRIPTION: Potential-to-emit (by item)**

Show: Active and Pending Records

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

Item	Pollutant	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>TK 009</b>							
	Benzene	PER 009		2.50E-03	9.87E-03	9.87E-03	
	Ethylbenzene	PER 009		5.25E-05	2.30E-04	2.30E-04	
	Hexane	PER 009		1.12E-02	4.90E-02	4.90E-02	
	HAPs - Total	PER 009		1.40E-02	6.20E-02	6.20E-02	
	Toluene	PER 009		3.98E-04	1.75E-03	1.75E-03	
	m-Xylenes	PER 009		2.28E-04	1.00E-03	1.00E-03	
	Volatile Organic Compounds	PER 005		2.40E-01	1.04E+00	1.04E+00	
	Volatile Organic Compounds	PER 009		1.70E-01	7.50E-01	7.50E-01	
<b>TK 010</b>							
	Benzene	PER 009		8.56E-05	3.75E-04	3.75E-04	
	Ethylbenzene	PER 009		3.42E-06	1.50E-05	1.50E-05	
	Hexane	PER 009		4.04E-04	1.77E-03	1.77E-03	
	HAPs - Total	PER 009		5.31E-04	2.33E-03	2.33E-03	
	Toluene	PER 009		1.94E-05	8.50E-05	8.50E-05	
	m-Xylenes	PER 009		1.83E-05	8.00E-05	8.00E-05	
	Volatile Organic Compounds	PER 005		8.00E-02	3.50E-01	3.50E-01	
	Volatile Organic Compounds	PER 009		4.50E-02	2.00E-01	2.00E-01	
<b>TK 011</b>							
	Benzene	PER 009		8.56E-05	3.75E-04	3.75E-04	
	Ethylbenzene	PER 009		3.42E-06	1.50E-05	1.50E-05	
	Hexane	PER 009		4.04E-04	1.77E-03	1.77E-03	
	HAPs - Total	PER 009		5.31E-04	2.33E-03	2.33E-03	
	Toluene	PER 009		1.94E-05	8.50E-05	8.50E-05	
	m-Xylenes	PER 009		1.83E-05	8.00E-05	8.00E-05	
	Volatile Organic Compounds	PER 009		4.50E-02	2.00E-01	2.00E-01	
<b>TK 012</b>							
	Benzene	PER 009		9.61E-04	4.21E-03	4.21E-03	
	Hexane	PER 009		8.39E-03	3.67E-02	3.67E-02	
	HAPs - Total	PER 009		9.30E-03	4.10E-02	4.10E-02	
	Volatile Organic Compounds	PER 009		2.10E-01	9.30E-01	9.30E-01	
<b>TK 013</b>							
	Volatile Organic Compounds	PER 009		4.60E-02	2.00E-01	2.00E-01	

**FACILITY DESCRIPTION: Potential-to-emit (by pollutant)**

Show: Active and Pending Records  
 AQD Facility ID: 14300014  
 Facility Name: Heartland Corn Products

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Acetaldehyde</b>							
	SV 003	PER 009		3.590E-01	1.573E+00	1.573E+00	
	SV 007	PER 009		1.715E-01	7.510E-01	7.510E-01	
	SV 011	PER 009		2.700E-01	1.180E+00	1.180E+00	
	SV 016	PER 009		6.180E-01	2.710E+00	2.710E+00	
	SV 017	PER 009		9.770E-02	4.281E-01	4.281E-01	
	SV 018	PER 009		4.600E-01	2.010E+00	2.010E+00	
<b>Totals</b>					8.652E+00	8.652E+00	0.000E+00
<b>Acrolein</b>							
	SV 003	PER 009		4.000E-03	1.765E-02	1.765E-02	
	SV 007	PER 009		3.600E-04	1.560E-03	1.560E-03	
	SV 011	PER 009		2.800E-02	1.210E-01	1.210E-01	
	SV 016	PER 009		7.000E-03	3.000E-02	3.000E-02	
	SV 017	PER 009		6.600E-03	2.900E-02	2.900E-02	
	SV 018	PER 009		4.800E-02	2.100E-01	2.100E-01	
<b>Totals</b>					4.092E-01	4.092E-01	0.000E+00
<b>Benzene</b>							
	TK 003	EIS 004		7.300E-02	3.220E-01	3.220E-01	
	TK 003	PER 009		5.560E-04	2.440E-03	2.440E-03	
	TK 004	EIS 004		7.300E-02	3.220E-01	5.250E-02	
	TK 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	TK 005	EIS 004		1.300E-02	5.250E-02	5.250E-02	
	TK 005	PER 009		6.740E-05	2.950E-04	2.950E-04	
	TK 006	EIS 004					
	TK 007	EIS 004					
	TK 009	PER 009		2.500E-03	9.870E-03	9.870E-03	
	TK 010	PER 009		8.560E-05	3.750E-04	3.750E-04	
	TK 011	PER 009		8.560E-05	3.750E-04	3.750E-04	
	TK 012	PER 009		9.610E-04	4.210E-03	4.210E-03	
<b>Totals</b>					1.757E-02	1.757E-02	0.000E+00
<b>Carbon Monoxide</b>							
	GP 006	PER 005		0.000E+00	0.000E+00	0.000E+00	
	SV 011	PER 005		1.123E+01	4.940E+01	4.940E+01	
	SV 011	PER 009		1.130E+01	4.949E+01	4.949E+01	
	SV 018	PER 005		1.930E+01	8.496E+01	8.496E+01	
	SV 018	PER 009		1.940E+01	8.497E+01	8.497E+01	

**FACILITY DESCRIPTION: Potential-to-emit (by pollutant)**

Show: Active and Pending Records

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Methanol</b>							
	SV 018	PER 009		1.900E-01	8.300E-01	8.300E-01	
<b>Totals</b>					1.636E+00	1.636E+00	0.000E+00
<b>HAPs - Total</b>							
	SV 003	PER 009		3.830E-01	1.670E+00	1.670E+00	
	SV 007	PER 009		1.760E-01	7.690E-01	7.690E-01	
	SV 011	PER 009		5.980E-01	2.600E+00	2.600E+00	
	SV 016	PER 009		6.580E-01	2.880E+00	2.880E+00	
	SV 017	PER 009		1.830E-01	8.000E-01	8.000E-01	
	SV 018	PER 009		1.018E+00	4.450E+00	4.450E+00	
	TK 003	PER 001		4.000E-01	1.750E-01	1.750E-01	
	TK 003	PER 009		5.300E-03	2.300E-02	2.300E-02	
	TK 004	PER 001		5.700E-04	2.850E-02	2.850E-02	
	TK 004	PER 009		0.000E+00	0.000E+00	0.000E+00	
	TK 005	PER 001		5.700E-04	2.850E-02	2.850E-02	
	TK 005	PER 009		4.110E-04	1.800E-03	1.800E-03	
	TK 009	PER 009		1.400E-02	6.200E-02	6.200E-02	
	TK 010	PER 009		5.310E-04	2.330E-03	2.330E-03	
	TK 011	PER 009		5.310E-04	2.330E-03	2.330E-03	
	TK 012	PER 009		9.300E-03	4.100E-02	4.100E-02	
<b>Totals</b>					1.330E+01	1.330E+01	0.000E+00
<b>Toluene</b>							
	TK 005	PER 009		2.280E-05	1.000E-04	1.000E-04	
	TK 009	PER 009		3.980E-04	1.750E-03	1.750E-03	
	TK 010	PER 009		1.940E-05	8.500E-05	8.500E-05	
	TK 011	PER 009		1.940E-05	8.500E-05	8.500E-05	
<b>Totals</b>					2.020E-03	2.020E-03	0.000E+00
<b>m-Xylenes</b>							
	TK 005	PER 009		3.080E-05	1.350E-04	1.350E-04	
	TK 009	PER 009		2.280E-04	1.000E-03	1.000E-03	
	TK 010	PER 009		1.830E-05	8.000E-05	8.000E-05	
	TK 011	PER 009		1.830E-05	8.000E-05	8.000E-05	
<b>Totals</b>					1.295E-03	1.295E-03	0.000E+00
<b>Nitrogen Oxides</b>							
	EU 018	PER 009		2.510E+00	1.100E+01	1.100E+01	
	EU 034	PER 009		2.510E+00	1.100E+01	1.100E+01	
	EU 074	PER 005		3.940E+00	1.734E+01	1.734E+01	

**FACILITY DESCRIPTION: Potential-to-emit (by pollutant)**

Show: Active and Pending Records  
 AQD Facility ID: 14300014  
 Facility Name: Heartland Corn Products

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>PM &lt; 2.5 micron</b>							
	SV 004	PER 008					
	SV 008	PER 008					
	SV 009	PER 008		0.000E+00	0.000E+00	0.000E+00	
	SV 011	PER 008		3.450E+00	1.519E+01	1.519E+01	
	SV 011	PER 009		5.750E+00	2.519E+01	2.519E+01	
	SV 014	PER 008		1.790E+00	7.840E+00	7.840E+00	
	SV 015	PER 008		1.180E+00	5.170E+00	5.170E+00	
	SV 017	PER 008		1.050E+00	4.640E+00	4.640E+00	
	SV 017	PER 009		1.060E+00	4.640E+00	4.640E+00	
	SV 018	PER 008		5.940E+00	2.613E+01	2.613E+01	
	SV 018	PER 009		5.970E+00	2.615E+01	2.615E+01	
	SV 024	PER 008		2.700E-01	1.180E+00	1.180E+00	
<b>Totals</b>					9.138E+01	9.138E+01	0.000E+00
<b>PM &lt; 10 micron</b>							
	EU 011	PER 005		0.000E+00	0.000E+00	0.000E+00	
	EU 018	PER 005		4.500E-01	1.990E+00	1.990E+00	
	EU 034	PER 005		4.500E-01	1.990E+00	1.990E+00	
	EU 074	PER 005		7.100E-01	3.140E+00	3.140E+00	
	EU 074	PER 009		7.200E-01	3.140E+00	3.140E+00	
	EU 075	PER 005		7.100E-01	3.140E+00	3.140E+00	
	EU 075	PER 009		7.200E-01	3.140E+00	3.140E+00	
	FS 001	PER 005		8.700E-01	3.770E+00	3.770E+00	
	FS 001	PER 009		3.000E-01	1.320E+00	1.320E+00	
	FS 002	PER 005		3.000E-02	1.400E-01	1.400E-01	
	FS 002	PER 009		3.200E-02	1.380E-01	1.380E-01	
	FS 003	PER 005		2.100E-02	9.300E-02	9.300E-02	
	FS 005	PER 005		6.500E-01	2.880E+00	2.880E+00	
	FS 005	PER 009		6.580E-01	2.880E+00	2.880E+00	
	FS 006	PER 005		8.700E-01	3.840E+00	3.840E+00	
	FS 006	PER 009		8.770E-01	3.840E+00	3.840E+00	
	FS 007	PER 005		5.700E-02	2.500E-01	2.500E-01	
	FS 007	PER 009		5.800E-02	2.550E-01	2.550E-01	
	FS 008	PER 005		1.800E-02	8.000E-02	8.000E-02	
	FS 009	PER 009		5.600E-01	2.450E+00	2.450E+00	
	GP 006	PER 005		0.000E+00	0.000E+00	0.000E+00	

**FACILITY DESCRIPTION: Potential-to-emit (by pollutant)**

Show: Active and Pending Records

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Total Particulate Matter</b>							
	FS 009	PER 005		2.190E+00	9.650E+00	9.650E+00	
	FS 009	PER 009		2.860E+00	1.254E+01	1.254E+01	
	GP 006	PER 005		0.000E+00	0.000E+00	0.000E+00	
	SV 001	PER 005		4.300E-01	1.880E+00	1.880E+00	
	SV 002	PER 005		2.700E-01	1.170E+00	1.170E+00	
	SV 004	EIS 004					
	SV 008	EIS 004					
	SV 009	PER 005		0.000E+00	0.000E+00	0.000E+00	
	SV 011	PER 005		3.450E+00	1.619E+01	1.619E+01	
	SV 011	PER 009		5.750E+00	2.519E+01	2.519E+01	
	SV 012	EIS 004		2.000E-02	7.000E-02	7.000E-02	
	SV 014	PER 006		1.790E+00	7.840E+00	7.840E+00	
	SV 015	PER 006		1.180E+00	5.170E+00	5.170E+00	
	SV 017	PER 005		1.050E+00	4.640E+00	4.640E+00	
	SV 017	PER 009		1.060E+00	4.640E+00	4.640E+00	
	SV 018	PER 005		5.940E+00	2.613E+01	2.613E+01	
	SV 018	PER 009		5.970E+00	2.615E+01	2.615E+01	
	SV 024	PER 006		2.700E-01	1.180E+00	1.180E+00	
<b>Totals</b>					1.120E+02	1.120E+02	0.000E+00
<b>Sulfur Dioxide</b>							
	EU 018	PER 005		3.600E-02	1.600E-01	1.600E-01	
	EU 034	PER 005		3.600E-02	1.600E-01	1.600E-01	
	EU 074	PER 005		5.700E-02	2.500E-01	2.500E-01	
	EU 075	PER 005		5.700E-02	2.500E-01	2.500E-01	
	GP 006	PER 005		0.000E+00	0.000E+00	0.000E+00	
	SV 011	PER 005		2.920E+00	1.285E+01	1.285E+01	
	SV 011	PER 009		2.930E+00	1.285E+01	1.285E+01	
	SV 018	PER 005		5.020E+00	2.210E+01	2.210E+01	
	SV 018	PER 009		5.050E+00	2.212E+01	2.212E+01	
<b>Totals</b>					3.579E+01	3.579E+01	0.000E+00
<b>Volatile Organic Compounds</b>							
	FS 003	PER 005		0.000E+00	0.000E+00	0.000E+00	
	FS 004	PER 005		8.000E-01	3.540E+00	3.540E+00	
	FS 010	PER 005		8.000E-01	3.540E+00	3.540E+00	
	GP 006	PER 005		0.000E+00	0.000E+00	0.000E+00	

**FACILITY DESCRIPTION: Potential-to-emit (by pollutant)**

Show: Active and Pending Records

AQD Facility ID: 14300014

Facility Name: Heartland Corn Products

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
<b>Volatile Organic Compounds</b>							
	TK 010	PER 005		8.000E-02	3.500E-01	3.500E-01	
	TK 010	PER 009		4.500E-02	2.000E-01	2.000E-01	
	TK 011	PER 009		4.500E-02	2.000E-01	2.000E-01	
	TK 012	PER 009		2.100E-01	9.300E-01	9.300E-01	
	TK 013	PER 009		4.600E-02	2.000E-01	2.000E-01	
<b>Totals</b>					1.936E+02	1.936E+02	0.000E+00



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: Total Facility

	NC/CA	Type	Citation	Requirement
1.0		CD	hdr	COMPLIANCE WITH NATIONAL AND MINNESOTA AMBIENT AIR STANDARDS
2.0		CD	40 CFR pt. 50; Minn. Stat. Sec. 116.07, subds. 4a and 9; Minn. R. 7007.0100, subps. 7A, 7L and 7M; Minn. R. 7007.0800, subps. 1, 2, and 4; Minn. R. 7009.0010-7009.0080	The Permittee shall comply, and upon written request demonstrate compliance, with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080.
3.0		CD	hdr	FACILITY WIDE LIMITS
4.0		LIMIT	Title I Condition: Limit to avoid major source classification under 40 CFR Section 63.2 and Minn. R. 7011.7000	HAPs - Total: less than or equal to 24 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period.
5.0		LIMIT	Title I Condition: Limit to avoid major source classification under 40 CFR Section 63.2 and Minn. R. 7011.7000	HAP-Single: less than or equal to 9 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period.
6.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Monthly Recordkeeping - HAP Emissions. By the 15th of the month, the Permittee shall calculate and record the following using the formulas specified in this permit. 1). The total HAP containing materials used in the previous calendar month using the daily production records. This record shall also include the individual hours of operation. The Permittee shall establish an emissions factor based on site-specific performance test data, and use this data to calculate actual individual and total HAP emissions. 2). The total and individual HAP emissions for the previous month using the formulas specified in this permit. 3). The 12 month rolling sum total and individual HAP emissions for the previous 12 month period by summing the monthly emissions data for the previous 12 months. 4). The total and individual HAP emissions produced as byproducts of the fermentation process.
7.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Monthly Calculation -- HAP Emissions. The Permittee shall calculate each individual HAP and total HAP emissions using the following equations:  HAP Emissions (tons/month) = H - W H = (A1 x B1) + (A2 x B2) + (A3 x B3) + .... W = (C1 x D1) + (C2 x D2) + (C3 x D3) + ....
8.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Monthly HAP Emissions Calculation Continued:  Where: H = the amount of each pollutant (either total HAP or each individual HAP), produced, in tons/month. A# = Amount HAP emitting material produced in the previous month, in tons/month B# = emissions factor of each individual or total HAP in A# (e.g., amount of HAP per ton of DDGS Dried, etc.). W = the amount of each pollutant (either total HAP or each individual HAP) shipped in waste, in tons/month. C# = amount, in tons/month, of each HAP containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero. D# = weight percent of each individual or total HAP in C#, as a fraction.
9.0		CD	hdr	OPERATIONAL LIMITS
10.0		LIMIT	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; BACT and Minn. R. 7007.3000	Production: less than or equal to 103.9 million gallons/year using 12-month Rolling Sum of fuel ethanol (pure ethanol, prior to addition of denaturant).
11.0		CD	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; BACT and Minn. R. 7007.3000	Recordkeeping: By the 15th day of every month, record the gallons of ethanol produced during the previous month, and the gallons of ethanol produced during the previous 12 months (12-month rolling sum).



COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

23.0		CD	Minn. R. 7019.1000, subp. 1	Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.
24.0		CD	Minn. R. 7007.0800, subp. 4(D)	Operation of Monitoring Equipment: Unless otherwise noted in Tables A and/or B, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.
25.0		CD	Minn. R. 7011.0020	Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.
26.0		CD	Minn. R. 7007.1150 - 7007.1500	Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.
27.0		S/A	Minn. R. 7007.0400, subp. 2	Application for Permit Reissuance: due 180 days before expiration of Existing Permit
28.0		S/A	Minn. R. 7007.0800, subp. 6 (C)(1)	Compliance Certification: due 30 days after end of each calendar year starting 05/22/1998 (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.
29.0		CD	Minn. R. 7019.3000 - 7019.3010	Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. To be submitted on a form approved by the Commissioner.
30.0		CD	Minn. R. 7002.0005 - 7002.0095	Emission Fees: due 60 days after receipt of an MPCA bill.
31.0		CD	Minn. R. 7007.0800, subp. 16	The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.
32.0		CD	Minn. R. 7030.0010 - 7030.0080	Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.
33.0		CD	Minn. R. 7011.0150	Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.
34.0		CD	Minn. R. 7007.0800, subp. 9(A)	Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).
35.0		S/A	Minn. R. 7007.0800, subp. 6(A)	Semiannual Deviations Report: due 30 days after end of each calendar half-year starting 05/22/1998. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.
36.0		CD	hdr	RECORDKEEPING
37.0		CD	Minn. R. 7007.0800, subp. 5(B)	Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.
38.0		CD	Minn. R. 7007.0800, subp. 5(C)	Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

49.0		CD	Minn. R. 7009.0020; Minn. R. 7007.0800, subp. 2	The Permittee shall clean (sweep and vacuum) all paved truck routes (Road segments A-U) at least once per week, and record the date of the cleaning. In addition, the Permittee shall clean (sweep and vacuum) selected paved grain and/or DDGS truck routes (segments Q, J, and L) at least twice per week, and record the date of each cleaning. The Permittee may choose to use water rather than vacuuming and sweeping to minimize fugitive dust emissions.
50.0		CD	40 CFR Section 52.21 and Minn. R. 7009.0020	The Permittee shall retain on-site and follow the diesel emission idling prevention plan submitted to MPCA on June 9, 2006. If any changes are to be made to the diesel emission idling prevention plan, submit the proposed changes to MPCA for review and approval prior to implementation.
51.0		S/A	Minn. R. 7007.0800, subp. 2	Computer Dispersion Modeling Protocol: due 365 days after Permit Issuance of Permit No. 14300014-009 for PM10 including permitted limits at SV011 and SV018.
52.0		S/A	Minn. R. 7007.0800, subp. 2	Computer Dispersion Modeling Results: due 90 days after Computer Dispersion Modeling Protocol for PM10 is accepted by MPCA staff.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: GP 002 Denatured Ethanol Tanks

- Associated Items:
- TK 003 Unleaded Gas
  - TK 004 Ethanol
  - TK 005 Ethanol & Unleaded Gas
  - TK 007 Ethanol
  - TK 009 Unleaded Gas
  - TK 010 Ethanol & Unleaded Gas
  - TK 011 Ethanol & Unleaded Gas
  - TK 013 Ethanol

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	POLLUTION CONTROL REQUIREMENTS
2.0		CD	40 CFR Section 60.112b(a); Minn. R. 7011.1520(C)	Each storage vessel in GP 002 shall be equipped with a fixed roof in combination with an internal floating roof meeting the specifications of 40 CFR Section 60.112b (a)(1).
3.0		CD	40 CFR Section 60.112b(a)(1)(ii)(B); Minn. R. 7011.1520(C)	Each internal floating roof shall be equipped with two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.
4.0		CD	hdr	MONITORING REQUIREMENTS
5.0		CD	40 CFR Section 60.113b(a)(1); Minn. R. 7011.1520(C)	Visually inspect the internal floating roof, the primary seal, and the secondary seal, prior to filling the storage vessel with Volatile Organic Liquid (VOL). If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric, or defects in the internal floating roof, or both, the Permittee shall repair the items before filling the storage vessel.
6.0		CD	40 CFR Section 60.113b(a)(3)(ii); Minn. R. 7011.1520(C)	Visually inspect the internal floating roof, the primary seal, and the secondary seal through manholes and roof hatches on the fixed roof at least once every twelve (12) months after initial fill as required by this paragraph.
7.0		CD	40 CFR Section 60.113b(a)(3)(i); Minn. R. 7011.1520(C)	Visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes, and sleeve seals (if any) each time each storage vessel is emptied and degassed as required by 40 CFR Section 60.113b (a)(3)(i). In no event shall inspections conducted in accordance with this provision occur at intervals greater than five (5) years.
8.0		CD	hdr	RECORDKEEPING REQUIREMENTS
9.0		CD	40 CFR Section 60.115b(a)(2); Minn. R. 7011.1520(C)	Keep a record of each inspection performed as required by 40 CFR Section 60.113b(a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).
10.0		CD	hdr	REPORTING REQUIREMENTS
11.0		CD	40 CFR Section 60.115b(a)(4); Minn. R. 7011.1520(C)	After each inspection required by 40 CFR Section 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 40 CFR Section 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of 40 CFR Section 60.112b(a)(1) or 40 CFR Section 60.113b(a)(3)(ii) and list each repair made.
12.0		CD	40 CFR Section 60.115b(a)(5); Minn. R. 7011.1520(C)	Notification: If an inspection is required (under 40 CFR Section 60.113b(a)(1) or 40 CFR Section 60.113b(a)(3)(i)), notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel, to afford the Administrator the opportunity to have an observer present. If the inspection is not planned and the Permittee could not have known about the inspection 30 days in advance of refilling the tank, the Permittee shall notify the Administrator at least 7 days prior to refilling the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to refilling.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: GP 004 Scrubber Monitoring Requirements

- Associated Items:
- CE 003 Packed-Gas Adsorption Column
  - CE 005 Packed-Gas Adsorption Column
  - CE 008 Packed-Gas Adsorption Column
  - SV 003 Fermentation (CE 003)
  - SV 007 Distillation Scrubber Stack (CE 005)
  - SV 016 CO2 Scrubber #2 (CE 008)

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Volatile Organic Compounds: greater than or equal to 95 percent collection efficiency or less than or equal to 20 ppm VOC if the inlet is less than 200 ppm VOC as total mass of VOC.
2.0		CD	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Record the pressure drop and water flow rate of each scrubber once each day of operation.  Pressure drop and flowrate are specified under SV003, SV016, CE003, CE005 and CE008.
3.0		CD	Minn. R. 7007.0800, subps. 2 and 14	Calibrate the gauges annually, or as often as required by manufacturing specifications and maintain a written record of the calibration and any action resulting from the calibration.
4.0		CD	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	The Permittee shall operate and maintain the scrubber at all times that any emission unit controlled by the scrubber is in operation. The Permittee shall document periods of non-operation of the control equipment.
5.0		CD	Minn. R. 7007.0800, subp. 4	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored scrubber is in operation.
6.0		CD	Minn. R. 7007.0800, subp. 14	Operation and Maintenance of Wet Scrubber: The Permittee shall operate and maintain the wet scrubber according to the control equipment manufacturer's specifications.
7.0		CD	Minn. R. 7007.0800, subp. 14	The Permittee shall operate and maintain the scrubber in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.
8.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded pressure drop or water flow rate is outside the required operating range; or - the scrubber or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the scrubber. The Permittee shall keep a record of the type and date of any corrective action taken for each scrubber.
9.0		CD	Minn. R. 7007.0800, subps. 2 and 14	Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.



# COMPLIANCE PLAN **CD-01**

Facility Name: Heartland Corn Products

mit Number: 14300014 - 009

Subject Item: GP 006 NOx Emissions From Fuel Combustion

Associated Items: CE 010 VRTO  
 EU 015 DDGS Dryer  
 EU 018 Boiler  
 EU 034 Boiler  
 EU 035 DDGS Dryer #2

	NC/ CA	Type	Citation	Requirement
1.0		CD	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2	Fuel Burned: Natural gas only.
2.0		CD	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000	Recordkeeping - Fuel Usage: Once each day, record the cubic feet of natural gas combusted by all units in GP 006 during the previous day



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

12.0		CD	40 CFR Section 60.482-4(a); Minn. R. 7011.2900	(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background as determined by the methods specified in 40 CFR Section 60.485(c).
13.0		CD	40 CFR Section 60.482-4(b); Minn. R. 7011.2900	(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 CFR Section 60.482-9 (Delay of Repair).
14.0		CD	hdr	STANDARDS: SAMPLING CONNECTION SYSTEMS
15.0		CD	40 CFR Section 60.482-5(a); Minn. R. 7011.2900	(a) Each sampling connection system shall be equipped with a closed-purged, closed-loop, or closed-vent system, except as provided in 40 CFR Section 60.482-1(c).
16.0		CD	40 CFR Section 60.482-5(b) and (c); Minn. R. 7011.2900	(b) Each closed-purge, closed-loop, or closed-vent system shall:  (1) Return the purged process fluid directly to the process line; or (2) Collect and recycle the purged process fluid to a process; or (3) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of 40 CFR Section 60.482-10.  (c) In situ sampling systems are exempt from these requirements.
17.0		CD	hdr	STANDARDS: OPEN ENDED VALVES OR LINES
18.0		CD	40 CFR Section 60.482-6(a); Minn. R. 7011.2900	(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR Section 60.482-1(c).  (2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.
19.0		CD	40 CFR Section 60.482-6(b) and (c); Minn. R. 7011.2900	(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.  (c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all other times.
20.0		CD	hdr	STANDARDS: VALVES
21.0		CD	40 CFR Section 60.482-7(a); Minn. R. 7011.2900	(a) Each valve shall be monitored monthly to detect leaks by the methods specified in 40 CFR Section 60.485(b).
22.0		CD	40 CFR Section 60.482-7(b) and (c); Minn. R. 7011.2900	(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.  (c)(1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.  (2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.
23.0		CD	40 CFR Section 60.482-7(d); Minn. R. 7011.2900	(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 40 CFR Section 60.482-9.  (2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
24.0		CD	40 CFR Section 60.482-7(e); Minn. R. 7011.2900	(e) First attempts at repair include, but are not limited to, the following best practices where practicable:  (1) Tightening of bonnet bolts; (2) Replacement of bonnet bolts; (3) Tightening of packing gland nuts; (4) Injection of lubricant into lubricated packing.
25.0		CD	hdr	STANDARDS: PUMPS AND VALVES IN HEAVY LIQUID SERVICE, PRESSURE RELIEF DEVICES IN LIGHT LIQUID OR HEAVY LIQUID SERVICE, AND FLANGES AND OTHER CONNECTORS



COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

38.0		CD	40 CFR Section 60.486(c); Minn. R. 7011.2900	(c) When each leak is detected the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:  (1) The instrument and operator identification numbers and the equipment identification number. (2) The date the leak was detected and the dates of each attempt to repair the leak (3) Repair methods applied in each attempt to repair the leak. (4) Above 10,000 is the maximum instrument reading measured by the methods specified in 40 CFR Section 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.
39.0		CD	40 CFR Section 60.486(c); Minn. R. 7011.2900	(5) Repair delayed and the reason for the delay if a leak is not repaired within 15 calendar days after discover of the leak. (6) The signature of the owner or operator whose decision it was that the repair could not be effected without a process shutdown. (7) The expected date of successful repair of the leak if a leak is not repaired within 15 days. (8) Dates of process unit shutdown that occur while the equipment is unrepaired. (9) The date of successful repair of the leak.
40.0		CD	hdr	REPORTING REQUIREMENTS
41.0		CD	40 CFR Section 60.487(a); Minn. R. 7011.2900	(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning six months after the initial startup date.
42.0		CD	40 CFR Section 60.487(b); Minn. R. 7011.2900	(b) The initial semiannual report to the Administrator shall include the following information:  (1) Process unit identification, (2) Number of valves subject to the requirements of 40 CFR Section 60.482-7, (3) Number of pumps subject to the requirements of 40 CFR Section 60.482-2, (4) Number of compressors subject to the requirements of 40 CFR Section 60.482-3
43.0		CD	40 CFR Section 60.487(c); Minn. R. 7011.2900	(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR Section 60.486:  (1) Process unit identification. (2) For each month during the semiannual reporting period, (i) Number of valves for which leaks were detected as described in 40 CFR Section 60.482(7)(b) or 40 CFR Section 60.483-2 (ii) Number of valves for which leaks were not repaired as required in 40 CFR Section 60.482-7(d)(1), (iii) Number of pumps for which leaks were detected as described in 40 CFR Section 60.482-2(b) and (d)(6)(i), (iv) Number of pumps for which leaks were not repaired as required in 40 CFR Section 60.482-2(c)(1) and (d)(6)(ii).
44.0		CD	40 CFR Section 60.487(c); Minn. R. 7011.2900	(v) Number of compressors for which leaks were detected as described in 40 CFR Section 60.482-3(f), (vi) Number of compressors for which leaks were not repaired as required in 40 CFR Section 60.482-3(g)(1) (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.
45.0		CD	40 CFR Section 60.487(c); Minn. R. 7011.2900	(3) Dates of process unit shutdowns which occurred within the semiannual reporting period. (4) Revisions to items reported according to paragraph (b) if changes have occurred since the initial report or subsequent revisions to the initial report.
46.0		CD	40 CFR Section 60.487(e); Minn. R. 7011.2900	(e) Report the results of all performance tests in accordance with 40 CFR Section 60.8. The provisions of 40 CFR Section 60.8(d) do not apply to affected facilities subject to the provisions of this subpart except than an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: SV 002 Hammermill (CE 002)

Associated Items: EU 008 Hammermill #1

EU 045 Hammermill #2

GP 003 Baghouse Monitoring Requirements

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION LIMITS
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 0.27 lbs/hour
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.27 lbs/hour
4.0		LIMIT	Minn. R. 7011.1005, subp. 3(D)	Opacity: less than or equal to 10 percent opacity
5.0		CD	hdr	POLLUTION CONTROL REQUIREMENTS
6.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Total Particulate Matter: greater than or equal to 99 percent control efficiency
7.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	PM < 10 micron: greater than or equal to 99 percent control efficiency



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: SV 007 Distillation Scrubber Stack (CE 005)

- Associated Items:
- EU 010 Side Stripper
  - EU 014 Evaporator
  - EU 026 Liquefaction Tank 1
  - EU 027 Liquefaction Tank 2
  - EU 028 Slurry Tank
  - EU 029 Yeast Tank
  - EU 030 190 Proof Run-Down
  - EU 036 Beer Stripper
  - EU 037 Rectifier
  - EU 038 Molecular Sieve
  - GP 004 Scrubber Monitoring Requirements

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	Minn. R. 7011.0715, subp. 1(B)	Opacity: less than or equal to 20 percent opacity
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000	Volatile Organic Compounds: less than or equal to 0.99 lbs/hour as total mass of VOC.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000	Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or emissions no higher than 10 ppm outlet VOC concentration.
4.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 36 months starting 10/17/2007 to measure VOC in lb/hr. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.
5.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 36 months starting 10/17/2007 to measure HAP emissions from SV 007. Testing must include all chemicals listed in Appendix IV of this permit. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.
6.0		CD	Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subps. 1-2	Performance Test Notifications and Submittals;  Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 days after each Performance Test.  The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

20.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 10/17/2007 to measure SO <sub>2</sub> in lb/hr. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.
21.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 10/17/2007 to measure VOC in lb/hr. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.
22.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 10/17/2007 to measure HAP emissions from the dryers. Testing must include all chemicals listed in Appendix IV of this permit. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.
23.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 36 months starting 10/17/2007 to measure CO in lb/hr. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.
24.0		CD	Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subps. 1-2	Performance Test Notifications and Submittals;  Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 days after each Performance Test.  The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.
25.0		S/A	Minn. R. 7017.2020, subp. 1	Testing Frequency Plan: due 60 days after Performance Test for PM <sub>10</sub> measured in gr/dscf and lb/hr. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.
26.0		CD	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800 subp. 15 (j)	Thermal Oxidizer Burnouts and Other Maintenance Activities: During thermal oxidizer malfunctions and any other maintenance for which the manufacturer recommends dryer emissions bypass the thermal oxidizer, the dryer shall be shutdown. Wet DDGS shall be stored and handled to minimize VOC emissions and odors during these maintenance activities.  The Permittee shall maintain a record of such maintenance activities in the O & M plan for CE 010.
27.0		CD	Minn. R. 7007.0800, subp. 2	Thermal Oxidizer Breakdown: In the event of a breakdown of the thermal oxidizer, the Permittee shall stop feed into the dryer as soon as the breakdown is discovered. Dryer operation may continue as long as necessary to empty the dryer. The Permittee shall also submit the notification required by Minn. R. 7019.1000, subp. 2, if required.
28.0		CD	Minn. R. 7007.0800, subp. 2	Wet cake storage limitation: When wet cake by-product is produced, it will be stored for no longer than 72 hours on-site unless the outside temperature is less than 55 degrees (daily maximum). In all cases, the wet cake will be moved off-site as soon as possible.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: SV 015 Hammermill Baghouse #2 (CE 007)

Associated Items: EU 053 Hammermill #3

EU 054 Hammermill #4

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION LIMITS
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.005 grains/dry standard cubic foot
4.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (k) and Minn. R. 7007.3000	PM < 10 micron: less than or equal to 1.18 lbs/hour
5.0		LIMIT	Minn. R. 7011.1005, subp. 3(D)	Opacity: less than or equal to 10 percent opacity
6.0		CD	hdr	POLLUTION CONTROL REQUIREMENTS
7.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Total Particulate Matter: greater than or equal to 99 percent control efficiency
8.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	PM < 10 micron: greater than or equal to 99 percent control efficiency



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: SV 018 VRTO #2 (CE 012)

Associated Items: EU 071 DDGS Dryer #3

EU 072 VRTO #2

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION LIMITS
2.0		LIMIT	Minn. R. 7011.0610, subp. 1(A)(1)	Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 5.97 lbs/hour
4.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	PM < 10 micron: less than or equal to 5.97 lbs/hour
5.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Volatile Organic Compounds: less than or equal to 15.26 lbs/hour as total mass of VOC.
6.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Nitrogen Oxides: less than or equal to 15.00 lbs/hour. This limit includes total NOx of both thermal and process origin.
7.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Nitrogen Oxides: less than or equal to 31.00 parts per million by volume, wet gas basis. This limit includes total NOx of both thermal and process origin.
8.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Carbon Monoxide: less than or equal to 19.4 lbs/hour
9.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); and Minn. R. 7007.3000	Sulfur Dioxide: less than or equal to 5.05 lbs/hour
10.0		CD	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	The dryer shall be fitted with a low-NOx burner specified to emit at 0.04 lb/MMBtu or less.
11.0		CD	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Fuel Burned: Natural Gas Only
12.0		CD	hdr	POLLUTION CONTROL REQUIREMENTS
13.0		LIMIT	Minn. R. 7011.0610, subp. 1(A)(2)	Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.
14.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.0217 grains/dry standard cubic foot
15.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 0.0217 grains/dry standard cubic foot
16.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Carbon Monoxide: greater than or equal to 90 percent control efficiency or less than or equal to 100 ppm
17.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or less than or equal to 20 ppm VOC if the inlet is less than 200 ppm VOC as total mass of VOC.
18.0		CD	hdr	TESTING REQUIREMENTS
19.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due 180 days after 11/30/2009 to measure total NOx emissions from SV 018 on both a lbs/hour basis and a parts per million by weight basis. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.
20.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 08/15/2007 to measure Particulate Matter in gr/dscf and lb/hr. The performance test shall be conducted at maximum capacity of all emission units associated with this stack.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: SV 024 DDGS Handling Baghouse

Associated Items: EU 082 DDGS Bin #1

EU 083 DDGS Bin #2

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION LIMITS
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.005 grains/dry standard cubic foot
4.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (k); and Minn. R. 7007.3000	PM < 10 micron: less than or equal to 0.27 lbs/hour
5.0		LIMIT	Minn. R. 7011.1005, subp. 3(D)	Opacity: less than or equal to 10 percent opacity
6.0		CD	hdr	POLLUTION CONTROL REQUIREMENTS
7.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Total Particulate Matter: greater than or equal to 99 percent control efficiency
8.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	PM < 10 micron: greater than or equal to 99 percent control efficiency
9.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Pressure Drop: greater than or equal to 0.5 inches of water column and less than or equal to 8.0 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pressure drop at least once every 24 hours when in operation.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: EU 031 DDGS Cooling Cyclone

Associated Items: CE 011 Single Cyclone

SV 017 DDGS Cooler #1(CE 011)

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or emissions no higher than 10 ppm VOC as total mass of VOC. This limit applies until the US EPA approves a modification removing this limit from the Consent Decree.
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Total Particulate Matter: less than or equal to 1.06 lbs/hour
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	PM < 10 micron: less than or equal to 1.06 lbs/hour
4.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Volatile Organic Compounds: less than or equal to 3.56 lbs/hour as total mass of VOC. This limit applies if the US EPA removes the required 95% reduction of VOC from the Heartland Corn Products Consent Decree.
5.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Volatile Organic Compounds: less than or equal to 0.269 lbs/ton DDG produced. This limit applies if the US EPA removes the required 95% reduction of VOC from the Heartland Corn Products Consent Decree.
6.0		LIMIT	Minn. R. 7011.0715, subp. 1(B)	Opacity: less than or equal to 10 percent opacity
7.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Pressure Drop: less than or equal to 8 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pressure drop at least once every 24 hours when in operation. See GP 005 for additional EU 031 requirements.
8.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 10/17/2007 to measure Particulate Matter in lb/hr. The performance test shall be conducted at maximum capacity of the emission unit.
9.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 10/17/2007 to measure PM10 in lb/hr. The performance test shall be conducted at maximum capacity of the emission unit.
10.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 36 months starting 10/17/2007 to measure VOC in lb/hr. The performance test shall be conducted at maximum capacity of the emission unit.
11.0		S/A	Title I Condition: 40 CFR Section 63.2 and Minn. R. 7011.7000	Performance Test: due before end of each 36 months starting 10/17/2007 to measure HAP emissions from EU 031. Testing must include all chemicals listed in Appendix IV of this permit. The performance test shall be conducted at maximum capacity of the emission unit.
12.0		CD	Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subps. 1-2	Performance Test Notifications and Submittals;  Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 days after each Performance Test.  The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: EU 071 DDGS Dryer #3

Associated Items: CE 012 VRTO

SV 018 VRTO #2 (CE 012)

	NC/ CA	Type	Citation	Requirement
1.0		CD	Title I Condition: 40 CFR Section 52.21(j); BACT and Minn. R. 7007.3000	The dryer shall be fitted with a low-NOx burner specified to emit at 0.04 lb/MMBtu or less.
2.0		CD	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2	Fuel Burned: Natural gas only.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: EU 073 Fermenter #11

Associated Items: CE 008 Packed-Gas Adsorption Column  
 GP 007 VOC Equipment Leaks  
 SV 016 CO2 Scrubber #2 (CE 008)

	NC/ CA	Type	Citation	Requirement
1.0		S/A	40 CFR Section 60.7(a)(1); Minn. R. 7019.0100, subp. 1	Notification of the Date Construction Began: due 30 days after Start Of Construction
2.0		S/A	40 CFR Section 60.7(a)(3); Minn. R. 7019.0100, subp. 1	Notification of the Actual Date of Initial Startup: due 15 days after Initial Startup
3.0		CD	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1	Notification of any physical or operational change which increases emission rate: due 60 days (or as soon as practical) before the change is commenced.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

mit Number: 14300014 - 009

Subject Item: EU 075 Utility Boiler #4

Associated Items: CE 017 Low NOx Burners

SV 020 Utility Boiler Stack

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Nitrogen Oxides: less than or equal to 0.04 lbs/million Btu heat input . This limit includes all NOx generated by natural gas combustion.
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Carbon Monoxide: less than or equal to 0.04 lbs/million Btu heat input
3.0		CD	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2	Fuel Burned: Natural gas only.
4.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 08/14/2007 to measure CO in lb/mmBtu. The performance test shall be conducted at maximum capacity of the emission unit.
5.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each year starting 07/17/2009 to measure NOx in lb/mmBtu. The performance test shall be conducted at maximum capacity of the emission unit.
6.0		CD	Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subps. 1-2	Performance Test Notifications and Submittals; Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 days after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: EU 079 Ethanol Loading Rack/Flare #2

Associated Items: CE 019 Flaring

SV 022 EtOH Loading Rack Flare #2 (CE 019)

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or less than or equal to 20 ppm VOC if the inlet is less than 200 ppm VOC as total mass of VOC.
2.0		CD	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Opacity: not greater than 0 percent opacity using a 6-minute average except for periods not to exceed 5 minutes in any 2 consecutive hours.
3.0		CD	Minn. R. 7007.0800, subp. 14	Operate the flare only with a net heating value of the gas combusted of 300 Btu/scf or greater with a steam-assisted or air assisted flare; or with the net heating value of the gas being combusted of 200 Btu/scf with a nonassisted flare.
4.0		CD	Minn. R. 7007.0800, subp. 16J	The Permittee shall operate and maintain the flare any time that any process equipment controlled by the flare is in operation.
5.0		CD	Minn. R. 7007.0800, subp. 14	The Permittee shall operate and maintain the flare in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M plan available on site for use by staff and MPCA staff.
6.0		CD	Minn. R. 7007.0800, subp. 4	Monitoring Equipment: The Permittee shall install and maintain thermocouples to monitor the presence of a pilot flame. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required.
7.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory and electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.
8.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Corrective Actions: If a pilot flame is not present or if the flare or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective action shall result in return to operation of the pilot flame and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the flare. The Permittee shall keep a record of the type and date of any corrective action taken.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: CE 001 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

- Associated Items:
- EU 001 Corn Dump Pit/Auger
  - EU 004 Corn Bin
  - EU 005 Corn Bin
  - EU 006 Corn Bin
  - EU 007 Corn Bin
  - EU 046 Corn Elevator #1
  - EU 047 Scalper #1
  - FS 002 Grain and DDGS Fugitive Emissions
  - FS 007 New Grain Receiving Fugitives
  - GP 003 Baghouse Monitoring Requirements

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent control efficiency
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Pressure Drop: greater than or equal to 0.5 inches of water column and less than or equal to 8.0 inches of water column , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pressure drop at least once every 24 hours when in operation.
4.0		CD	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5	Visible Emissions: The Permittee shall check each fabric filter stack (SV 001) for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.
5.0		CD	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5	Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products  
 Permit Number: 14300014 - 009

Subject Item: CE 003 Packed-Gas Adsorption Column

- Associated Items:
- EU 022 Fermenter
  - EU 023 Fermenter
  - EU 024 Fermenter
  - EU 025 Fermenter
  - EU 033 Fermenter
  - EU 039 Fermenter #6
  - EU 040 Beer Well #1
  - GP 004 Scrubber Monitoring Requirements

	NC/CA	Type	Citation	Requirement
1.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or less than or equal to 20 ppm VOC if the inlet is less than 200 ppm VOC as total mass of VOC.
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Pressure Drop: greater than or equal to 3.0 inches of water column , unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new minimum shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The new minimum is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pressure drop at least once every 24 hours when in operation.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Water flow rate: greater than or equal to 31.5 gallons/minute , unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new minimum shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The minimum is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the flowrate at least once every 24 hours when in operation.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

mit Number: 14300014 - 009

Subject Item: CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

Associated Items: EU 048 Corn Dump Pit/Auger #2

EU 049 Corn Elevator #2

EU 050 Scalper #2

EU 051 Corn Bin #5

EU 052 Corn Bin #6

EU 082 DDGS Bin #1

EU 083 DDGS Bin #2

GP 003 Baghouse Monitoring Requirements

	NC/CA	Type	Citation	Requirement
1.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent control efficiency
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Pressure Drop: greater than or equal to 0.5 inches of water column and less than or equal to 8.0 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pressure drop at least once every 24 hours when in operation.
4.0		CD	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5	Visible Emissions: The Permittee shall check the fabric filter stack (SV 014) for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation.
5.0		CD	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5	Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: CE 008 Packed-Gas Adsorption Column

- Associated Items:
- EU 055 Fermenter #7
  - EU 056 Fermenter #8
  - EU 057 Fermenter #9
  - EU 058 Fermenter #10
  - EU 059 Beer Well #2
  - EU 061 Beer Stripper #2
  - EU 062 Rectifier #2
  - EU 063 Side Stripper #2
  - EU 064 Molecular Sieve #2
  - EU 065 Evaporator #2
  - EU 066 Liquifaction Tank #3
  - EU 067 Liquifaction Tank #4
  - EU 068 Slurry Tank #2
  - EU 069 Yeast Tank #2
  - EU 070 190 Proof Run-Down Tank
  - EU 073 Fermenter #11
  - GP 004 Scrubber Monitoring Requirements

	NC/CA	Type	Citation	Requirement
1.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Volatile Organic Compounds: greater than or equal to 95 percent control efficiency or less than or equal to 20 ppm VOC if the inlet is less than 200 ppm VOC as total mass of VOC.
2.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Pressure Drop: greater than or equal to 19.5 inches of water column , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pressure drop at least once every 24 hours when in operation.
3.0		LIMIT	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000	Water flow rate: greater than or equal to 60.3 gallons/minute , unless a new range is set by permit reopening or permit amendment, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the water flow rate once every 24 hours when in operation.



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

11.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the thermal oxidizer. The Permittee shall keep a record of the type and date of any corrective action taken.
12.0		CD	Minn. R. 7007.0800, subp. 14	The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.



# COMPLIANCE PLAN **CD-01**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

12.0		CD	Minn. R. 7007.0800, subp. 14	The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.
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# COMPLIANCE PLAN **CD-01**

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

Subject Item: FS 002 Grain and DDGS Fugitive Emissions

Associated Items: CE 001 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	Minn. R. 7011.1005, subp. 3(A)	Opacity: less than or equal to 5 percent opacity for fugitive emissions from grain unloading, grain or DDGS handling activities, or DDGS railcar loading.
2.0		LIMIT	Minn. R. 7011.1005, subp. 3(B)	Opacity: less than or equal to 10 percent opacity for fugitive emissions from DDGS truck loading.
3.0		CD	Minn. R. 7011.1005, subp. 1(A)	Clean up commodities spilled on the driveway and other facility property as required to minimize fugitive emissions to a level consistent with RACT (Reasonably Available Control Technology).



# COMPLIANCE PLAN CD-01

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 009

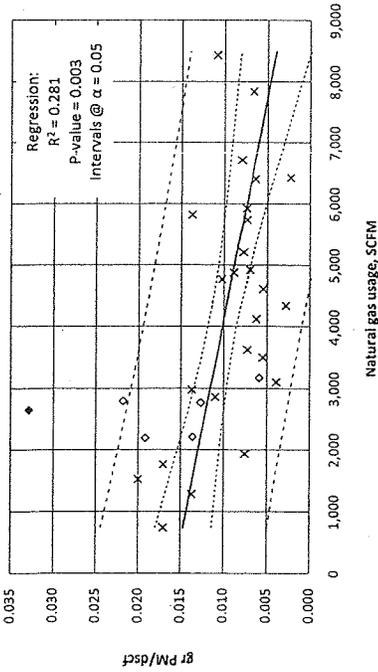
Subject Item: FS 008 New DDGS Loadout Fugitives

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	Minn. R. 7011.1005, subp. 3(A)	Opacity: less than or equal to 5 percent opacity for fugitive emissions from DDGS handling activities or DDGS railcar loading.
2.0		LIMIT	Minn. R. 7011.1005, subp. 3(B)	Opacity: less than or equal to 10 percent opacity for fugitive emissions from DDGS truck loading.
3.0		CD	Minn. R. 7011.1005, subp. 1(A)	Clean up commodities spilled on the driveway and other facility property as required to minimize fugitive emissions to a level consistent with RACT (Reasonably Available Control Technology).

Attachment 2  
BACT Revision Calculation  
Spreadsheets

From a linear fit to gr PM/dscf for SV 011, HCP has only one abnormal data point; from the energy consumption, HCP appears okay. But it has 3 non-compliance data points with respect to the current BACT limit.

**Fitting BACT data from all facilities: 1 HCP data point was excluded**



The graph below show the 3 non-compliance data points of HCP with compliance results from HCP and other facilities. Data points denoted with symbol "x" are found to best facilitate acceptable options to set limits in lbPM/ton DDGS for HCP, based on analysis of 5 different sets of BACT data. This printout gives only the "x" symbol data set. For detail, see the Excel workbook, last tab.

**BACT compliance test results and hyperbolic curves**

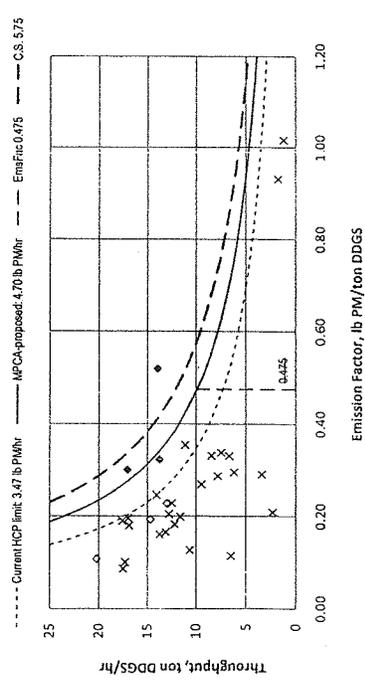
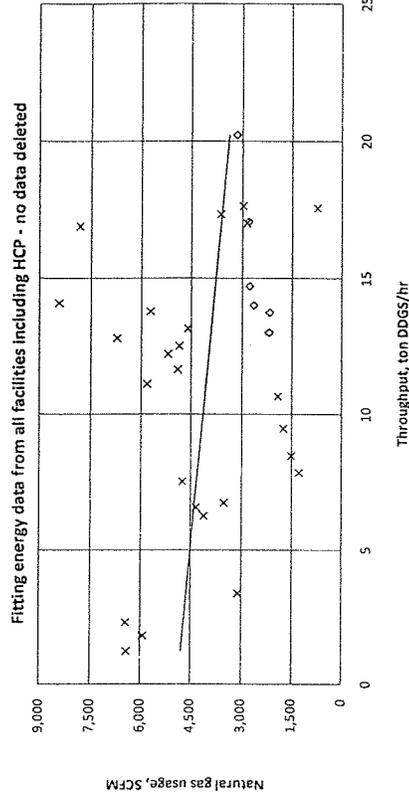
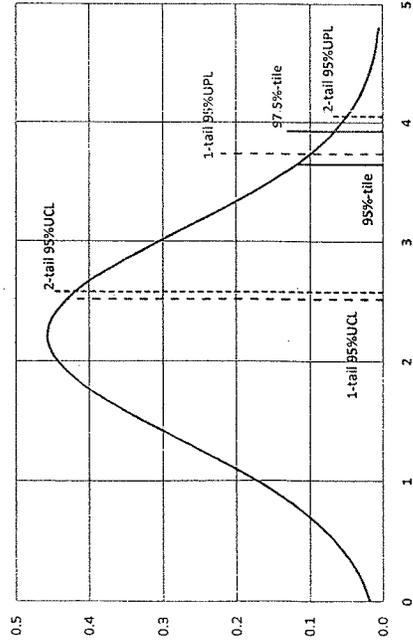
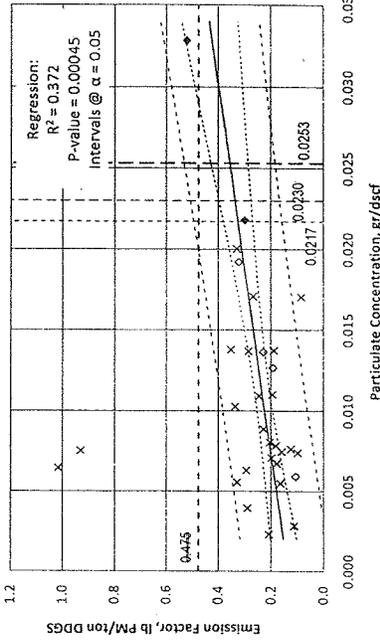


Illustration of interval values at 95% confidence based on the 25-point compliance lb PM/hr data.

**Probability density of lb PM/hr with 95% interval values marked**



**Fitting gr/dscf data for all facilities but 2 AgEnergy data points (red x)**



For lbPM/ton DDGS:  
 Mean: 2.22  
 Stdev: 0.873  
 Count: 25  
 Max: 3.94  
 Min: 0.480

For lbPM/ton DDGS:  
 Mean: 0.281  
 Stdev: 0.222  
 Count: 25  
 Max: 1.02  
 Min: 0.0864

**Critical values of the t distribution**

Confidence	90%	95%	99%
At 95% confidence (alpha = 0.05)	1.645	1.960	2.576
NORMINV(1-0.05/2, 1)	1.645	1.960	2.576
TINV(2*0.05, Count-1)	1.711	2.074	2.797
NORMINV(1-0.05/2, 0.1)	1.660	1.984	2.599
TINV(0.05, Count-1)	2.064	2.306	2.858
At 99% confidence (alpha = 0.01)	2.326	2.576	3.091
NORMINV(1-0.01/2, 1)	2.326	2.576	3.091
TINV(2*0.01, Count-1)	2.492	2.807	3.307
NORMINV(1-0.01/2, 0.1)	2.576	2.895	3.489
TINV(0.01, Count-1)	2.797	3.091	3.657

The above is MPCA staff's choice as the new limit  
 \*Upper & lower prediction levels are given by:  

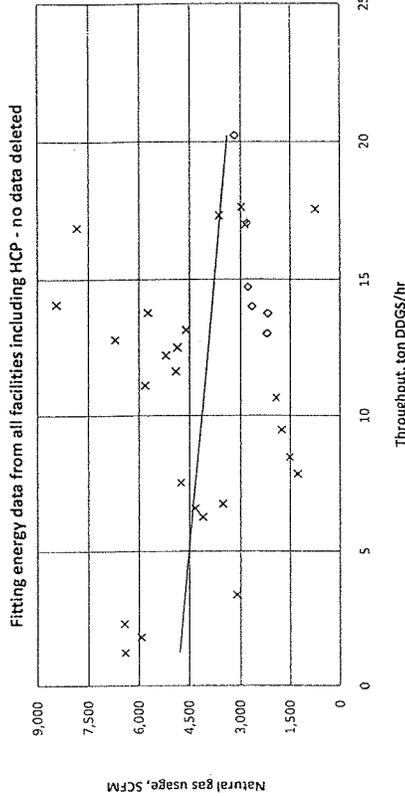
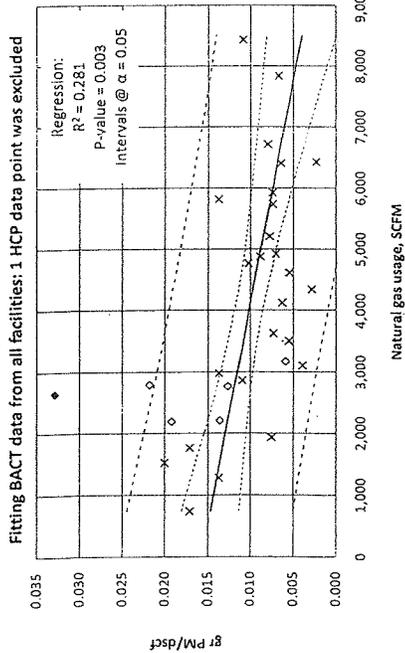
$$\bar{x} \pm t_{\alpha, n-1} s_{n-1} \sqrt{1 + 1/n}$$

Ref.: "Statistical Quality Assurance Methods for Engineers" by S. Vardeman and J.M. Jobe, © 1999 John Wiley & Sons, Inc., Page 217. Note that as n increases, UPL approaches its corresponding percentile value (a lower value).

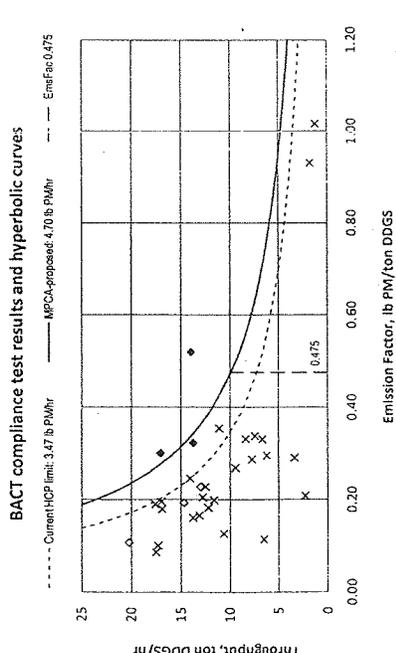
Interval values for other interests: lb PM/hr  
 At 95% confidence (alpha = 0.05)  
 1-tail upper confidence level: 2.514 lbPM/hr  
 2-tail upper confidence level: 2.575 lbPM/hr

Emission factor, lb PM/ton DDGS  
 At 99% confidence (alpha = 0.01):  
 TINV(0.01, Count-1): 2.797 2-tail UCL: 0.41  
 Due to non-normal distribution, EPA ProUCL was used:  
 Using 95% Chebychev (Mean, 50) UCL: 0.475

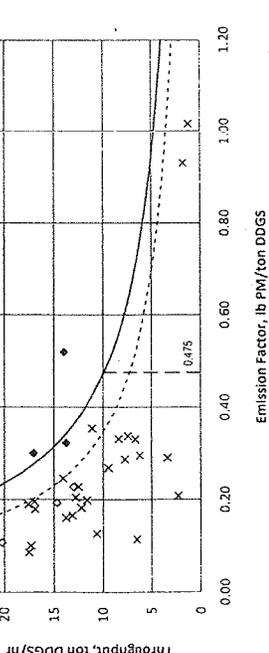
From a linear fit to  $gr\ PM/dscf$  for SV 011, HCP has only one abnormal data point, from the energy consumption. HCP appears okay. But it has 3 non-compliance data points with respect to the current BACT limit.



The graph below show the 3 non-compliance data points of HCP with compliance results from HCP and other facilities. Data points denoted with symbol "x" are found to best facilitate acceptable options to set limits in  $lb\ PM/hr$  &  $lb\ PM/ton\ DDGS$  for HCP, based on analysis of 5 different sets of BACT data. This printout gives only the "x" symbol data set. For detail, see the Excel workbook, last tab.



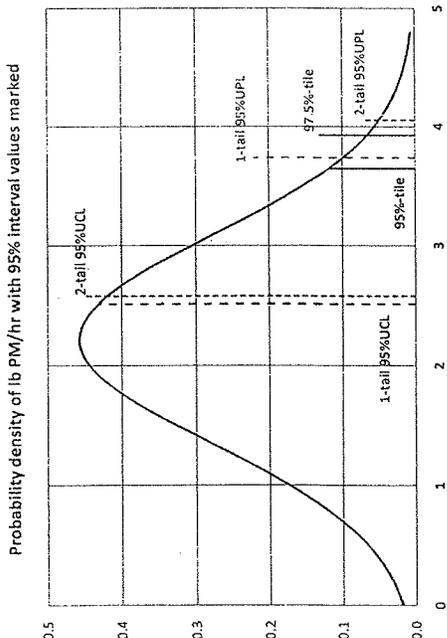
**BACT compliance test results and hyperbolic curves**



**For  $lb\ PM/hr$  data:**  
 Mean: 2.22  
 Stdev: 0.873  
 Count: 25  
 Max: 3.94  
 Min: 0.480

**For  $lb\ PM/ton\ DDGS$ :**  
 Mean: 0.281  
 Stdev: 0.222  
 Count: 25  
 Max: 1.02  
 Min: 0.0864

Illustration of interval values at 95% confidence based on the 25-point compliance  $lb\ PM/hr$  data.



Interval values as emission limit options:  $lb\ PM/hr$

Confidence	90%	95%	99%
2-tail, $\sigma$	0.10	0.05	0.01
1-tail, $\sigma/2$	0.05	0.025	0.005
df = n - 1 = 1	6.314	12.706	63.657
2	2.920	4.303	9.925
3	2.353	3.182	5.841
4	2.132	2.776	4.604
5	2.015	2.571	4.032
6	1.943	2.447	3.707
7	1.895	2.365	3.499
30	1.697	2.042	2.750
259	1.651	1.989	2.595
c.f.	1.645	1.960	2.576

Percentiles using NORMINV.

Upper & lower prediction levels are given by:  

$$\bar{x} \pm t_{\alpha, n-1} s_{n-1} \sqrt{1 + 1/n}$$

Interval values for other interests:  $lb\ PM/hr$

Confidence	90%	95%	99%
2-tail, $\sigma$	0.10	0.05	0.01
1-tail, $\sigma/2$	0.05	0.025	0.005
df = n - 1 = 1	6.314	12.706	63.657
2	2.920	4.303	9.925
3	2.353	3.182	5.841
4	2.132	2.776	4.604
5	2.015	2.571	4.032
6	1.943	2.447	3.707
7	1.895	2.365	3.499
30	1.697	2.042	2.750
259	1.651	1.989	2.595
c.f.	1.645	1.960	2.576

Percentiles using NORMINV.

ID#	FACILITY	CITY	STATE	PERMIT ID	YEAR	MONTH	DAY	START_TIME_hr	START_TIME_min	ACFM	DSCFM	TEMP (F)	H2O%v/v	CO2%v/v	TEST RESULT	PM M5+202 (lb/hr)	PM LIMIT (lb/hr)
18	Ace Ethanol	Stanley	WI	05-DCF-165	2006	Aug	17	9	0	96615	35075	358	0.4389	0.0445		3.317	7
1	Agri-Energy	Luverne	MN	13300023-008	2003	Jan	29	8	0	61799	26002	333	0.3454	0.144		1.677	3
3	Agri-Energy	Luverne	MN	13300023-008	2004	Feb	18	8	37	59414	22608	361	0.3775	0.1677		1.251	3
10	Agri-Energy	Luverne	MN	13300023-008	2005	Feb	15	8	15	64218	24198	352	0.3806	0.154		0.48	3
7	AI-Corn	Claremont	MN	3900028-010	2004	Aug	4	9	32	106878	46200	293	0.3549	0.0615		2.175	7
12	AI-Corn	Claremont	MN	3900028-010	2005	June	28	9	15	90846	37492	279	0.4049	0.0751		2.852	7
15	AI-Corn	Claremont	MN	3900028-010	2006	Feb	28	8	45	94052	38118	301	0.3865	0.0754		2.313	7
25	AI-Corn	Claremont	MN	3900028-010	2007	Sept	25	11	52	109071	37846	373	0.4388	0.0971		2.612	7
17	Bushmills Ethanol	Awater	MN	06700061-003	2006	June	24	UNK	UNK	106649	36908	307.6	0.484	0.115		3.46	5
27	Central Indiana Ethanol	Marion	IN	053-21057-00062	2007	Nov	28	9	30	85135	33360	284	0.4359	0.0963		3.935	8
23	Central Minnesota Ethanol Cooperative	Little Falls	MN	9700026-002	2007	Aug	21	16	6	115396	46608	485	0.2464	0.0544		2.218	9
6	Chippewa Valley Ethanol	Benson	MN	15100026-010	2004	June	3	7	35	150547	52581	402	0.4144	0.085		3.032	8.6
20	Chippewa Valley Ethanol	Benson	MN	15100026-010	2007	Apr	3	9	40	91318	27485	359	0.5129	0.0617		1.741	8.6
16	Cornhusker Energy	Lexington	NE	787755601	2006	May	24	13	40	72933	29046	449	0.2518	0.0733		0.981	1.07
2	DENCO	Morris	MN	14900013-004	2004	Jan	20	17	10	46401	16287	328.83	0.458	0.0489		2.796666667	4.11
13	DENCO	Morris	MN	14900013-004	2005	Apr	14	12	0	50197	17354	319.67	0.4722	0.0518		2.54	4.11
28	DENCO	Morris	MN	14900013-004	2008	Apr	8	8	22	49573	19133	340	0.3949	0.0391		2.243	4.11
14	East Kansas Agri-Energy	Garnett	KS	30030	2005	Oct	26	8	30	73220	34063	290	0.3195	0.0799		1.837	10
19	East Kansas Agri-Energy	Garnett	KS	30030	2006	Dec	5	20	0	68652	30591	284	0.3559	0.0891		0.746	10
24	East Kansas Agri-Energy	Garnett	KS	30030	2007	Sept	19	9	0	74926	28718	345	0.3957	0.097		2.53	10
9	Ethanol 2000	Bingham Lake	MN	3300025-005	2004	Oct	12	8	25	56502	20694	292.03	0.453	0.0487		1.35	10
8	Exol	Albert Lea	MN	04700055-006	2004	Feb	26	10	51	92674	33089	344	0.4365	0.0856		2.223	3.3
4	Exol	Albert Lea	MN	04700055-006	2004	Aug	24	8	45	103374	34582	367.67	0.4503	0.087		2.21	3.3
11	Heartland Corn Products	Winthrop	MN	14300014-008	2005	June	14	7	35	71407	25386	330	0.4532	0.0463		2.964	3.47
22	Heartland Corn Products	Winthrop	MN	14300014-008	2007	Aug	15	10	8	116626	43022	332	0.4259	0.0408		2.185	3.47
26	Heartland Corn Products	Winthrop	MN	14300014	2007	Oct	17	9	50	72921	26930	302	0.4467	0.0434		4.43	3.47
29	Heartland Corn Products	Winthrop	MN	14300014-008	2009	Oct	20	10	15	72800	25900	295	0.466	0.052		7.28	3.47
30	Heartland Corn Products	Winthrop	MN	14300014-008	2009	Nov	10	9	30	75100	26200	300	0.479	0.053		2.84	3.47
31	Heartland Corn Products	Winthrop	MN	14300014-008	2009	Dec	15	11	10	81000	27400	305	0.504	0.05		5.12	3.47
5	Pro-Corn	Preston	MN	4500049-008	2004	March	30	11	11	86289	28406	317	0.4952	0.0508		3.339	6.7
21	Red Trail Energy	Richardton	ND	4004	2007	June	6	8	0	54789	10385	336	0.6801	0.0203		1.517	2.31

3900028-010

ID	FACILITY	CITY	STATE	PERMIT ID	ACTUAL PERMIT CLASSIFY (MAGS)	ACTUAL PERMIT LIMIT (lb/hr)				
1	Agri-Energy	Lovelle	MN	1330025-008	Agri-Energy in Lovelle, MN Permit D#1330025-008	28	9.62	3.00	0.31	6.02
2	BEHCO	Morris	MN	1490013-004	BEHCO in Morris, MN Permit D#1490013-004	30	11.40	4.11	0.37	6.50
3	Agri-Energy	Lovelle	MN	1330027-008	Agri-Energy in Lovelle, MN Permit D#1330027-008	26	9.62	3.00	0.31	6.02
4	B-E-E	Albert Lea	MN	0410055-008	B-E-E in Albert Lea, MN Permit D#0410055-008	50	18.50	3.30	0.18	7.32
5	Pro-Com	Preceton	MN	4600048-008	Pro-Com in Preceton, MN Permit D#4600048-008	50	18.50	6.70	0.36	7.32
6	Chippewa Valley Ethanol	Benson	MN	1510028-010	Chippewa Valley Ethanol in Benson, MN Permit D#1510028-010	15	5.95	8.60	1.55	4.62
7	Al-Con	Clamport	MN	1530013-010	Al-Con in Clamport, MN Permit D#1530013-010	50	18.50	7.00	0.38	7.32
8	Ethol	Albert Lea	MN	0410055-008	Ethol in Albert Lea, MN Permit D#0410055-008	50	18.50	3.30	0.18	7.32
9	Ethanol 3000	Bingham Lake	MN	2100025-005	Ethanol 3000 in Bingham Lake, MN Permit D#2100025-005	35	12.95	10.00	0.77	6.61
10	Agri-Energy	Lovelle	MN	1330031-008	Agri-Energy in Lovelle, MN Permit D#1330031-008	26	9.62	3.00	0.31	6.02
11	Headland Corn Products	Winthrop	MN	1450014-008	Headland Corn Products in Winthrop, MN Permit D#1450014-008	36.40	13.47	3.47	0.26	6.69
12	Al-Con	Clamport	MN	1530028-010	Al-Con in Clamport, MN Permit D#1530028-010	50	18.50	7.00	0.38	7.32
13	DEHCO	Morris	MN	1490013-004	DEHCO in Morris, MN Permit D#1490013-004	30	11.10	8.11	0.37	6.30
14	East Kansas Agri-Energy	Garnett	KS	30030	East Kansas Agri-Energy in Garnett, KS Permit D#30030	35	12.95	10.00	0.77	6.61
15	Al-Con	Clamport	MN	1530028-010	Al-Con in Clamport, MN Permit D#1530028-010	50	18.50	7.00	0.38	7.32
16	Comulative Energy	Levengton	NE	13775-001	Comulative Energy in Levengton, NE Permit D#13775-001	40	14.60	1.07	0.07	6.68
17	Burners Ethanol	Amesler	MN	0670026-1001	Burners Ethanol in Amesler, MN Permit D#0670026-1001	65	24.05	5.00	0.21	7.85
18	Agri Ethanol	Stanley	WI	05-DCP-165	Agri Ethanol in Stanley, WI Permit D#05-DCP-165	43	15.91	7.00	0.44	7.02
19	East Kansas Agri-Energy	Garnett	KS	30030	East Kansas Agri-Energy in Garnett, KS Permit D#30030	35	12.95	10.00	0.77	6.61
20	Chippewa Valley Ethanol	Benson	MN	1510028-010	Chippewa Valley Ethanol in Benson, MN Permit D#1510028-010	15	5.95	8.60	1.55	4.62
21	Red Trail Energy	Redwood	ND	4004	Red Trail Energy in Redwood, ND Permit D#4004	50	18.50	2.31	0.12	7.32
22	Headland Corn Products	Winthrop	MN	1450014-008	Headland Corn Products in Winthrop, MN Permit D#1450014-008	36.40	13.47	3.47	0.26	6.69
23	Central Minnesota Ethanol	Little Falls	MN	0970026-001	Central Minnesota Ethanol in Little Falls, MN Permit D#0970026-001	22	8.14	9.00	1.11	5.69
24	East Kansas Agri-Energy	Garnett	KS	30030	East Kansas Agri-Energy in Garnett, KS Permit D#30030	35	12.95	10.00	0.77	6.61
25	Al-Con	Clamport	MN	1530028-010	Al-Con in Clamport, MN Permit D#1530028-010	50	18.50	7.00	0.38	7.32
26	Headland Corn Products	Winthrop	MN	1450014-008	Headland Corn Products in Winthrop, MN Permit D#1450014-008	36.4	13.47	3.47	0.26	6.69
27	Central Indiana Ethanol	Marion	IN	053-2167-0002	Central Indiana Ethanol in Marion, IN Permit D#053-2167-0002	50	16.50	6.00	0.43	7.32
28	BEHCO	Morris	MN	1490013-004	BEHCO in Morris, MN Permit D#1490013-004	30	11.10	4.11	0.37	6.30
29	Headland Corn Products	Winthrop	MN	1450014-008	Headland Corn Products in Winthrop, MN Permit D#1450014-008	36.40	13.47	3.47	0.26	6.69
30	Headland Corn Products	Winthrop	MN	1450014-008	Headland Corn Products in Winthrop, MN Permit D#1450014-008	36.40	13.47	3.47	0.26	6.69
31	Headland Corn Products	Winthrop	MN	1450014-008	Headland Corn Products in Winthrop, MN Permit D#1450014-008	36.40	13.47	3.47	0.26	6.69
32	VerdeSun Aurora	Aurora	SD	28-050-206	VerdeSun Aurora in Aurora, SD Permit D#28-050-206	110	40.89	4.50	0.11	6.80
33	VerdeSun Welton	Welton	WA	0910092-001	VerdeSun Welton in Welton, WA Permit D#0910092-001	118	43.65	9.31	0.21	9.04
34	VerdeSun Lone	Fort Dodge	IA	04-A-103	VerdeSun Lone in Fort Dodge, IA Permit D#04-A-103	110	40.69	8.00	0.20	8.80
35	VerdeSun Chertex City	Chertex City	IA	05-A-718	VerdeSun Chertex City in Chertex City, IA Permit D#05-A-718	130	48.09	9.90	0.20	9.24



TEST RESULT DSCFM	TEST RESULT TEMP (F)	TEST RESULT H2O%W	TEST RESULT CO2%W	TEST RESULT PM 10-2.5 (lb/y)	TOTAL GAS FLOW RATE (SCFM)	TEST RESULT Total Water Flow Rate (SCFM)	TEST RESULT Base Gas Flow Rate (SCFM)	TEST RESULT Water from Natural Gas Combustion (SCFM)	TEST RESULT Evap Water (SCFM)
26002	330	34.54%	14.00%	1.677	41.338	14.229	3.912	11.823	2.286
18287	318.83	45.80%	4.80%	2.80	31.051	14.222	1.558	3.018	11.204
22008	351	37.75%	16.77%	1.251	38.302	14.221	6.385	12.796	1.621
33009	344	43.85%	8.56%	2.223	60.847	26.660	5.185	10.381	16.179
28005	317	48.92%	5.08%	3.328	58.023	20.893	2.671	5.921	23.344
55281	402	41.44%	8.80%	3.02	93.152	36.204	3.901	15.892	22.603
48200	293	35.80%	6.15%	2.175	74.028	26.592	4.888	9.171	17.421
34032	307.67	45.03%	8.70%	2.21	65.331	28.688	5.719	11.432	18.226
20864	292.03	45.30%	4.87%	1.25	39.683	11.997	1.020	3.809	14.128
24139	352	38.05%	15.80%	0.48	41.747	15.889	6.417	12.833	3.056
23386	330	45.32%	4.93%	2.864	47.215	21.823	2.193	4.890	17.233
31262	279	40.49%	7.51%	2.652	64.859	28.276	4.854	9.708	16.568
17354	319.67	47.22%	5.18%	2.58	33.897	16.649	1.730	3.501	22.548
34063	290	31.85%	7.89%	1.837	51.337	16.566	4.102	8.205	8.261
38118	301	38.65%	7.54%	2.113	65.295	28.219	5.300	8.801	15.419
29648	448	23.18%	7.33%	0.981	42.333	10.864	3.022	6.183	4.461
36005	207.6	46.90%	11.90%	3.46	73.345	26.469	6.413	16.825	18.674
35075	358	43.86%	4.92%	3.317	64.265	28.216	2.641	5.833	22.932
30351	264	35.55%	8.91%	0.746	48.712	17.337	4.326	8.951	8.95
27465	359	51.35%	6.17%	1.741	69.859	30.809	3.614	7.228	22.951
10385	336	68.01%	2.03%	1.517	36.335	24.711	1.27	1.453	23.258
43022	332	41.55%	4.98%	2.185	77.314	33.107	3.148	6.296	26.811
46805	485	34.64%	5.44%	2.218	64.457	15.882	3.487	6.974	8.809
28718	345	39.51%	9.70%	1.53	49.133	19.442	4.751	9.602	8.840
31846	373	43.88%	9.11%	2.812	69.119	30.330	6.691	13.381	16.848
26930	302	44.67%	4.34%	4.43	50.918	22.860	2.177	4.356	18.212
33390	284	43.59%	9.63%	3.935	60.407	26.332	5.799	11.598	14.733
19133	340	39.49%	3.81%	2.243	52.711	12.818	1.269	2.638	10.939
25800	395	46.80%	5.20%	1.28	56.002	23.822	2.652	5.203	18.559
26100	300	47.90%	5.20%	1.84	62.185	24.887	2.749	5.468	19.489
27400	305	50.40%	5.00%	1.12	65.896	26.177	2.778	5.556	22.615



		2				Small		Large	
a	b			Emission Factor					
				(lb PM/hr) @ Capacity		X	Y	X	Y
Capacity (MMGal/yr)	Capacity (ton DDGS/hr)	(lb PM/ton DDGS)/(MMGal/yr)	(lb PM/hr)@ capacity	(lb/ton) @ Capacity					
3	1.11	0.666666667	1.70	1.52924784		0	0	0	6.5
4	1.48	0.5	2.27	1.53575053		7	3.032	130	9.321
5	1.85	0.4	2.72	1.46987088					
6	2.22	0.333333333	3.08	1.38916933					
7	2.59	0.285714286	3.39	1.30976871					
8	2.96	0.25	3.66	1.23628432					
9	3.33	0.222222222	3.89	1.16966999					
10	3.70	0.2	4.11	1.10966269					
11	4.07	0.181818182	4.30	1.05562637					
12	4.44	0.166666667	4.47	1.00685737					
13	4.81	0.153846154	4.63	0.96269331					
14	5.18	0.142857143	4.78	0.92254668					
15	5.55	0.133333333	4.92	0.88590938					
16	5.92	0.125	5.05	0.85234669					
17	6.29	0.117647059	5.17	0.82148789					
18	6.66	0.111111111	5.28	0.7930168					
19	7.03	0.105263158	5.39	0.76666311					
20	7.40	0.1	5.49	0.74219497					
21	7.77	0.095238095	5.59	0.71941273					
22	8.14	0.090909091	5.68	0.69814375					
23	8.51	0.086956522	5.77	0.6782381					
24	8.88	0.083333333	5.86	0.65956504					
25	9.25	0.08	5.94	0.64201007					
26	9.62	0.076923077	6.02	0.62547252					
27	9.99	0.074074074	6.09	0.60986356					
28	10.36	0.071428571	6.16	0.5951045					
29	10.73	0.068965517	6.23	0.58112537					
30	11.10	0.066666667	6.30	0.56786378					
31	11.47	0.064516129	6.37	0.55526389					
32	11.84	0.0625	6.43	0.54327561					
33	12.21	0.060606061	6.49	0.53185383					
34	12.58	0.058823529	6.55	0.52095784					
35	12.95	0.057142857	6.61	0.51055081					
36	13.32	0.055555556	6.67	0.5005993					
37	13.69	0.054054054	6.72	0.49107293					
38	14.06	0.052631579	6.78	0.48194399					
38.2	14.13	0.052356021	6.79	0.48016362		0.47983			
39	14.43	0.051282051	6.83	0.47318717					
40	14.80	0.05	6.88	0.4647793					
41	15.17	0.048780488	6.93	0.45669913					
42	15.54	0.047619048	6.98	0.44892714					
43	15.91	0.046511628	7.02	0.44144534					
44	16.28	0.045454545	7.07	0.43423716					
45	16.65	0.044444444	7.11	0.42728727					
46	17.02	0.043478261	7.16	0.4205815					
47	17.39	0.042553191	7.20	0.4141067					
48	17.76	0.041666667	7.24	0.4078507					
49	18.13	0.040816327	7.28	0.40180214					
50	18.50	0.04	7.32	0.39595048					
51	18.87	0.039215686	7.36	0.39028589					
52	19.24	0.038461538	7.40	0.38479919					
53	19.61	0.037735849	7.44	0.37948181					
54	19.98	0.037037037	7.48	0.37432572					
55	20.35	0.036363636	7.51	0.36932341					
56	20.72	0.035714286	7.55	0.36446783					
57	21.09	0.035087719	7.59	0.35975238					
58	21.46	0.034482759	7.62	0.35517083					
59	21.83	0.033898305	7.66	0.35071735					
60	22.20	0.033333333	7.69	0.34638643					
61	22.57	0.032786885	7.72	0.34217288					
62	22.94	0.032258065	7.75	0.33807182					
63	23.31	0.031746032	7.79	0.33407863					
64	23.68	0.03125	7.82	0.33018894					
65	24.05	0.030769231	7.85	0.32639862					
66	24.42	0.03030303	7.88	0.32270377					
67	24.79	0.029850746	7.91	0.31910069					
68	25.16	0.029411765	7.94	0.31558587					
69	25.53	0.028985507	7.97	0.31215598					
70	25.90	0.028571429	8.00	0.30880787					
71	26.27	0.028169014	8.03	0.30553853					

Data Used for Assessment of Appropriate PM Limits  
Thermal Oxidizer Controlling DDGS Dryer in Dry Mill Corn Ethanol Industry

FACILITY ID	ID#	Test Report ID	Value		Sum of ACTUAL PERMIT Capacity (MMGAL/yr)	Sum of TEST EQUIP ACTUAL PM M5+202 LIMIT (lb/hr)	Sum of TEST PERMIT LIMIT (lb) DDGS/hr	Sum of TEST PERMIT LIMIT (lb) Throughput DDGS	Sum of ACTUAL PERMIT LIMIT (lb DDGS)	Sum of TEST PERMIT LIMIT (lb DDGS)
			Sum of ACTUAL PERMIT Capacity (MMGAL/yr)	Sum of TEST EQUIP ACTUAL PM M5+202 LIMIT (lb/hr)						
Agri-Energy in Luverne, MN Permit ID#13300023-008	1	ID#1 Test Result 01/29/2003 08:00	26.00	4.87	3.00	1.68	9.62	1.80	0.31	0.93
	3	ID#3 Test Result 02/18/2004 08:37	26.00	18.44	3.00	1.25	9.62	6.82	0.31	0.18
	10	ID#10 Test Result 02/15/2005 08:15	26.00	6.23	3.00	0.48	9.62	2.31	0.31	0.21
DENCO in Morris, MN Permit ID#14900013-004	2	ID#2 Test Result 01/20/2004 17:10	30.00	22.85	4.11	2.80	11.10	8.45	0.37	0.33
	13	ID#13 Test Result 04/14/2005 12:00	30.00	25.59	4.11	2.54	11.10	9.47	0.37	0.27
	28	ID#28 Test Result 04/08/2008 08:22	30.00	21.17	4.11	2.24	11.10	7.83	0.37	0.29
Exol in Albert Lea, MN Permit ID#04700055-006	4	ID#4 Test Result 02/26/2004 10:51	50.00	33.00	3.30	2.22	18.50	12.21	0.18	0.18
	8	ID#8 Test Result 08/24/2004 08:45	50.00	37.24	3.30	2.21	18.50	13.78	0.18	0.16
Pro-Corn in Preston, MN Permit ID#4500049-008 Chippewa Valley Ethanol in Benson, MN Permit ID#15100026-010	5	ID#5 Test Result 03/30/2004 11:11	50.00	47.61	6.70	3.34	18.50	17.61	0.36	0.19
	20	ID#20 Test Result 04/03/2007 09:40	15.00	46.83	8.60	1.74	5.55	17.33	1.55	0.10
Al-Corn in Claremont, MN Permit ID#3900028-010	7	ID#7 Test Result 08/04/2004 09:32	50.00	35.53	7.00	2.18	18.50	13.15	0.38	0.17
	12	ID#12 Test Result 06/28/2005 09:15	50.00	33.79	7.00	2.85	18.50	12.50	0.38	0.23
	15	ID#15 Test Result 02/28/2006 08:45	50.00	31.45	7.00	2.31	18.50	11.63	0.38	0.20
	25	ID#25 Test Result 09/25/2007 11:52	50.00	34.57	7.00	2.61	18.50	12.79	0.38	0.20
Ethanol 2000 in Bingham Lake, MN Permit ID#3300025-005	9	ID#9 Test Result 10/12/2004 08:25	35.00	28.82	10.00	1.35	12.95	10.66	0.77	0.13
Heartland Corn Products in Winthrop, MN Permit ID#14300014-008	11	ID#11 Test Result 06/14/2005 07:35	36.40	35.15	3.47	2.96	13.47	13.00	0.26	0.23
	22	ID#22 Test Result 08/15/2007 10:08	36.40	54.68	3.47	2.19	13.47	20.23	0.26	0.11
	29	ID#29 Test Result 10/20/2009 10:15	36.40	37.85	3.47	7.28	13.47	14.00	0.26	0.52
	30	ID#30 Test Result 11/10/2009 09:30	36.40	39.75	3.47	2.84	13.47	14.71	0.26	0.19
	31	ID#31 Test Result 12/15/2009 11:10	36.40	46.13	3.47	5.12	13.47	17.06	0.26	0.30
East Kansas Agri-Energy in Garnett, KS Permit ID#30030	14	ID#14 Test Result 10/26/2005 08:30	35.00	16.85	10.00	1.84	12.95	6.23	0.77	0.29
	19	ID#19 Test Result 12/05/2006 20:00	35.00	17.72	10.00	0.75	12.95	6.55	0.77	0.11
	24	ID#24 Test Result 09/19/2007 09:00	35.00	20.27	10.00	2.53	12.95	7.50	0.77	0.34
Cornhusker Energy in Lexington, NE Permit ID#787755c01	16	ID#16 Test Result 05/24/2006 13:40	40.00	9.14	1.07	0.98	14.80	3.38	0.07	0.29
Bushmills Ethanol in Atwater, MN Permit ID#06700061-003	17	ID#17 Test Result 06/24/2006 00:00	65.00	38.09	5.00	3.46	24.05	14.09	0.21	0.25
Ace Ethanol in Stanley, WI Permit ID#05-DCF-165	18	ID#18 Test Result 08/17/2006 09:00	43.00	45.96	7.00	3.32	15.91	17.00	0.44	0.20
Red Trail Energy in Richardton, ND Permit ID#4004	21	ID#21 Test Result 06/06/2007 08:00	50.00	47.44	2.31	1.52	18.50	17.55	0.12	0.09
Central Minnesota Ethanol Cooperative in Little Falls, MN Permit ID#9700026-002	23	ID#23 Test Result 08/21/2007 16:06	22.00	18.17	9.00	2.22	8.14	6.72	1.11	0.33
Heartland Corn Products in Winthrop, MN Permit ID#3900028-010	26	ID#26 Test Result 10/17/2007 09:50	36.40	37.15	3.47	4.43	13.47	13.74	0.26	0.32
Central Indiana Ethanol in Marion, IN Permit ID#053-21057-00062	27	ID#27 Test Result 11/28/2007 09:30	50.00	30.05	8.00	3.94	18.50	11.12	0.43	0.35
VeraSun Aurora in Aurora, SD Permit ID#28.0502-06	32	Test Data Not Avail.	110.00	0.00	4.50	0.00	40.69	0.00	0.11	0.00
VeraSun Welcome in Welcome, MN Permit ID#09100052-001	33	Test Data Not Avail.	118.00	0.00	9.31	0.00	43.65	0.00	0.21	0.00
VeraSun Fort Dodge in Fort Dodge, IA Permit ID#04-A-438	34	Test Data Not Avail.	110.00	0.00	8.00	0.00	40.69	0.00	0.20	0.00
VeraSun Charles City in Charles City, IA Permit ID#05-A-718	35	Test Data Not Avail.	130.00	0.00	9.50	0.00	48.09	0.00	0.20	0.00

ID #	Test @ % permitted	ton DDG5/hr, calc	ACFM	DSCFM	Total gas SCFM	Total water SCFM	Nat gas usage SCFM	Water from firing SCFM	Evap. Water SCFM	Limit, lb PM/HR	lb PM/HR	Compliance margin, fraction	gr PM/dscf	lb PM/dscf	IPM/dscf	From a	
18	106.88	17,002	99,615	35,075	64,285	28,215	2,861	5,721	22,493	7,00	3,317	0.526	0.01103	0.1951			
1	18.72	1,800	61,789	26,002	41,139	14,209	5,924	11,848	2,361	3,00	1,677	0.441	0.00752	0.8314			
3	12.80	1,231	59,414	22,608	38,202	14,421	6,06	12,813	1,608	3,00	1,251	0.583	0.00646	1,0164			
10	23.97	2,306	64,218	24,168	41,748	15,859	6,29	12,859	3,031	3,00	0,480	0.840	0.009231	0.1655			
7	71.07	13,145	106,878	46,200	74,928	26,592	4,608	9,216	17,576	7,00	2,175	0.688	0.00549	0.1655			
12	67.59	12,502	90,846	37,492	64,896	26,276	4,74	9,747	16,528	7,00	2,953	0.593	0.00887	0.2281			
15	62.90	11,634	84,062	38,118	65,250	25,219	4,20	8,840	15,578	7,00	2,313	0.870	0.00708	0.1988			
25	68.14	12,788	108,071	37,846	69,118	30,330	6,11	13,423	18,403	5,00	3,612	0.637	0.00905	0.2042			
17	65.40	14,091	108,649	36,608	73,345	35,499	6,45	16,968	18,607	5,00	3,662	0.368	0.01094	0.3456			
23	82.59	11,117	115,392	46,608	60,407	26,321	5,91	13,832	12,697	5,00	2,938	0.754	0.01376	0.3540			
6	304.63	16,904	150,842	52,581	93,192	38,204	7,06	18,866	23,532	8,00	2,132	0.627	0.00555	0.3300			
20	312.21	17,325	151,316	52,882	96,826	38,199	7,33	19,673	24,325	8,00	1,932	0.788	0.00738	0.1784			
16	76.17	3,381	72,933	29,045	43,353	10,684	3,02	6,208	2,455	1,07	0,981	0.093	0.00934	0.2801			
2	45.41	4,451	45,933	16,987	31,052	14,221	1,18	3,007	11,155	4,11	2,787	0.320	0.02003	0.3308			
13	65.31	9,468	50,197	17,561	33,992	16,524	1,75	3,921	12,523	4,11	2,340	0.382	0.01708	0.2683			
28	70.57	7,832	49,873	18,133	32,711	16,918	1,79	2,558	10,160	4,11	2,440	0.454	0.01968	0.2864			
14	48.14	6,234	73,220	34,683	31,537	16,468	4,18	6,236	9,331	10,00	0,637	0.816	0.00829	0.2947			
16	50.61	6,584	68,652	30,591	46,712	17,357	4,40	8,680	6,656	10,00	0,748	0.925	0.00285	0.1138			
24	57.92	7,500	74,926	28,718	49,133	19,442	4,76	9,532	9,532	10,00	2,500	0.747	0.01028	0.3373			
9	82.33	10,660	56,502	20,684	39,663	17,967	1,932	3,863	14,104	10,00	1,350	0.865	0.00761	0.1266			
4	66.00	12,208	92,674	33,089	60,847	26,560	5,209	10,417	16,143	3,30	2,223	0.326	0.00784	0.1821			
8	74.47	13,776	103,374	34,582	65,931	29,689	5,236	11,472	18,217	3,30	2,210	0.330	0.00746	0.1604			
5	95.23	17,615	66,289	28,408	58,625	29,265	2,978	5,956	23,309	6,70	3,339	0.502	0.01371	0.1896			
21	94.86	17,550	54,789	10,365	36,335	24,711	738	1,475	23,236	2,31	1,517	0.343	0.01704	0.0864			
11	86.57	13,005	71,407	25,386	47,715	21,625	2,209	4,418	17,206	3,47	2,964	0.146	0.01362	0.2279			
22	150.23	20,230	116,626	43,022	77,734	33,107	3,172	6,343	26,764	3,47	2,185	0.370	0.00593	0.1080			
26	102.05	13,742	72,921	26,930	50,518	22,566	2,192	4,385	18,182	3,47	4,430	-0.277	0.01919	0.9224			
30	109.20	14,706	75,100	26,700	52,165	24,967	2,765	5,529	19,457	3,47	2,840	0.192	0.01265	0.1931			
31	129.72	17,065	81,000	27,400	55,895	28,171	2,795	5,590	22,582	3,47	5,120	-0.476	0.02180	0.4000			
Mean:	103.96	13,800	72,800	25,900	50,900	23,622	2,627	5,284	18,528	3,47	2,840	-1.098	0.03279	0.5199			
Stdev:	11.25	1,197	24,043	30,526	54,791	23,100	4,066	8,171	14,628	5,652	2,430	0.467	0.01007	0.2125			
Count:	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
Max:	20,230	150,547	52,581	34,582	92,192	38,204	8,935	16,869	26,764	10,000	5,120	0.925	0.02180	1,0164			
Min:	1,231	46,401	10,385	31,052	31,052	10,964	738	1,475	1,608	1,070	0,480	-0.476	0.00231	0.0864			
ID #	Test @ % permitted	ton DDG5/hr, calc	IPM/dscf	ton DDG5/hr	Visual survey, bl/ton	Curve 4.70 (IPM/HR) & ton/hr, hypobola	Probability	x (lb PM/HR)	z	Visual survey, bl/ton	Curve 3.47 (IPM/HR) & ton/hr, hypobola	Probability	x (lb PM/HR)	z	Visual survey, bl/ton	Curve 3.47 (IPM/HR) & ton/hr, hypobola	
3	12.8	1,231	1,0164	1,0164	2.5377	0.00	0.0183	-2.5377	0.00	2.5377	0.0183	0.0183	0.00	0.0183	2.5377	0.0183	
1	18.7	1,800	0.9314	0.9314	2.3085	0.20	0.0318	-2.3085	0.20	2.3085	0.0318	0.0318	0.20	0.0318	2.3085	0.0318	
16	22.8	3,38	0.2901	0.2901	0.200	0.40	0.0526	-2.0784	0.40	2.0784	0.0526	0.0526	0.40	0.0526	2.0784	0.0526	
10	24.0	2,31	0.2082	0.2082	0.225	0.60	0.0825	-1.8503	0.60	1.8503	0.0825	0.0825	0.60	0.0825	1.8503	0.0825	
14	48.1	6,23	0.2947	0.2947	0.250	1.80	0.1228	-1.6211	1.80	1.6211	0.1228	0.1228	1.80	0.1228	1.6211	0.1228	
19	50.6	6,55	0.1136	0.1136	0.275	1.71	0.1735	-1.3920	1.00	1.3920	0.1735	0.1735	1.00	0.1735	1.3920	0.1735	
24	57.9	7,50	0.3373	0.3373	0.300	1.20	0.2324	-1.1629	1.20	1.1629	0.2324	0.2324	1.20	0.2324	1.1629	0.2324	
27	58.6	14,09	0.2456	0.2456	0.325	1.45	0.2956	-0.9337	1.40	0.9337	0.2956	0.2956	1.40	0.2956	0.9337	0.2956	
15	62.9	11,63	0.1966	0.1966	0.375	1.25	0.3566	-0.7046	1.80	0.7046	0.3566	0.3566	1.80	0.3566	0.7046	0.3566	
4	66.0	12,21	0.1621	0.1621	0.400	1.10	0.4434	0.4765	2.00	0.4434	0.4434	0.4434	2.00	0.4434	0.4765	0.4434	
12	67.6	12,50	0.2281	0.2281	0.500	0.90	0.5173	0.2173	2.20	0.5173	0.5173	0.5173	2.20	0.5173	0.2173	0.5173	
25	69.1	12,79	0.2042	0.2042	0.600	0.70	0.4468	0.2119	2.40	0.4468	0.4468	0.4468	2.40	0.4468	0.2119	0.4468	
28	70.6	7,83	0.2864	0.2864	0.700	0.60	0.4147	0.4411	2.60	0.4147	0.4147	0.4147	2.60	0.4147	0.4411	0.4147	
7	71.1	13,15	0.1655	0.1655	0.800	0.50	0.3951	0.6702	2.80	0.3951	0.3951	0.3951	2.80	0.3951	0.6702	0.3951	
8	74.5	13,78	0.1604	0.1604	0.900	0.52	0.3050	0.8993	3.00	0.3050	0.3050	0.3050	3.00	0.3050	0.8993	0.3050	
2	76.2	8,45	0.3306	0.3306	1.000	0.40	0.4765	1.1285	3.20	0.4765	0.4765	0.4765	3.20	0.4765	1.1285	0.4765	
9	82.3	10,66	0.2666	0.2666	1.100	0.30	0.5173	1.3576	3.40	0.5173	0.5173	0.5173	3.40	0.5173	1.3576	0.5173	
23	82.6	6,72	0.3300	0.3300	1.200	0.30	0.5967	1.5967	3.60	0.5967	0.5967	0.5967	3.60	0.5967	1.5967	0.5967	
13	85.3	9,47	0.2883	0.2883	1.300	0.20	0.6702	1.8158	3.80	0.6702	0.6702	0.6702	3.80	0.6702	1.8158	0.6702	
21	94.9	17,55	0.0864	0.0864	1.400	0.10	0.747	2.0450	4.00	0.747	0.747	0.747	4.00	0.747	2.0450	0.747	
5	95.2	17,61	0.1896	0.1896	1.500	0.10	0.825	2.2741	4.20	0.825	0.825	0.825	4.20	0.825	2.2741	0.825	
11	96.2	13,00	0.2279	0.2279	1.600	0.10	0.905	2.5032	4.40	0.905	0.905	0.905	4.40	0.905	2.5032	0.905	
26	102.0	13,74	0.3224	0.3224	1.700	0.10	0.988	2.7324	4.60	0.988	0.988	0.988	4.60	0.988	2.7324	0.988	
29	102.0	14,09	0.1951	0.1951	1.800	0.10	1.071	2.9615	4.80	1.071	1.071	1.071	4.80	1.071	2.9615	1.071	
18	106.9	17,06	0.1931	0.1931	1.900	0.10	1.154	3.1906	5.00	1.154	1.154	1.154	5.00	1.154	3.1906	1.154	
30	109.2	17,06	0.1831	0.1831	2.000	0.10	1.237	3.4197	5.20	1.237	1.237	1.237	5.20	1.237	3.4197	1.237	
20	129.7	17,33	0.1005	0.1005	2.100	0.10	1.320	3.6488	5.40	1.320	1.320	1.320	5.40	1.320	3.6488	1.320	
31	139.2	20,23	0.1680	0.1680	2.200	0.10	1.403	3.8779	5.60	1.403	1.403	1.403	5.60	1.403	3.8779	1.403	
6	150.2	15,90	0.1794	0.1794	2.300	0.10	1.486	4.1070	5.80	1.486	1.486	1.					





Attachment 3  
Region V ESA E-mail

## Hanafy, Tarik (MPCA)

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**From:** Darrow.Jennifer@epamail.epa.gov  
**Sent:** Tuesday, July 20, 2010 3:54 PM  
**To:** Hanafy, Tarik (MPCA)  
**Cc:** Schutt, Carolina (MPCA); Blakley.Pamela@epamail.epa.gov  
**Subject:** Re: Heartland Corn  
**Attachments:** pic12069.gif

In terms of ESA, Sibley County is not listed on FWS's endangered and threatened species distribution list. So, Heartland will not have to conduct an ESA consultation. I can send you a more formal version of this determination.

Yes, your characterization of our discussion on Friday is accurate. I am available most times this week, except from 3-4 tomorrow, to talk to Natural Resource Group.

**From:** "Hanafy, Tarik (MPCA)" <Tarik.Hanafy@state.mn.us>  
**To:** Jennifer Darrow/R5/USEPA/US@EPA  
**Cc:** "Schutt, Carolina (MPCA)" <Carolina.Schutt@state.mn.us>  
**Date:** 07/19/2010 04:07 PM  
**Subject:** Heartland Corn

Ms. Darrow,

Your requested information from our conference call last Friday is shown below:

City: Winthrop, MN

County: Sibley

Increases in PM, PM10 and PM2.5 from the increased BACT limits at SV011 Heartland Proposed Limit:  $(6.78 - 3.47 \text{ lb/hr}) * 8760/2000 = 14.50 \text{ tpy}$  MPCA Proposed Limit:  $(4.70 - 3.47 \text{ lb/hr}) * 8760/2000 = 5.39 \text{ tpy}$

The MPCA proposed limit was calculated using the 2-tail 99.5%-tile upper prediction level of the raw data supplied by the consultant. If requested, I can forward you this spreadsheet.

To clarify from last week, you are requesting that Heartland Corn supply written documentation showing how the increase in ethanol production will impact the VOC and condensable particulate BACT limits in the permit established from the original BACT analysis for permit action -005? MPCA will also request Heartland Corn submit documentation showing what the grain handling throughput on an annual basis was when the original BACT analysis was written. The consultant (Natural Resource Group) for Heartland is requesting a conference call with you to discuss the production limit increase. If you accept this request for a conference call, let me know of a date and time this week that will work best for you. I am open except for Wednesday 9:30 to 11:00 am. I will copy below an email received today from Natural Resource Group regarding the current permit action.

Attachment 4  
Points Calculator

## DO NOT SUBMIT THIS FORM

DO NOT SUBMIT THIS FORM						
Project Description:		HCP major amendment			Total Points	30
Application Type	Initial			Total	Details	
	DQ No.	Qty.	Points	Points		
Administrative Amendment			1	0		
Minor Amendment			4	0		
Applicability Request			10	0		
Moderate Amendment			15	0		
Major Amendment	3011		25	0		
Individual State Permit (not reissuance)			50	0		
Individual Part 70 Permit (not reissuance)			75	0		
<b>Additional Points</b>						
Modeling Review			15	0		
BACT Review	3011	2	15	30	PM, PM10	
LAER Review			15	0		
CAIR/Part 75 CEM analysis			10	0		
NSPS Review			10	0		
NESHAP Review			10	0		
Case-by-case MACT Review			20	0		
Netting			10	0		
Limits to remain below threshold			10	0		
Plantwide Applicability Limit (PAL)			20	0		
AERA review			15	0		
Variance request under 7000.7000			35	0		
Confidentiality request under 7000.1300			2	0		
<b>EAW review</b>						
Part 4410.4300, subparts 18, item A; and 29			15	0		
Part 4410.4300, subparts 8, items A & B; 10, items A to C; 16, items A & D; 17, items A to C & E to G; and 18, items B & C			35	0		
Part 4410.4300, subparts 4; 5 items A & B; 13; 15; 16, items B & C; and 17 item D			70	0		
<b>NOTES:</b>						
Increased PM/PM10 BACT limits on SV011, increased production BACT limit						

