

AIR EMISSION PERMIT NO. 14300014-008
Major Amendment

IS ISSUED TO

Heartland Corn Products

HEARTLAND CORN PRODUCTS
53331 State Highway 19 East
Winthrop, Sibley County, MN 55396

The emission units, control equipment and emission stacks at the stationary source authorized in this permit amendment are as described in the Permit Applications Table.

This permit amendment supersedes Air Emission Permit No. 14300014-007 and authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Unless otherwise indicated, all the Minnesota rules cited as the origin of the permit terms are incorporated into the State Implementation Plan under 40 CFR § 52.1220 and as such are enforceable by U.S. Environmental Protection Agency (EPA) Administrator or citizens under the Clean Air Act.

Permit Type: Federal Part 70

Operating Permit Issue Date: December 22, 2005

Authorization to Construct and Operate (40 CFR § 52.21) Issuance Date: November 5, 2009

Major Amendment Issue Date: November 30, 2009

Expiration Date: December 22, 2010 – All Title I Conditions do not expire.

Don Smith, P.E., Manager
Air Quality Permits Section
Industrial Division

for Paul Eger
Commissioner
Minnesota Pollution Control Agency

Permit Applications Table

Permit Type	Application Date	Permit Action
Total Facility Operating Permit	02/15/1995	001
Amendment	04/26/1999	002
Amendment	03/27/2000	003
Amendment	12/21/2001	004
Amendment	05/17/2005	005
Major Amendment	05/18/2006	006
Administrative Amendment	05/14/2007	007
Major Amendment (current)	01/10/2008	008

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NOTICE TO THE PERMITTEE:

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	651-296-6300
Outside Metro Area	1-800-657-3864
TTY	651-282-5332

The rules governing these programs are contained in Minn. R. chs. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

FACILITY DESCRIPTION:

Heartland Corn Products is a fuel-grade ethanol production plant located on State Highway 19 East in Winthrop, Sibley County, Minnesota. The plant consists of two complete ethanol production processes (an east side and a west side) with a combined ethanol production capacity of 99 million gallons per year. The unit processes at the plant are typical of the industry and include grain receiving and processing, fermentation, distillation, spent grain drying/loadout (DDGS), and ethanol product loadout. Emissions from the various production processes are controlled via baghouses, scrubbers, and two valveless regenerative thermal oxidizers (VRTOs).

Prior to issuance of this permit, the facility was an existing major source for New Source Review (NSR) and Part 70 regulatory programs. With the issuance of this permit, the plant becomes a minor source under NSR because the potential Nitrogen Oxide (NO_x), Carbon Monoxide (CO), and Volatile Organic Compounds (VOC) emissions exceed 100 tons per year (tpy), yet are below the revised 250 tpy major source threshold. The source remains a major source under Part 70.

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.

Permit action 006 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.

Permit Action 007, an Administrative Amendment, extends the date for performance tests from June 30, 2007, to October 30, 2007.

The current Permit Action 008 consists of the following changes:

- Upon permit issuance, the facility will become a PSD minor source; this is because the total facility PTE will be below the revised PSD thresholds for ethanol production facilities (PSD threshold was 100 tpy, but is now 250 tpy for criteria pollutants).
- Instead of regulating process and thermal NO_x separately, an aggregate NO_x emission limit will be placed at the stacks for each of the two Regenerative Thermal Oxidizers (RTO's) at the facility. The new aggregate NO_x limits will be expressed in terms of lb/hour and ppm by volume.

- Several miscellaneous control device monitored operating parameters will be 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 has 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.

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-1**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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.	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.	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, subp. 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, subp. 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, subp. 4 and 5
OPERATIONAL LIMITS	hdr
Production: less than or equal to 99000000 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**A-2**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
REPORTING/SUBMITTALS	hdr
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
MONITORING REQUIREMENTS	hdr
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	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.	Minn. R. 7019.1000, subp. 1
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.	Minn. R. 7007.0800, subp. 4(D)
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

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-3**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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 through Minn. R. 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 through Minn. R. 7019.3010
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 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
Record keeping: 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)
Record keeping: 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)
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, subp. 1-4, and Minn. R. 7017.2035, subp. 1 and 2
DISPERSION MODELING REQUIREMENTS	hdr
The parameters used in NOx and PM10 modeling are listed in Appendix II of this permit. For any changes that affect any modeled parameter or emission rate documented in Appendix III, a Remodeling Submittal requirement is triggered. This includes changes that do not require a permit amendment as well as changes that require any type of permit amendment.	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-4**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Remodeling Submittal: The Permittee must submit to the Commissioner for approval any revisions of these parameters and must wait for a written approval before making such changes. For changes that don't require a moderate or major amendment, written approval of the modeling may be given before permit issuance; however, the approval applies only to the modeling and not to any other changes. The information submitted must include, for stack and vent sources, source emission rate, location, height, diameters, exit velocity, exit temperature, discharge direction, use of rain caps or rain hats, and, if applicable, locations and dimensions of nearby buildings. For non-stack/vent sources, this includes the source emission rate, location, size and shape, release height, and, if applicable, any emission rate scalars, and the initial lateral dimensions and initial vertical dimensions and adjacent building heights.	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000
The plume dispersion characteristics due to the revisions of the information must be equivalent to or better than the dispersion characteristics results in the January 2008 permit application and associated air dispersion modeling submittal. The Permittee shall demonstrate this equivalency in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must submit full remodeling.	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000
The Permittee shall install fencing around the facility. The fencing shall be fully installed prior to the receipt of corn at the new facility in permit action 005. In areas where fencing is not permissible by set backs, right-of-ways, safety concerns, or clearances, the Permittee will commit to installation of signage and patrolling to sufficiently restrict public access to the property outlined as fenced in the dispersion modeling.	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.	Minn. R. 7009.0020; Minn. R. 7007.0800, subp. 2
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.	40 CFR Section 52.21 and Minn. R. 7009.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Heartland Corn Products
Permit Number: 14300014 - 008

Subject Item: GP 001 Tanks subject to NSPS subp. Kb

- Associated Items:
- TK 001 Ethanol & Water
 - TK 002 Ethanol
 - TK 003 Unleaded Gas
 - TK 004 Ethanol
 - TK 005 Ethanol & Unleaded Gas
 - TK 006 Ethanol and Water
 - TK 007 Ethanol
 - TK 008 Corrosion Inhibitor
 - TK 009 Unleaded Gas
 - TK 010 Ethanol & Unleaded Gas
 - TK 011 Ethanol & Unleaded Gas

What to do	Why to do it
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**A-6**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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

What to do	Why to do it
POLLUTION CONTROL REQUIREMENTS	hdr
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).	40 CFR Section 60.112b(a); 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.	40 CFR Section 60.112b(a)(1)(ii)(B); Minn. R. 7011.1520(C)
MONITORING REQUIREMENTS	hdr
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.	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 through manholes and roof hatches on the fixed roof at least once every twelve (12) months after initial fill as required by this paragraph.	40 CFR Section 60.113b(a)(3)(ii); 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.	40 CFR Section 60.113b(a)(3)(i); Minn. R. 7011.1520(C)
RECORDKEEPING REQUIREMENTS	hdr
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).	40 CFR Section 60.115b(a)(2); Minn. R. 7011.1520(C)
REPORTING REQUIREMENTS	hdr
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.	40 CFR Section 60.115b(a)(4); 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.	40 CFR Section 60.115b(a)(5); Minn. R. 7011.1520(C)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-7**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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.	Minn. R. 7007.0800, subp. 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.	Minn. R. 7007.0800, subp. 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.	Minn. R. 7007.0800, subp. 2 and 14
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, subp. 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, subp. 2 and subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-8**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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)

What to do	Why to do it
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.	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.	Minn. R. 7007.0800, subp. 2 and subp. 14
Pressure drop and flowrate are specified under SV003, SV016, CE003, CE005 and CE008.	
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.	Minn. R. 7007.0800, subp. 2 and subp. 14
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.	Minn. R. 7007.0800, subp. 2 and 14
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.	Minn. R. 7007.0800, subp. 4
Operation and Maintenance of Wet Scrubber: The Permittee shall operate and maintain the wet scrubber according to the control equipment manufacturer's specifications.	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.	Minn. R. 7007.0800, subp. 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.	Minn. R. 7007.0800, subp. 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, subp. 2 and subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-9**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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.	Minn. R. 7011.0080
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, subp. 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, subp. 2 and subp. 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, subp. 2 and subp. 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, subp. 2 and subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Heartland Corn Products
Permit Number: 14300014 - 008

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

What to do	Why to do it
Fuel Burned: Natural gas only.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2
Recordkeeping - Fuel Usage: Once each day, record the cubic feet of natural gas combusted by all units in GP 006 during the previous day	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-11**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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 proved 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 15 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**A-12**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

(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).	40 CFR Section 60.482-4(b); Minn. R. 7011.2900
STANDARDS: SAMPLING CONNECTION SYSTEMS	hdr
(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).	40 CFR Section 60.482-5(a); 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.	40 CFR Section 60.482-5(b) and (c); Minn. R. 7011.2900
(c) In situ sampling systems are exempt from these requirements.	
STANDARDS: OPEN ENDED VALVES OR LINES	hdr
(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.	40 CFR Section 60.482-6(a); 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.	40 CFR Section 60.482-6(b) and (c); Minn. R. 7011.2900
(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.	
STANDARDS: VALVES	hdr
(a) Each valve shall be monitored monthly to detect leaks by the methods specified in 40 CFR Section 60.485(b).	40 CFR Section 60.482-7(a); Minn. R. 7011.2900
(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.	40 CFR Section 60.482-7(b) and (c); Minn. R. 7011.2900
(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.	
(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.	40 CFR Section 60.482-7(d); 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.	40 CFR Section 60.482-7(e); Minn. R. 7011.2900
STANDARDS: PUMPS AND VALVES IN HEAVY LIQUID SERVICE, PRESSURE RELIEF DEVICES IN LIGHT LIQUID OR HEAVY LIQUID SERVICE, AND FLANGES AND OTHER CONNECTORS	hdr
(a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service and flanges and other connectors shall be monitored within 5 days by the method specified in 40 CFR Section 60.485(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.	40 CFR Section 60.482-8(a); Minn. R. 7011.2900

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-13**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

<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>	40 CFR Section 60.482-8(b) and (c); Minn. R. 7011.2900
<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>	40 CFR Section 60.482-8(d); Minn. R. 7011.2900
DELAY OF REPAIR	hdr
<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>	40 CFR Section 60.482-9(a) and (b); Minn. R. 7011.2900
<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>	40 CFR Section 60.482-9(c); Minn. R. 7011.2900
<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>	40 CFR Section 60.482-9(d); Minn. R. 7011.2900
<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>	40 CFR Section 60.482-9(e); Minn. R. 7011.2900
TESTING PROCEDURES	hdr
<p>Compliance shall be determined by the methods specified in 40 CFR Section 60.485.</p>	40 CFR Section 60.486(b); Minn. R. 7011.2900
RECORDKEEPING	hdr
<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>	40 CFR Section 60.486(b); Minn. R. 7011.2900
<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>	40 CFR Section 60.486(c); Minn. R. 7011.2900

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-14**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

<p>(5) Repair delayed and the reason for the delay if a leak is not repaired within 15 calendar days after discover of the leak.</p> <p>(6) The signature of the owner or operator whose decision it was that the repair could not be effected without a process shutdown.</p> <p>(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.</p> <p>(8) Dates of process unit shutdown that occur while the equipment is unrepaired.</p> <p>(9) The date of successful repair of the leak.</p>	40 CFR Section 60.486(c); Minn. R. 7011.2900
REPORTING REQUIREMENTS	hdr
(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.	40 CFR Section 60.487(a); Minn. R. 7011.2900
<p>(b) The initial semiannual report to the Administrator shall include the following information:</p> <p>(1) Process unit identification,</p> <p>(2) Number of valves subject to the requirements of 40 CFR Section 60.482-7,</p> <p>(3) Number of pumps subject to the requirements of 40 CFR Section 60.482-2,</p> <p>(4) Number of compressors subject to the requirements of 40 CFR Section 60.482-3</p>	40 CFR Section 60.487(b); Minn. R. 7011.2900
<p>(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR Section 60.486;</p> <p>(1) Process unit identification.</p> <p>(2) For each month during the semiannual reporting period,</p> <p>(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</p> <p>(ii) Number of valves for which leaks were not repaired as required in 40 CFR Section 60.482-7(d)(1),</p> <p>(iii) Number of pumps for which leaks were detected as described in 40 CFR Section 60.482-2(b) and (d)(6)(i),</p> <p>(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).</p>	40 CFR Section 60.487(c); Minn. R. 7011.2900
<p>(v) Number of compressors for which leaks were detected as described in 40 CFR Section 60.482-3(f),</p> <p>(vi) Number of compressors for which leaks were not repaired as required in 40 CFR Section 60.482-3(g)(1)</p> <p>(vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.</p>	40 CFR Section 60.487(c); Minn. R. 7011.2900
<p>(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.</p> <p>(4) Revisions to items reported according to paragraph (b) if changes have occurred since the initial report or subsequent revisions to the initial report.</p>	40 CFR Section 60.487(c); 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.	40 CFR Section 60.487(e); Minn. R. 7011.2900

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-15**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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
Particulate Matter < 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
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

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-16**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: SV 002 Hammermill (CE 002)**Associated Items:** EU 008 Hammermill #1

EU 045 Hammermill #2

GP 003 Baghouse Monitoring Requirements

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.27 lbs/hour	Title I Condition: 40 CFR Secion 52.21 (j): BACT and Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 0.27 lbs/hour	Title I Condition: 40 CFR Secion 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 Secion 52.21 (j): BACT and Minn. R. 7007.3000
Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency	Title I Condition: 40 CFR Secion 52.21 (j): BACT and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-17**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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 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 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day 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, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-18**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Volatile Organic Compounds: less than or equal to 0.99 lbs/hour as total mass of VOC.	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.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
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 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day 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, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-19**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 3.47 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 3.47 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)
POLLUTION CONTROL REQUIREMENTS	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 0.0217 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 0.0217 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
TESTING REQUIREMENTS	hdr
Performance Test: due 180 days after Permit Issuance to measure total NOx emissions from SV 011 on both a lbs/hour basis and a parts per million by weight basis.	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 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day 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, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2
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.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800 subp. 15 (j)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-20**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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.	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.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-21**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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
Particulate Matter < 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
Particulate Matter < 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
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

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-22**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: SV 015 Hammermill Baghouse #2 (CE 007)**Associated Items:** EU 053 Hammermill #3

EU 054 Hammermill #4

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 Secion 52.21 (j): BACT and Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 0.005 grains/dry standard cubic foot	Title I Condition: 40 CFR Secion 52.21 (j): BACT and Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 1.18 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 Secion 52.21 (j): BACT and Minn. R. 7007.3000
Particulate Matter < 10 micron: greater than or equal to 99 percent control efficiency	Title I Condition: 40 CFR Secion 52.21 (j): BACT and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-23**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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
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 6.59 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 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 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day 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, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-24**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: SV 018 VRTO #2 (CE 012)**Associated Items:** EU 071 DDGS Dryer #3

EU 072 VRTO #2

What to do	Why to do it
EMISSION LIMITS	hdr
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)
Total Particulate Matter: less than or equal to 5.97 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 5.97 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 15.26 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 15.00 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 19.4 lbs/hour	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Sulfur Dioxide: less than or equal to 5.05 lbs/hour	Title I Condition: 40 CFR Section 52.21 (j): 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.	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Fuel Burned: Natural Gas Only	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
POLLUTION CONTROL REQUIREMENTS	hdr
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)
PM < 10 micron: less than or equal to 0.0217 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 0.0217 grains/dry standard cubic foot	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	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
TESTING REQUIREMENTS	hdr
Performance Test: due 180 days after Permit Issuance to measure total NOx emissions from SV 018 on both a lbs/hour basis and a parts per million by weight basis.	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 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day 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, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2
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.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800 subp. 15 (j)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-25**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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.	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.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-26**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: SV 024 DDGS Handling Baghouse**Associated Items:** EU 082 DDGS Bin #1

EU 083 DDGS Bin #2

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
Particulate Matter < 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
Particulate Matter < 10 micron: less than or equal to 0.27 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
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

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-27**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: EU 018 Boiler**Associated Items:** CE 014 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) 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**A-28**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: EU 031 DDGS Cooling Cyclone**Associated Items:** CE 011 Single Cyclone

SV 017 DDGS Cooler #1(CE 011)

What to do	Why to do it
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.	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	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 1.06 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 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.	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.	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. 7011.0715, subp. 1(B)
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.	40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
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 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day 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, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-29**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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-30**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: EU 071 DDGS Dryer #3**Associated Items:** CE 012 VRTO

SV 018 VRTO #2 (CE 012)

What to do	Why to do it
The dryer shall be fitted with a low-NOx burner specified to emit at 0.04 lb/MMBtu or less.	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

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Heartland Corn Products
Permit Number: 14300014 - 008

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**A-32**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: EU 074 Utility Boiler #3**Associated Items:** CE 016 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 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 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day 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, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-33**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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 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 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day 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, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-34**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: EU 078 Ethanol Loading Rack/Flare #1**Associated Items:** CE 018 Flaring

SV 021 EtOH Loading Rack Flare #1 (CE 018)

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 nonaassisted 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 lease 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, subp. 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, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-35**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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 nonaassisted 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 lease 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, subp. 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, subp. 4, 5, and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Heartland Corn Products
Permit Number: 14300014 - 008

Subject Item: EU 081 Wetcake Loadout and Storage

What to do	Why to do it
Wet Cake Storage Limitation: When wet cake by-product is produced, it shall 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 shall be removed from the facility property as soon as possible.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-37**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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.	Minn. R. 7007.0800, subp. 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	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-38**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: CE 002 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** EU 008 Hammermill #1

EU 045 Hammermill #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 each fabric filter stack (SV 002) 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.	Minn. R. 7007.0800, subp. 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	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-39**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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.	Minn. R. 7007.0800, subp. 2 and 14
Water flow rate: greater than or equal to 35 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.	Minn. R. 7007.0800, subp. 2 and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-40**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: CE 005 Packed-Gas Adsorption Column**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

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.	Minn. R. 7007.0800, subp. 2 and 14
Water flow rate: greater than or equal to 6.7 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 new 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.	Minn. R. 7007.0800, subp. 2 and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-41**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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.	Minn. R. 7007.0800, subp. 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	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-42**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: CE 007 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** EU 053 Hammermill #3

EU 054 Hammermill #4

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 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.	Minn. R. 7007.0800, subp. 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	Minn. R. 7007.0800, subp. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-43**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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 3 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 67 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**A-44**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: CE 010 VRT0**Associated Items:** EU 015 DDGS Dryer

EU 035 DDGS Dryer #2

GP 006 NOx Emissions From Fuel Combustion

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 1600 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. This shall be reported as a deviation.	Minn. R. 7007.0800, subp. 2 and 14
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.	Minn. R. 7007.0800, subp. 2 and 14
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.	Minn. R. 7007.0800, subp. 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, subp. 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, subp. 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, subp. 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, subp. 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.	Minn. R. 7007.0800, subp. 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, subp. 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**A-45**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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 1600 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.	Minn. R. 7007.0800, subp. 2 and 14
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.	Minn. R. 7007.0800, subp. 2 and 14
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.	Minn. R. 7007.0800, subp. 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, subp. 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, subp. 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, subp. 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, subp. 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.	Minn. R. 7007.0800, subp. 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, subp. 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**A-46**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: FS 001 Facility Truck Traffic Fugitive Emissions

What to do	Why to do it
Fugitive Emissions: Do not cause or permit the transporting any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Do not cause or permit a road or a driveway to be constructed, used, repaired, or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne.	Minn. R. 7011.0150
Base factors for each road segment shall not exceed the corresponding values in the table in Appendix IV of this permit. Vehicle velocities used in the calculation of the base factor will be based upon signage installed by the Permittee at the facility. The Permittee shall record the number of trucks entering the facility daily except grain receiving trucks. The number of grain receiving trucks may be calculated based on the number of bushels of corn received each day.	Title I Condition: 40 CFR Section 52.21 and Minn. R. 7009

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-47**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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-48**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: FS 007 New Grain Receiving Fugitives**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 or grain handling activities.	Minn. R. 7011.1005, subp. 3(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).	Minn. R. 7011.1005, subp. 1(A)

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-49**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

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 A: LIMITS AND OTHER REQUIREMENTS**A-50**

11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

Subject Item: FS 009 New Truck Traffic

What to do	Why to do it
Fugitive Emissions: Do not cause or permit the transporting any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Do not cause or permit a road or a driveway to be constructed, used, repaired, or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne.	Minn. R. 7011.0150
Base factors for each road segment shall not exceed the corresponding values in the table in Appendix IV of this permit. Vehicle velocities used in the calculation of the base factor will be based upon signage installed by the Permittee at the facility. The Permittee shall record the number of trucks entering the facility daily except grain receiving trucks. The number of grain receiving trucks may be calculated based on the number of bushels of corn received each day.	Title I Condition: 40 CFR Section 52.21 and Minn. R. 7009

TABLE B: SUBMITTALS

B-1 11/30/09

Facility Name: Heartland Corn Products
Permit Number: 14300014 - 008

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

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.

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

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.

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: ONE TIME SUBMITTALS OR NOTIFICATIONS**B-2** 11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	EU073
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU 072.	EU072
Notification of the Date Construction Began	due 30 days after Start Of Construction	EU073

TABLE B: RECURRENT SUBMITTALS**B-3** 11/30/09

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 008

What to send	When to send	Portion of Facility Affected
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: 14300014-008

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.	
3(G)	The Facility will have a product testing laboratory.	
3(H)(3) 3(H)(4)	Welding Equipment for plant maintenance Normal-scale office equipment will be present in the facility office.	
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

Appendix II:

Modeling Inputs

Appendix III – Modeling Parameters Used for Heartland Corn Products (HCP) in Winthrop, Sibley County, Minnesota

Hardcopy Report Submittal

Major Modification Application, Heartland Corn Products, submitted January 2008.

Electronic (CD-ROM) Submittal

Heartland Corn Products Modeling Files, prepared by Natural Resource Group, Inc., January 2008.

Appendix III – Full Details

See CD-ROM for full data details.

Appendix III – Summary Report (A Computer-Generated “REPORT” Format with Simple Headers, Simple Sources, and Selected Parameters)

The summary report is for simple (constant) emission rates and corresponding stack/source parameters. It does not fully document details regarding model control options, emission rates with varying emission scalars, corresponding stack/source parameters, wind speed categories for wind erosion, building profile input program (BPIP) outputs, various output selections (e.g., EVENTFIL, MULTYEAR, PLOTFILE, POSTFILE, MAXIFILE), applicable “INCLUDED” file information, receptor grids, or other special features described in the following EPA modeling user guides:

ISCST3: <http://www.epa.gov/scram001/userg/regmod/isc3v1.pdf>

AERMOD: <http://www.epa.gov/scram001/7thconf/aermod/aermodugb.pdf>

* 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\20080109
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

X:\Agency_Files\Outcomes\Risk_Eval_Air_Mod\Air_Modeling\Projects\14300014_HeartlandCornProducts\20080109\HCP_Dec2007_Maj_Mod_PM_and_NOx_Modeling_86_PMTEN.LST

*** AERMOD - VERSION 07026 *** *** Heartland Corn Products ***
12/26/07

*** Modeling Change in Emissions; PM and NOx at SV011 & SV018 Dec 2007 M ***

13:39:30

**MODELOPTs:

PAGE 1

CONC

DEFAULT ELEV

NOWARN

*** MODEL SETUP OPTIONS SUMMARY ***

**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --

**Model Uses NO DRY DEPLETION. DDPLETE = F

**Model Uses NO WET DEPLETION. WDPLETE = F

**NO GAS DRY DEPOSITION Data Provided.

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:

1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay

**Other Options Specified:

NOWARN - Suppresses writing of warning messages in main print file

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates 1 Short Term Average(s) of: 24-HR
and Calculates ANNUAL Averages

**This Run Includes: 256 Source(s); 2 Source Group(s); and 476 Receptor(s)

**The Model Assumes A Pollutant Type of: PMTEN

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:

Model Outputs Tables of ANNUAL Averages by Receptor

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours

m for Missing Hours

b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 395.33 ; Decay Coef. = 0.000 ; Rot.
Angle = 0.0

Emission Units = GRAMS/SEC

; Emission Rate Unit Factor =

0.10000E+07

Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 1.8 MB of RAM.

**Input Runstream File: HCP Dec2007 Maj Mod PM and NOx Modeling_86_PMTEN.DTA

**Output Print File: HCP Dec2007 Maj Mod PM and NOx Modeling_86_PMTEN.LST

*** AERMOD - VERSION 07026 ***
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*** Modeling Change in Emissions; PM and NOx at SV011 & SV018 Dec 2007 M ***

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**MODELOPTs:
PAGE 2
CONC

		DFAULT ELEV				NOWARN							
		NUMBER	EMISSION RATE			*** POINT	SOURCE DATA ***			STACK	STACK	BLDG	URBAN
CAP/	EMIS RATE	PART.	(GRAMS/SEC)	X	Y	ELEV.	HEIGHT	TEMP.	EXIT VEL.	DIAMETER	EXISTS	SOURCE	
SOURCE	SCALAR	CATS.		(METERS)	(METERS)	(METERS)	(METERS)	(DEG.K)	(M/SEC)	(METERS)			
HOR	ID												
VARY BY													
NO	FS005A	0	0.13796E-01	393666.7	4932946.5	310.0	8.53	0.00	25.54	5.49	YES	NO	
NO	FS005B	0	0.13796E-01	393672.0	4932946.5	310.0	8.53	0.00	25.54	5.49	YES	NO	
NO	FS005C	0	0.13796E-01	393677.9	4932946.5	310.0	8.53	0.00	25.54	5.49	YES	NO	
NO	FS005D	0	0.13796E-01	393667.3	4932928.0	310.0	8.53	0.00	25.54	5.49	YES	NO	
NO	FS005E	0	0.13796E-01	393673.2	4932928.0	310.0	8.53	0.00	25.54	5.49	YES	NO	
NO	FS005F	0	0.13796E-01	393685.3	4932925.5	310.0	8.53	0.00	25.54	5.49	YES	NO	
NO	FS006A	0	0.13796E-01	393203.2	4932902.5	309.0	10.67	0.00	25.54	5.49	YES	NO	
NO	FS006B	0	0.13796E-01	393210.2	4932902.5	309.0	10.67	0.00	25.54	5.49	YES	NO	
NO	FS006C	0	0.13796E-01	393222.4	4932902.0	309.0	10.67	0.00	25.54	5.49	YES	NO	
NO	FS006D	0	0.13796E-01	393231.4	4932901.5	309.0	10.67	0.00	25.54	5.49	YES	NO	
NO	FS006E	0	0.13796E-01	393203.8	4932884.0	309.0	10.67	0.00	25.54	5.49	YES	NO	
NO	FS006F	0	0.13796E-01	393210.7	4932883.5	309.0	10.67	0.00	25.54	5.49	YES	NO	
NO	FS006G	0	0.13796E-01	393222.5	4932883.5	309.0	10.67	0.00	25.54	5.49	YES	NO	
NO	FS006H	0	0.13796E-01	393231.4	4932883.5	309.0	10.67	0.00	25.54	5.49	YES	NO	
NO	SV001	0	0.53998E-01	393548.3	4932865.5	310.0	19.81	0.00	16.17	0.61	YES	NO	
NO	SV002	0	0.33694E-01	393550.0	4932867.5	310.0	19.81	0.00	10.09	0.61	YES	NO	
NO	OLDSV011	0	0.43721E+00	393543.0	4932926.0	310.0	24.38	0.00	21.91	1.52	YES	NO	
NO	SV017	0	0.13356E+00	393535.3	4932899.5	310.0	22.86	0.00	20.39	0.76	YES	NO	
NO	OLDSV018	0	0.75221E+00	393369.8	4932927.5	310.0	50.29	422.04	26.17	1.83	YES	NO	
NO	SV020	0	0.29512E+00	393364.8	4932927.5	310.0	50.29	422.04	17.50	1.52	YES	NO	
NO	SV014	0	0.14870E+00	393311.4	4932877.5	309.0	47.24	0.00	17.70	0.97	YES	NO	
NO	SV015	0	0.22550E+00	393311.9	4932901.5	309.0	47.24	0.00	20.07	1.12	YES	NO	
NO	SV024	0	0.34520E-01	393349.9	4932882.0	309.0	47.24	0.00	12.36	0.56	YES	NO	
NO	NEWSV011	0	0.62999E+00	393543.0	4932926.0	310.0	24.38	0.00	21.91	1.52	YES	NO	
NO	NEWSV018	0	0.10836E+01	393369.8	4932927.5	310.0	50.29	422.04	26.17	1.83	YES	NO	

*** AERMOD - VERSION 07026 ***
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*** Heartland Corn Products

*** Modeling Change in Emissions; PM and NOx at SV011 & SV018 Dec 2007 M ***

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**MODELOPTs:

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CONC

DEFAULT ELEV

NOWARN

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
FS002A	0	0.10395E-02	393504.1	4932846.0	310.0	2.44	1.42	2.27	NO	SHRDOW
FS002B	0	0.10395E-02	393512.3	4932846.0	310.0	2.44	1.42	2.27	NO	SHRDOW
FS002C	0	0.10395E-02	393495.4	4932877.5	310.0	2.44	1.42	2.27	NO	SHRDOW
FS002D	0	0.10395E-02	393534.0	4932877.0	310.0	2.44	1.42	2.27	NO	SHRDOW
FS003A	0	0.13356E-02	393495.4	4932878.0	310.0	2.44	1.42	2.27	NO	SHRDOW
FS003B	0	0.13356E-02	393533.9	4932877.5	310.0	2.44	1.42	2.27	NO	SHRDOW
FS7&8A	0	0.15750E-02	393316.8	4932868.0	310.0	2.44	1.42	2.27	NO	SHRDOW
FS7&8B	0	0.15750E-02	393316.5	4932862.5	310.0	2.44	1.42	2.27	NO	SHRDOW
FS7&8C	0	0.15750E-02	393316.4	4932856.0	310.0	2.44	1.42	2.27	NO	SHRDOW
FS7&8D	0	0.15750E-02	393349.1	4932867.5	310.0	2.44	1.42	2.27	NO	SHRDOW
FS7&8E	0	0.15750E-02	393349.1	4932861.0	310.0	2.44	1.42	2.27	NO	SHRDOW
FS7&8F	0	0.15750E-02	393349.2	4932856.5	310.0	2.44	1.42	2.27	NO	SHRDOW
R1A	0	0.52540E-03	393154.2	4933039.5	309.0	2.33	4.65	2.17	NO	SHRDOW
R2A	0	0.52540E-03	393154.2	4933029.5	309.0	2.33	4.65	2.17	NO	SHRDOW
R3A	0	0.52540E-03	393157.5	4933020.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R4A	0	0.52540E-03	393165.4	4933013.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R199A	0	0.52540E-03	393174.2	4933008.5	309.0	2.33	4.65	2.17	NO	SHRDOW
R160D	0	0.61990E-03	393650.7	4933010.5	311.0	2.33	4.65	2.17	NO	SHRDOW
R161D	0	0.61990E-03	393653.0	4933004.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R176D	0	0.61990E-03	393650.6	4933020.5	311.0	2.33	4.65	2.17	NO	SHRDOW
R177D	0	0.61990E-03	393650.5	4933031.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R200B	0	0.85050E-03	393184.0	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R201B	0	0.85050E-03	393194.0	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R202B	0	0.85050E-03	393204.0	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R203B	0	0.85050E-03	393214.0	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R204B	0	0.85050E-03	393224.0	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R205B	0	0.85050E-03	393234.0	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R206B	0	0.85050E-03	393244.1	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R207B	0	0.85050E-03	393254.2	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R208B	0	0.85050E-03	393264.2	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R209B	0	0.85050E-03	393274.3	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R210B	0	0.85050E-03	393284.3	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R211B	0	0.85050E-03	393294.3	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R212B	0	0.85050E-03	393304.2	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R213B	0	0.85050E-03	393314.3	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R214B	0	0.85050E-03	393324.3	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R215B	0	0.85050E-03	393334.3	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R216B	0	0.85050E-03	393344.3	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R217B	0	0.85050E-03	393354.3	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R218B	0	0.85050E-03	393364.3	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW

*** AERMOD - VERSION 07026 ***
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*** Heartland Corn Products

*** Modeling Change in Emissions; PM and NOx at SV011 & SV018 Dec 2007 M ***

13:39:30

**MODELOPTs:

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CONC

DEFAULT ELEV

NOWARN

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
R219B	0	0.85050E-03	393374.3	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R220B	0	0.85050E-03	393384.3	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R221B	0	0.85050E-03	393394.3	4932996.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R222B	0	0.85050E-03	393404.3	4932996.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R223B	0	0.85050E-03	393414.3	4932996.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R224B	0	0.85050E-03	393424.3	4932996.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R225B	0	0.85050E-03	393434.3	4932996.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R226B	0	0.85050E-03	393444.3	4932996.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R178C	0	0.84550E-03	393455.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R179C	0	0.84550E-03	393465.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R180C	0	0.84550E-03	393475.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R181C	0	0.84550E-03	393485.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R182C	0	0.84550E-03	393495.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R183C	0	0.84550E-03	393505.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R184C	0	0.84550E-03	393515.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R185C	0	0.84550E-03	393525.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R186C	0	0.84550E-03	393535.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R187C	0	0.84550E-03	393545.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R188C	0	0.84550E-03	393555.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R189C	0	0.84550E-03	393565.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R190C	0	0.84550E-03	393575.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R191C	0	0.84550E-03	393585.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R192C	0	0.84550E-03	393595.0	4933005.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R193C	0	0.84550E-03	393605.0	4933005.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R194C	0	0.84550E-03	393615.0	4933005.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R195C	0	0.84550E-03	393625.0	4933005.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R196C	0	0.84550E-03	393635.0	4933005.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R197C	0	0.84550E-03	393645.0	4933005.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R131E	0	0.80513E-04	393764.9	4932868.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R132E	0	0.80513E-04	393775.0	4932868.5	311.0	2.33	4.65	2.17	NO	SHRDOW
R133E	0	0.80513E-04	393784.6	4932869.5	311.0	2.33	4.65	2.17	NO	SHRDOW
R134E	0	0.80513E-04	393793.0	4932875.5	311.0	2.33	4.65	2.17	NO	SHRDOW
R135E	0	0.80513E-04	393795.7	4932885.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R136E	0	0.80513E-04	393795.7	4932895.5	311.0	2.33	4.65	2.17	NO	SHRDOW
R137E	0	0.80513E-04	393795.4	4932903.5	311.0	2.33	4.65	2.17	NO	SHRDOW
R138E	0	0.80513E-04	393795.5	4932924.5	311.0	2.33	4.65	2.17	NO	SHRDOW
R139E	0	0.80513E-04	393795.8	4932915.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R140E	0	0.80513E-04	393795.5	4932935.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R141E	0	0.80513E-04	393795.5	4932944.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R142E	0	0.80513E-04	393795.5	4932956.0	310.0	2.33	4.65	2.17	NO	SHRDOW

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*** Heartland Corn Products

*** Modeling Change in Emissions; PM and NOx at SV011 & SV018 Dec 2007 M ***

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**MODELOPTs:

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CONC

		DFAULT ELEV			NOWARN						
		NUMBER	EMISSION RATE			*** VOLUME	SOURCE DATA ***	INIT.	INIT.	URBAN	EMISSION RATE
SOURCE	PART.	(GRAMS/SEC)	X	Y	BASE	RELEASE	INIT.	SZ	SOURCE	SCALAR VARY	
ID	CATS.		(METERS)	(METERS)	ELEV.	HEIGHT	SY	(METERS)		BY	
					(METERS)	(METERS)	(METERS)				
R143E	0	0.80513E-04	393794.9	4932965.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R144E	0	0.80513E-04	393794.2	4932975.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R145E	0	0.80513E-04	393792.3	4932985.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R146E	0	0.80513E-04	393787.8	4932993.5	309.0	2.33	4.65	2.17	NO	SHRDOW	
R147E	0	0.80513E-04	393778.7	4933000.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R148E	0	0.80513E-04	393768.3	4933001.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R149E	0	0.80513E-04	393758.4	4933001.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R150E	0	0.80513E-04	393748.5	4933001.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R151E	0	0.80513E-04	393738.5	4933002.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R152E	0	0.80513E-04	393728.5	4933002.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R153E	0	0.80513E-04	393718.6	4933002.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R154E	0	0.80513E-04	393708.3	4933002.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R155E	0	0.80513E-04	393698.3	4933002.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R156E	0	0.80513E-04	393688.5	4933001.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R157E	0	0.80513E-04	393678.6	4933001.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R158E	0	0.80513E-04	393668.9	4933001.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R159E	0	0.80513E-04	393661.1	4933001.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R126F	0	0.94372E-04	393715.5	4932866.0	311.0	2.33	4.65	2.17	NO	SHRDOW	
R127F	0	0.94372E-04	393724.9	4932866.5	311.0	2.33	4.65	2.17	NO	SHRDOW	
R128F	0	0.94372E-04	393744.7	4932866.0	311.0	2.33	4.65	2.17	NO	SHRDOW	
R129F	0	0.94372E-04	393735.5	4932866.5	311.0	2.33	4.65	2.17	NO	SHRDOW	
R130F	0	0.94372E-04	393754.9	4932866.5	311.0	2.33	4.65	2.17	NO	SHRDOW	
R120G	0	0.22932E-03	393655.9	4932856.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R121G	0	0.22932E-03	393666.2	4932858.5	311.0	2.33	4.65	2.17	NO	SHRDOW	
R122G	0	0.22932E-03	393676.2	4932860.0	311.0	2.33	4.65	2.17	NO	SHRDOW	
R123G	0	0.22932E-03	393686.2	4932861.0	311.0	2.33	4.65	2.17	NO	SHRDOW	
R124G	0	0.22932E-03	393695.5	4932862.5	311.0	2.33	4.65	2.17	NO	SHRDOW	
R125G	0	0.22932E-03	393705.5	4932866.0	311.0	2.33	4.65	2.17	NO	SHRDOW	
R114H	0	0.36035E-03	393592.6	4932856.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R115H	0	0.36035E-03	393606.8	4932854.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R116H	0	0.36035E-03	393618.6	4932854.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R117H	0	0.36035E-03	393628.6	4932854.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R118H	0	0.36035E-03	393639.9	4932854.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R119H	0	0.36035E-03	393648.4	4932855.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R96I	0	0.78623E-04	393534.4	4932846.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R97I	0	0.78623E-04	393544.5	4932847.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R98I	0	0.78623E-04	393554.2	4932848.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R99I	0	0.78623E-04	393564.4	4932851.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R100I	0	0.78623E-04	393572.9	4932855.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R101I	0	0.78623E-04	393579.8	4932857.5	310.0	2.33	4.65	2.17	NO	SHRDOW	

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		DFAULT ELEV			NOWARN						
		NUMBER	EMISSION RATE			*** VOLUME	SOURCE DATA ***	INIT.	INIT.	URBAN	EMISSION RATE
SOURCE	PART.	(GRAMS/SEC)	X	Y	BASE	RELEASE	INIT.	SY	SZ	SOURCE	SCALAR VARY
ID	CATS.		(METERS)	(METERS)	ELEV.	HEIGHT	(METERS)	(METERS)	(METERS)		BY

R87K	0	0.37799E-03	393452.6	4932867.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R88K	0	0.37799E-03	393457.4	4932857.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R89K	0	0.37799E-03	393464.7	4932850.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R90K	0	0.37799E-03	393473.6	4932846.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R91K	0	0.37799E-03	393483.7	4932846.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R75M	0	0.45359E-03	393453.0	4932992.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R76M	0	0.45359E-03	393453.0	4932982.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R77M	0	0.45359E-03	393453.0	4932972.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R78M	0	0.45359E-03	393453.0	4932962.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R79M	0	0.45359E-03	393453.0	4932952.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R80M	0	0.45359E-03	393453.0	4932942.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R81M	0	0.45359E-03	393453.0	4932932.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R82M	0	0.45359E-03	393451.8	4932924.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R83M	0	0.45359E-03	393453.1	4932913.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R84M	0	0.45359E-03	393453.0	4932902.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R85M	0	0.45359E-03	393452.6	4932889.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R86M	0	0.45359E-03	393451.9	4932878.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R41N	0	0.30491E-03	393399.1	4932867.0	310.0	2.33	4.65	2.17	NO	SHRDOW	
R42N	0	0.30491E-03	393408.7	4932867.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R43N	0	0.30491E-03	393419.1	4932867.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R44N	0	0.30491E-03	393428.8	4932867.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R45N	0	0.30491E-03	393438.8	4932867.5	310.0	2.33	4.65	2.17	NO	SHRDOW	
R46O	0	0.33011E-03	393166.2	4932927.5	309.0	2.33	4.65	2.17	NO	SHRDOW	
R47O	0	0.33011E-03	393174.6	4932922.0	309.0	2.33	4.65	2.17	NO	SHRDOW	
R48O	0	0.33011E-03	393183.9	4932919.0	309.0	2.33	4.65	2.17	NO	SHRDOW	
R49O	0	0.33011E-03	393194.2	4932918.5	309.0	2.33	4.65	2.17	NO	SHRDOW	
R50O	0	0.33011E-03	393203.8	4932918.5	309.0	2.33	4.65	2.17	NO	SHRDOW	
R51O	0	0.33011E-03	393213.7	4932918.5	309.0	2.33	4.65	2.17	NO	SHRDOW	
R52O	0	0.33011E-03	393224.2	4932918.5	309.0	2.33	4.65	2.17	NO	SHRDOW	
R53O	0	0.33011E-03	393234.1	4932918.5	309.0	2.33	4.65	2.17	NO	SHRDOW	
R54O	0	0.33011E-03	393243.9	4932918.0	309.0	2.33	4.65	2.17	NO	SHRDOW	
R55O	0	0.33011E-03	393254.5	4932918.5	309.0	2.33	4.65	2.17	NO	SHRDOW	
R56O	0	0.33011E-03	393263.8	4932917.5	309.0	2.33	4.65	2.17	NO	SHRDOW	
R57O	0	0.33011E-03	393273.4	4932917.5	309.0	2.33	4.65	2.17	NO	SHRDOW	
R58O	0	0.33011E-03	393284.0	4932918.0	309.0	2.33	4.65	2.17	NO	SHRDOW	
R59O	0	0.33011E-03	393294.2	4932917.0	309.0	2.33	4.65	2.17	NO	SHRDOW	
R60O	0	0.33011E-03	393304.8	4932917.0	309.0	2.33	4.65	2.17	NO	SHRDOW	
R61O	0	0.33011E-03	393314.1	4932916.5	309.0	2.33	4.65	2.17	NO	SHRDOW	
R62O	0	0.33011E-03	393323.5	4932916.5	309.0	2.33	4.65	2.17	NO	SHRDOW	
R63O	0	0.33011E-03	393334.0	4932916.5	310.0	2.33	4.65	2.17	NO	SHRDOW	

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*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
R640	0	0.33011E-03	393344.0	4932916.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R650	0	0.33011E-03	393354.1	4932915.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R660	0	0.33011E-03	393364.2	4932913.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R670	0	0.33011E-03	393373.6	4932910.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R680	0	0.33011E-03	393382.9	4932904.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R690	0	0.33011E-03	393390.1	4932900.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R700	0	0.33011E-03	393400.1	4932895.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R710	0	0.33011E-03	393409.6	4932891.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R720	0	0.33011E-03	393418.6	4932886.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R730	0	0.33011E-03	393426.5	4932881.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R740	0	0.33011E-03	393435.0	4932875.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R38P	0	0.62240E-03	393369.7	4932865.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R39P	0	0.62240E-03	393379.9	4932866.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R40P	0	0.62240E-03	393388.9	4932868.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R29R	0	0.95250E-03	393279.0	4932869.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R30R	0	0.95250E-03	393288.9	4932867.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R31R	0	0.95250E-03	393298.8	4932865.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R12S	0	0.77490E-03	393154.2	4932929.5	309.0	2.33	4.65	2.17	NO	SHRDOW
R13S	0	0.77490E-03	393154.2	4932919.5	309.0	2.33	4.65	2.17	NO	SHRDOW
R14S	0	0.77490E-03	393154.2	4932909.5	309.0	2.33	4.65	2.17	NO	SHRDOW
R15S	0	0.77490E-03	393154.2	4932899.5	309.0	2.33	4.65	2.17	NO	SHRDOW
R16S	0	0.77490E-03	393155.8	4932886.5	309.0	2.33	4.65	2.17	NO	SHRDOW
R17S	0	0.77490E-03	393160.3	4932878.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R18S	0	0.77490E-03	393169.2	4932873.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R19S	0	0.77490E-03	393179.0	4932870.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R20S	0	0.77490E-03	393189.0	4932870.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R21S	0	0.77490E-03	393199.0	4932870.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R22S	0	0.77490E-03	393209.0	4932870.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R23S	0	0.77490E-03	393219.0	4932870.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R24S	0	0.77490E-03	393229.0	4932870.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R25S	0	0.77490E-03	393239.3	4932869.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R26S	0	0.77490E-03	393249.3	4932869.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R27S	0	0.77490E-03	393259.2	4932869.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R28S	0	0.77490E-03	393269.2	4932869.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R5T	0	0.11164E-02	393180.3	4932990.5	309.0	2.33	4.65	2.17	NO	SHRDOW
R6T	0	0.11164E-02	393170.8	4932985.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R7T	0	0.11164E-02	393163.6	4932978.5	309.0	2.33	4.65	2.17	NO	SHRDOW
R8T	0	0.11164E-02	393158.8	4932969.0	309.0	2.33	4.65	2.17	NO	SHRDOW
R9T	0	0.11164E-02	393156.2	4932959.5	309.0	2.33	4.65	2.17	NO	SHRDOW
R10T	0	0.11164E-02	393154.2	4932949.5	309.0	2.33	4.65	2.17	NO	SHRDOW

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*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
R11T	0	0.11164E-02	393154.2	4932939.5	309.0	2.33	4.65	2.17	NO	SHRDOW
R162U	0	0.33137E-03	393653.0	4932994.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R163U	0	0.33137E-03	393653.0	4932984.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R164U	0	0.33137E-03	393653.0	4932974.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R165U	0	0.33137E-03	393653.0	4932964.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R166U	0	0.33137E-03	393653.0	4932954.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R167U	0	0.33137E-03	393653.0	4932944.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R168U	0	0.33137E-03	393653.0	4932934.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R169U	0	0.33137E-03	393653.0	4932924.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R170U	0	0.33137E-03	393653.0	4932914.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R171U	0	0.33137E-03	393653.0	4932904.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R172U	0	0.33137E-03	393653.0	4932894.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R173U	0	0.33137E-03	393653.0	4932884.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R174U	0	0.33137E-03	393653.0	4932874.0	311.0	2.33	4.65	2.17	NO	SHRDOW
R175U	0	0.33137E-03	393653.0	4932864.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R92J	0	0.22050E-03	393493.4	4932846.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R93J	0	0.22050E-03	393502.2	4932846.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R94J	0	0.22050E-03	393515.8	4932846.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R95J	0	0.22050E-03	393524.4	4932846.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R102L	0	0.36035E-03	393462.7	4932878.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R103L	0	0.36035E-03	393473.2	4932878.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R104L	0	0.36035E-03	393483.0	4932878.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R105L	0	0.36035E-03	393493.3	4932877.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R109L	0	0.36035E-03	393535.1	4932878.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R110L	0	0.36035E-03	393545.4	4932877.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R111L	0	0.36035E-03	393555.1	4932875.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R112L	0	0.36035E-03	393564.4	4932871.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R113L	0	0.36035E-03	393573.7	4932864.5	310.0	2.33	4.65	2.17	NO	SHRDOW
R32Q	0	0.10080E-02	393308.7	4932865.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R36Q	0	0.10080E-02	393349.2	4932865.0	310.0	2.33	4.65	2.17	NO	SHRDOW
R37Q	0	0.10080E-02	393358.5	4932864.0	310.0	2.33	4.65	2.17	NO	SHRDOW

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*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID

SOURCE IDs

R37Q	R103L	R104L	R105L	R109L	R110L	R111L	R112L	R113L	R32Q	R36Q	
POSTAMEN	SV014	SV015	SV024	SV001	SV002	SV017	SV020	FS002A	FS002B	FS002C	FS002D
FS006E	FS005A	FS005B	FS005C	FS005D	FS005E	FS005F	FS006A	FS006B	FS006C	FS006D	
FS006E	FS006F	FS006G	FS006H	SV001	SV002	SV017	SV020	FS002A	FS002B	FS002C	FS002D
FS003A	FS003B	FS003C	FS003D	FS003E	FS003F	FS003G	FS003H	FS003I	FS003J	FS003K	FS003L
R199A	FS7&8A	FS7&8B	FS7&8C	FS7&8D	FS7&8E	FS7&8F	R1A	R2A	R3A	R4A	
R199A	R160D	R161D	R176D	R177D	R200B	R201B	R202B	R203B	R204B	R205B	R206B
R207B	R208B	R209B	R210B	R211B	R212B	R213B	R214B	R215B	R216B	R217B	R218B
R219B	R220B	R221B	R222B	R223B	R224B	R225B	R226B	R178C	R179C	R180C	R181C
R182C	R183C	R184C	R185C	R186C	R187C	R188C	R189C	R190C	R191C	R192C	R193C
R194C	R195C	R196C	R197C	R131E	R132E	R133E	R134E	R135E	R136E	R137E	R138E
R139E	R140E	R141E	R142E	R143E	R144E	R145E	R146E	R147E	R148E	R149E	R150E
R151E	R152E	R153E	R154E	R155E	R156E	R157E	R158E	R159E	R126F	R127F	R128F
R129F	R130F	R120G	R121G	R122G	R123G	R124G	R125G	R114H	R115H	R116H	R117H
R118H	R119H	R96I	R97I	R98I	R99I	R100I	R101I	R87K	R88K	R89K	R90K
R91K	R75M	R76M	R77M	R78M	R79M	R80M	R81M	R82M	R83M	R84M	R85M
R86M	R41N	R42N	R43N	R44N	R45N	R46O	R47O	R48O	R49O	R50O	R51O
R52O	R53O	R54O	R55O	R56O	R57O	R58O	R59O	R60O	R61O	R62O	R63O
R64O	R65O	R66O	R67O	R68O	R69O	R70O	R71O	R72O	R73O	R74O	R38P
R39P	R40P	R29R	R30R	R31R	R12S	R13S	R14S	R15S	R16S	R17S	R18S
R19S	R20S	R21S	R22S	R23S	R24S	R25S	R26S	R27S	R28S	R5T	R6T
R7T	R8T	R9T	R10T	R11T	R12T	R13T	R14T	R15T	R16T	R17T	R18T

*** AERMOD - VERSION 07026 *** *** Heartland Corn Products ***
12/26/07

*** Modeling Change in Emissions; PM and NOx at SV011 & SV018 Dec 2007 M ***

13:39:30

**MODELOPTs:

PAGE 11

CONC

DFAULT ELEV

NOWARN

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
R169U	R9T , R10T , R11T , R162U , R163U , R164U , R165U , R166U , R167U , R168U ,
R103L	R170U , R171U , R172U , R173U , R174U , R175U , R92J , R93J , R94J , R95J , R102L ,
SV015	R104L , R105L , R109L , R110L , R111L , R112L , R113L , R32Q , R36Q , R37Q , SV014 ,
	SV024 ,
	NEWSV011, NEWSV018,

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*** AERMOD - VERSION 07026 ***      *** Heartland Corn Products      ***
12/26/07
*** Modeling Change in Emissions; PM and NOx at SV011 & SV018 Dec 2007 M ***

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**MODELOPTs:
PAGE 12
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          *** DIRECTION SPECIFIC BUILDING DIMENSIONS ***
          ABOVE INFORMATION NOT PRINTED TO SAVE SPACE

Misc. Info. (e.g. ECHO, INCLUDED, meteorology, etc.)
NO ECHO
NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA
FILE.
```

X:\Agency_Files\Outcomes\Risk_Eval_Air_Mod\Air_Modeling\Projects\14300014_HeartlandCornProducts\20080109\HCP_Dec2007_Maj_Mod_PM_and_NOx_Modeling_86_NOX.LST

*** AERMOD - VERSION 07026 *** *** Heartland Corn Products ***
12/26/07

*** Modeling Change in Emissions; PM and NOx at SV011 & SV018 Dec 2007 M ***

22:36:50

**MODELOPTs:

PAGE 1

CONC

DEFAULT ELEV

NOWARN

*** MODEL SETUP OPTIONS SUMMARY ***

**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --

**Model Uses NO DRY DEPLETION. DDPLETE = F

**Model Uses NO WET DEPLETION. WDPLETE = F

**NO GAS DRY DEPOSITION Data Provided.

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:

1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay

**Other Options Specified:

NOWARN - Suppresses writing of warning messages in main print file

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates ANNUAL Averages Only

**This Run Includes: 9 Source(s); 2 Source Group(s); and 476 Receptor(s)

**The Model Assumes A Pollutant Type of: NOX

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:

Model Outputs Tables of ANNUAL Averages by Receptor

Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 395.33 ; Decay Coef. = 0.000 ; Rot.
Angle = 0.0

Emission Units = GRAMS/SEC ; Emission Rate Unit Factor =

0.10000E+07

Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 1.2 MB of RAM.

**Input Runstream File: HCP Dec2007 Maj Mod PM and NOx Modeling_86_NOX.DTA

**Output Print File: HCP Dec2007 Maj Mod PM and NOx Modeling_86_NOX.LST

* * *

*** Modeling Change in Emissions; PM and NOx at SV011 & SV018 Dec 2007 M ***

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**MODELOPTs:

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PAGE 2

CONC

DFAULT ELEV

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*** POINT SOURCE DATA ***

CAP/HOR/VARY	EMIS SOURCE SCALAR ID BY	NUMBER PART.	EMISSION RATE (GRAMS/SEC)	X	Y	SOURCE BASE ELEV.	STACK HEIGHT	DATA TEMP.	STACK EXIT VEL.	STACK DIAMETER	BLDG EXISTS	URBAN SOURCE
		CATS.	(METERS)	(METERS)	(METERS)	(METERS)	(DEG.K)	(M/SEC)	(METERS)			

NO	OLDSV011	0	0.10634E+01	393543.0	4932926.0	310.0	24.38	0.00	21.91	1.52	YES	NO
NO	SV013	0	0.29782E-01	393569.6	4932893.5	310.0	4.57	699.82	0.52	0.30	YES	NO
NO	OLDSV018	0	0.13066E+01	393369.8	4932927.5	310.0	50.29	422.04	26.17	1.83	YES	NO
NO	SV020	0	0.16309E+01	393364.8	4932927.5	310.0	50.29	422.04	17.50	1.52	YES	NO
NO	SV021	0	0.92197E-02	393713.9	4932951.5	310.0	9.75	699.82	4.22	1.07	YES	NO
NO	SV022	0	0.15856E-01	393109.3	4932879.5	309.0	9.75	699.82	4.22	1.07	YES	NO
NO	SV023	0	0.52557E-01	393273.8	4932934.5	309.0	3.35	699.82	0.91	0.30	YES	NO
NO	NEWSV011	0	0.13595E+01	393543.0	4932926.0	310.0	24.38	0.00	21.91	1.52	YES	NO
NO	NEWSV018	0	0.18900E+01	393369.8	4932927.5	310.0	50.29	422.04	26.17	1.83	YES	NO

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*** AERMOD - VERSION 07026 ***      *** Heartland Corn Products      ***
12/26/07
*** Modeling Change in Emissions; PM and NOx at SV011 & SV018 Dec 2007 M ***

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**MODELOPTs:
PAGE      3
CONC
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                                *** SOURCE IDs DEFINING SOURCE GROUPS ***
                                SOURCE IDs
GROUP ID
PREAMEND  OLDSV011, SV013      , OLDSV018, SV020      , SV021      , SV022      , SV023      ,
POSTAMEN  SV013      , SV020      , SV021      , SV022      , SV023      , NEWSV011, NEWSV018,

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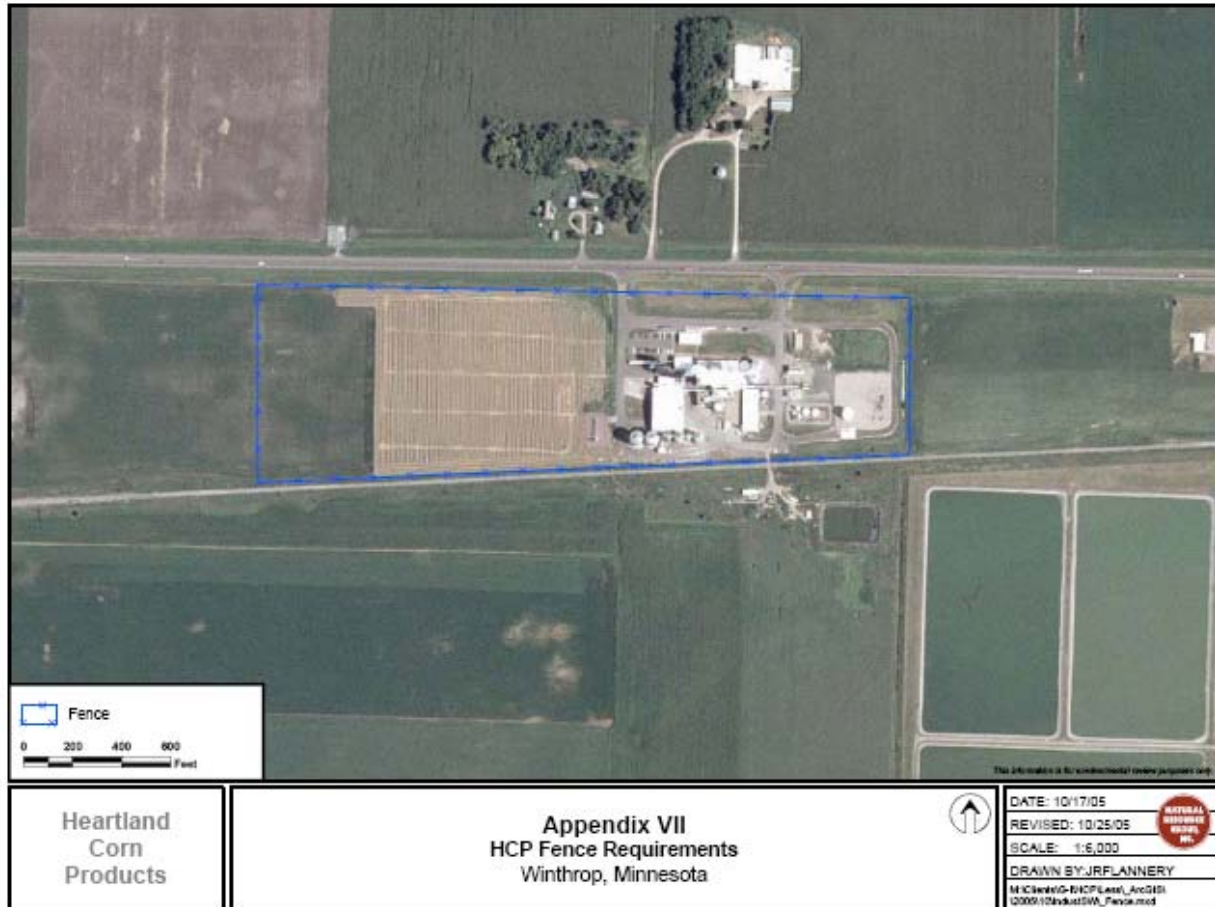
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*** AERMOD - VERSION 07026 ***      *** Heartland Corn Products      ***
12/26/07
*** Modeling Change in Emissions; PM and NOx at SV011 & SV018 Dec 2007 M ***

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                                *** DIRECTION SPECIFIC BUILDING DIMENSIONS ***
                                ABOVE INFORMATION NOT PRINTED TO SAVE SPACE

Misc. Info. (e.g. ECHO, INCLUDED, meteorology, etc.)
NO ECHO
NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA
FILE.
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Appendix III:

Fence Diagram



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. 14300014-008

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 preliminary determination to issue the proposed 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 East State Highway 19 Winthrop, Minnesota 55396 Sibley County
Contact: Dustin V. Hamari Phone: 612-339-2479	

1.2 Facility Description

Heartland Corn Products is a fuel ethanol production plant located on East Highway 19 in Winthrop, Sibley County, Minnesota. Permit action 005 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 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 permit action is a major amendment, and incorporates requested changes detailed in two permit applications (dated September 13, 2007 and January 10, 2008). This amendment will address the following items:

- Upon permit issuance, the facility will become a PSD minor source; this is because the total facility PTE will be below the revised PSD thresholds for ethanol production facilities (PSD threshold was 100tpy, but is now 250tpy for criteria pollutants).
- Instead of regulating process and thermal NO_x separately, an aggregate NO_x emission limit will be placed at the stacks for each of the two Regenerative Thermal Oxidizers (RTO's) at the facility. The new aggregate NO_x limits will be expressed in terms of lb/hour and ppm by volume.

- Several miscellaneous control device monitored operating parameters will be 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 has 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.

1.4. Facility Emissions:

Table 2. Title I Emissions Increase Summary

Pollutant	Emissions Increase from the Modification (tpy)	Limited Emissions Increase from the Modification (tpy)	PSD/112(g) Significant Thresholds for major sources (tpy)	NSR/ 112(g) Review Required? (Yes/No)
PM	0.00	0.00	25	No
PM ₁₀	0.00	0.00	15	No
PM _{2.5}	0.00	0.00	10	No
NO _x	30.55	30.55	40	No
SO ₂	0.00	0.00	40	No
CO	0.00	0.00	100	No
Ozone (VOC)	0.00	0.00	40	No
Lead	0.00	0.00	0.6	No
Individual and total HAPs	0.00	0.00	10/25	No

Table 3. Total Facility Potential to Emit Summary

	PM tpy	PM ₁₀ tpy	PM _{2.5} tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	103.0	84.5	84.5	35.8	161.3	193.1	193.0	9.0	24.0

Table 4. Facility Classification

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

2. Regulatory and/or Statutory Basis

New Source Review

Upon permit issuance, the facility will become a PSD minor source; this is because the total facility PTE will be below the revised PSD thresholds for ethanol production facilities (PSD threshold was 100tpy when the previous permit was issued, but is now 250tpy for criteria pollutants). All limits and other requirements (with the exception of RTO NO_x limits) established during the previous PSD permitting activity will remain in effect upon issuance of this permit.

Because the requested change to the RTO NO_x limits will change limits established as a result of a BACT determination, the permittee submitted a revised BACT analysis. In addition to changing the method by which compliance with the RTO NO_x limits will be determined, an increase in the limits has been requested. This increase was requested because of an error in the calculation method used to estimate RTO process NO_x emissions during an August 2007 emissions test. This will be further discussed later in this TSD in the "Technical Information" section.

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 60 subp. Kb (Volatile Organic Liquid Storage Tanks). Natural gas fired boilers are subject to 40 CFR 60 subp. Dc (Small Industrial-Commercial-Institutional Steam Generators). The entire facility is subject to 40 CFR 60 subp. VV (Leaks of VOC in the Synthetic Organic Chemicals Industry). Permit action 008 does not add any additional NSPS requirements.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility has accepted limits on HAP usage such that it is a non-major source under 40 CFR pt. 63.

Permit action 008 does not change the non-major source status or add any NESHAP requirements.

Compliance Assurance Monitoring (CAM)

CAM does not apply to the modification allowed in this permit amendment, since the emission unit added is not a large pollutant specific emission unit (PSEU).

Environmental Review & AERA

The facility has accepted limits on production 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).

Minnesota State Rules

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

- Minn. R. 7011.0515 Standards of Performance for New Indirect Heating Equipment
- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment

Table 5. Regulatory Overview of Units Affected by the Modification/Permit Amendment

Level	Applicable Regulations	Comments:
SV 011 RTO #1 stack	40 CFR 52.21(j) BACT, Minn. R. 7007.3000	NOx limits will change from separate process and thermal NOx limits to an aggregate NOx limit at the RTO #1 stack. Emissions testing to determine compliance with the new NOx limits will be required.
SV 018 RTO #2 stack	40 CFR 52.21(j) BACT, Minn. R. 7007.3000	NOx limits will change from separate process and thermal NOx limits to an aggregate NOx limit at the RTO #2 stack. Emissions testing to determine compliance with the new NOx limits will be required.
CE 001, CE 002, CE 003, CE 005, CE 006, CE 007, CE 008, CE 010, CE 012	40 CFR 52.21(j) BACT, Minn. R. 7007.3000, Minn. R. 7007.0800, subp. 2 and 14	Various control device operating parameters/ranges will be changed based on observed improved performance by facility staff; no emission limit changes will be associated with the revised operating parameters

3. Technical Information

The permit applications propose two major changes to the existing permit which will not be accommodated in this permit action. The first is regarding the requirements to conduct testing to measure road dust PM emissions. The permittee requested estimating road dust emissions via experimental procedures using a select portion of the facility roadways, then extrapolating those results using various calculation methods to estimate road dust emissions from the entire facility. It was determined after extensive review by MPCA permitting, modeling, and compliance/enforcement staff that the proposed methods were not adequate replacement for the existing requirements to conduct road dust testing as currently required in the existing permit. Therefore, the permit will not be changed in this regard. More information about the proposed methods can be found in the permit applications.

The second proposed major change to the permit involves PM limit revisions at the RTO #1 and RTO #2 stacks. The permittee failed to demonstrate compliance with the existing limits at the RTO #1 stack during emissions testing on October 17, 2007. Because of this, there is enforcement action currently underway to address this and other noncompliance issues at the facility. The permit application contains a proposal to increase the PM limits by more than 44 percent, but it was determined by MPCA permitting and compliance/enforcement staff, along with Minnesota Attorney General staff, that there is insufficient technical basis for accommodating the requested PM limit revisions. Although it will not be described in detail in

this TSD, more information regarding the proposed PM limit revisions can be found in the permit applications.

During the process of preparing the proposed permit, it was brought to the attention of MPCA permitting staff that a potential for support facility issues exists with a nearby grain elevator. MPCA compliance/enforcement staff reported that a conveyor may exist between the permittee's facility (Heartland Corn Products) and United Farmer's Cooperative (UFC). It has been determined that the conveyor does not exist, and that the UFC facility is at least 0.5 miles away from the Heartland Corn Products facility. Further examination revealed that the two facilities do not share the same SIC code, are not located on contiguous or adjacent property, and are not under common ownership or control. UFC supplies less than two percent of HCP's corn as raw material. Conversely, HCP is obligated to accept less than seven percent of UFC's corn throughput capacity under shareholder agreement (based on correspondence between UFC and MPCA enforcement staff). UFC has many clients other than HCP, and at least 93 percent of UFC's throughput capacity is available to those other clients. Each facility could clearly continue operation if the other facility would cease operations. UFC is administratively independent from HCP (no shared workers, board of directors members, officers, etc.) UFC is also physically independent from HCP (no shared pollution control or process equipment, located a half mile away, etc.). UFC has at least nine other similar facilities in Minnesota, and corn in any of these facilities could be transferred into or out of any of these facilities to satisfy client needs in various regions throughout Minnesota. All of this background information was considered by MPCA permitting and compliance/enforcement staff, air quality supervisors, and Minnesota Attorney General staff and the unanimous conclusion was that there is no need to further consider UFC as a support facility to the Heartland Corn Products facility for the purpose of air permitting.

The final technical issues to describe for this permit action are the NO_x limit revisions. The existing permit regulates NO_x emissions from the dryer/RTO stacks based on the separate determination of process and thermal NO_x. Process NO_x is nitrogen oxides formed as a result of ammonia carryover from the fermentation process, as well as partial incineration of nitrogen-bearing particulate, most likely proteins. Thermal NO_x is primarily originated through the combustion of natural gas. Measurement of process NO_x in particular is difficult and requires non-standard test methodology and calculations. The permittee determined that an error occurred in the estimation of process NO_x emissions during emissions testing during August 2007. The calculation methods resulted in NO_x emissions being expressed as "N" (MW 14) rather than "NO₂" (MW 46). This error resulted in process NO_x emission limits being underestimated by factor of 3.286 (46/14) and inconsistency between the permit limits and the test method (Method 7E). The permittee has taken considerable steps to optimize urea dosage in the fermentation process to lower the level of process NO_x emissions. This optimization effort has been successful to a large extent and, although the permittee is requesting an increase in overall NO_x emissions to account for the calculation error described above, the requested increase is substantially less due to the urea optimization activities. Because of the difficulty in accurately estimating process NO_x emissions from the dryers, MPCA permitting and compliance/enforcement staff concur that changing the NO_x emission limits from separate

process and thermal components to an aggregate NO_x limit at the RTO stack (which all the dryers exhaust through) is a more technically feasible alternative. This permit will contain new aggregate NO_x limits at the two RTO stacks. The limits will be expressed on both a mass flow rate (lb/hr) and a concentration (ppm, w) basis. The total proposed NO_x limit increases are 10.27 tpy for the RTO #1 stack and 20.28 tpy for the RTO #2 stack. These increases are due to the process NO_x calculation error previously described, but are lessened by the urea optimization activities. MPCA permitting and compliance/enforcement staff concur that the new limits will be realistically achievable, and relatively simple to demonstrate compliance with. From an environmental perspective, measuring the emissions coming out of the stack via conventional EPA test methods (Method 7E) is more relevant than determining by questionable methodology the separate NO_x components generated from process sources within a given facility. Because the NO_x limit revisions will change limits set during a PSD permit action, a revised BACT determination was submitted as support documentation for the technical basis of changing to an aggregate NO_x limit concept. More information and supporting data are contained in the permit applications, as well as the revised BACT analysis.

Air dispersion modeling was performed in support of the proposed NO_x and PM limit revisions. The modeling methodology and results were approved by MPCA staff on April 9, 2009 and no exceedances of the National Ambient Air Quality Standards (NAAQS) were predicted. As was the case when modeling was previously done for this facility, particulate matter was the issue of concern, with predicted concentrations approaching (but not exceeding) the NAAQS. The relatively high predicted particulate matter emissions in the previous modeling exercise resulted in permit conditions to install fencing and conduct road dust emissions testing; both of these sets of conditions will remain in the current permit action. Because the facility's PM₁₀ emissions calculations included "condensables" (via EPA M5+M202), it is appropriate to consider PM_{2.5} emissions equal to PM₁₀ emissions. However, because the proposed PM/PM₁₀ limit increases have not been approved by MPCA and will not be incorporated into this permit action, further consideration of PM_{2.5} (i.e. in terms of modeling triggers, etc.) is not warranted at this time. The MPCA "Delta" facility description has been updated to include PM_{2.5} potential emissions.

3.1 Calculations of Potential to Emit

The only requested emissions increases which are being accommodated in this permit action are associated with total NO_x emissions from the RTO stacks. All supporting data and calculations are contained in the permit applications and revised BACT determination. In summary, the revised NO_x limits are an aggregate of process and thermal NO_x, and the revised limits were determined as follows:

Total Firing Capacity x 0.04 lb/MMBtu + Old process NO_x limit (expressed "as N") x 46 (Mw of NO₂)/14 (Mw of N) = revised limit

West Plant

181 MMBtu/hr x 0.04 lb/MMBtu + 3.13 lb/hr * (46/14) = 17.52 lb/hr

A new limit for the west plant was set to 15.00 lb/hr, a value that is less than the explicitly determined result, but is one that the company and MPCA staff agree is consistently attainable.

East Plant

165.5 MMBtu/hr x 0.04 lb/MMBtu + 1.82 lb/hr * (46/14) = 12.60 lb/hr

A new limit was set for the east plant based on scaling the 15.00 lb/hr by the revised limits.
15.00 lb/hr x (12.6/17.52) = 10.79 lb/hr

The concentration-based limits, expressed in ppm by weight, are configured such that at maximum design flow rate through the VRTOs, the revised lb/hr limits shown above will result in the PTE values presented earlier in this TSD, which are all below the PSD major source threshold for this industry sector.

3.2 Periodic Monitoring

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

In evaluating the monitoring included in the permit, the Minnesota Pollution Control Agency (MPCA) considers the following:

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

Table 5 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is insufficient.

Table 6. Periodic Monitoring

EU = emission unit, GP = Group, SV = stack/vent

Emission Unit or Group	Requirement (basis)	Additional Monitoring
SV 014 Grain handling filter	$PM \leq 1.79 \text{ lb/hr}$ $PM_{10} \leq 1.79 \text{ lb/hr}$ 40 CFR 52.21(j) BACT	Standard baghouse requirements found at GP003 and CE006
SV 015 Hammer-mill filter	$PM \leq 1.18 \text{ lb/hr}$ $PM_{10} \leq 1.18 \text{ lb/hr}$ 40 CFR 52.21(j) BACT	Standard baghouse requirements found at GP003 and CE007
SV 016 CO ₂ scrubber	$VOC \leq 6.59 \text{ lb/hr}$ 40 CFR 52.21(j) BACT	Standard scrubber requirements found at GP004 and CE008
SV 024	$PM \leq 0.27 \text{ lb/hr}$	Standard baghouse requirements found at GP003

Emission Unit or Group	Requirement (basis)	Additional Monitoring
DDGS filter	PM ₁₀ ≤ 0.27 lb/hr 40 CFR 52.21(j) BACT	

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 7. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Fuel use: space heaters fueled by natural gas or propane	PM \leq 0.6 or 0.4 lb/MMBtu, depending on year constructed Opacity \leq 20% with exceptions (Minn. R. 7011.0510/515)	For this unit, based on the fuels used and EPA published emissions factors, it is highly unlikely that it could violate the applicable requirement. In addition, these types of units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Fuel burning equipment with a capacity less than 500,000 Btu/hour, etc.	PM \leq 0.6 or 0.4, depending on year constructed Opacity \leq 20% with exceptions (Minn. R. 7011.0510/515)	For these units, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirements.
Emissions from a laboratory, as defined in Minn. R. 7007.1300, subp. 3(G)	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0710/715)	These are very small, intermittent, bench-top operations that typically do not even have any emissions. It is highly unlikely that they could violate the applicable requirement.
Equipment used for hydraulic or hydrostatic testing	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0710/715)	While no known emissions estimation method exists for these units, based on general knowledge of how they operate, it is highly unlikely that they could generate particulate matter. In addition, these units would be operated and vented directly into a building, so testing is not feasible.
Brazing, soldering or welding equipment	PM, variable depending on airflow Opacity \leq 20% (Minn. R. 7011.0710/715)	For these units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Infrequent use of spray paint equipment for	PM, variable depending on airflow	While spray equipment will have the potential to emit particulate matter, these

Insignificant Activity	General Applicable Emission limit	Discussion
routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source	or process weight rate Opacity \leq 20% (Minn. R. 7011.0715)	particular activities are those not associated with production, so they would be infrequent and usually occur outdoors. Testing or monitoring is not feasible.

3.4 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements.

Comments Received

Public Notice Period: 10/02/09 – 11/02/09

EPA 45-day Review Period: 10/02/09 – 11/17/09

No comments were received by MPCA during the 30-day public comment period. Because this permit action is a Part 70 permit amendment involving construction (proposed new fermenter), the permittee requested a letter authorizing commencement of construction prior to issuance of the permit. MPCA sent a construction authorization letter to Heartland Corn Products on November 6, 2009. No comments were received by MPCA during the additional EPA review period, which ended on November 17, 2009.

4. 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. 14300014-008 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

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