

AIR EMISSION PERMIT NO. 14300014- 005

IS ISSUED TO

Heartland Corn Products

Heartland Corn Products
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 are as described in the following permit application(s):

Permit Type
Total Facility Operating Permit

Application Date
July 2005

This permit authorizes the Permittee to operate and construct 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.

Permit Type: Federal; Pt 70/NSR Authorization

Authorization to Construct and Operate (40 CFR 52.21) Issuance Date: December 12, 2005

Authorization to Construct and Operate (40 CFR 52.21) Effective Date: December 12, 2005

Final Permit Issuance Date: December 22, 2005

Expiration: December 22, 2010

All Title I Conditions do not expire.

Michael J. Tibbetts, Manager
Land and Water Quality Permits Section
Industrial Division

for Sheryl A. Corrigan
Commissioner
Minnesota Pollution Control Agency

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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
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Outside Metro Area	1-800-657-3864
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TTY	(651) 282-5332
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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 ethanol production plant located on East Highway 19 in Winthrop, Sibley County, Minnesota. This permit authorizes the plant to produce up to 99 million gallons of 200 proof ethanol per year, to which a denaturant (gasoline) is added prior to shipment. A by-product of the ethanol process is Dry Distillers' Grain with Solubles which is used as livestock feed.

This permit authorizes the expansion of the facility from 34.6 million (MM) gallons per year (gpy) to 99 MMgpy.

The facility is classified as a major source under both the Part 70 permit program (40 CFR § 70.2) and the Prevention of Significant Deterioration program (40 CFR § 52.21).

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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. 7007.0800, subps. 1,2, and 4; Minn. R. 7009.0010-7009.0080
DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW	hdr
These requirements apply where there is a reasonable possibility that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test and found to not be part of a major modification, may result in a significant emissions increase. If the ATPA test is not used for a particular project, or if there is not a reasonable possibility that the proposed project could result in a significant emissions increase, then these requirements do not apply to that project.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000
Even though a particular modification is not subject to New Source Review, a permit amendment, recordkeeping, or notification may still be required under Minn. R. 7007.1150 - 7007.1500.	
Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following information: 1. A description of the project 2. Identification of the emission unit(s) whose emissions of an NSR pollutant could be affected 3. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the potential emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the unit(s) could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
The Permittee shall maintain records of this documentation.	
The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
The Permittee must submit a report to the Agency if the annual summed (actual plus potential, if applicable) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain: a. The name and ID number of the facility, and the name and telephone number of the facility contact person b. The annual emissions (actual plus potential, if any part of the project was analyzed using potential emissions) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded. c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.	Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5
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
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

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

<p>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:</p> <p>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.</p> <p>2). The total and individual HAP emissions for the previous month using the formulas specified in this permit.</p> <p>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.</p> <p>4). The total and individual HAP emissions produced as byproducts of the fermentation process.</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Monthly Calculation -- HAP Emissions. The Permittee shall calculate each individual HAP and total HAP emissions using the following equations:</p> <p>HAP Emissions (tons/month) = H - W $H = (A1 \times B1) + (A2 \times B2) + (A3 \times B3) + \dots$ $W = (C1 \times D1) + (C2 \times D2) + (C3 \times D3) + \dots$</p>	Minn. R. 7007.0800, subp. 4 and 5
<p>Monthly HAP Emissions Calculation Continued:</p> <p>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.</p>	Minn. R. 7007.0800, subp. 4 and 5
OPERATIONAL LIMITS	hdr
<p>Production: less than or equal to 99000000 gallons/year using 12-month Rolling Sum of fuel ethanol (pure ethanol, prior to addition of denaturant).</p>	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
<p>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).</p>	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
OPERATIONAL REQUIREMENTS	hdr
<p>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.</p>	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
<p>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.</p>	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
<p>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.</p>	Minn. R. 7019.1000, subp. 4
REPORTING/SUBMITTALS	hdr
<p>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.</p> <p>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.</p>	Minn. R. 7019.1000, subp. 3

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: Heartland Corn Products

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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: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
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
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)

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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
MODELING REQUIREMENTS	hdr
Parameters Used in Modeling: The parameters used in the modeling performed for PSD purposes (40 CFR Section 52.21) and the Environmental Assessment Worksheet under Minn. R. ch. 4410 for this facility are listed in Appendix III of this permit. If the Permittee intends to change any of these parameters, the Permittee must submit the revised parameters to the Commissioner and receive written approval before making any changes. For stack and vent sources, this includes the 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.	40 CFR Section 52.21 and Minn. R. 7009.0020
Parameters used in Modeling (continued): The plume dispersion characteristics due to parameter revisions must equal or exceed the dispersion characteristics modeled for this permit, and the Permittee shall demonstrate this in the proposal. If the Permittee chooses to re-model, the modeling must only demonstrate compliance with the applicable regulatory thresholds while maintaining at least one significant impact level for future growth.	40 CFR Section 52.21 and Minn. R. 7009.0020
Parameters used in Modeling (continued): For changes that do not involve an increase in an emission rate and that do not require a permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before making the change to any parameter. For changes involving increases in emissions rate and that require a minor permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before making the change to any parameter. For changes involving increases in emission rates that require a permit amendment other than a minor amendment, the proposal must be submitted prior to or with the permit amendment application.	40 CFR Section 52.21 and Minn. R. 7009.0020
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.	40 CFR Section 52.21 and Minn. R. 7009.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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.	40 CFR Section 52.21 and Minn. R. 7009.0020
<p>The Permittee shall conduct onsite silt loading testing for each paved road segment (A-U). The testing shall be conducted within 12 months of start-up of the expanded facility in permit 005. The test shall be conducted in accordance with EPA guidance in Appendix C.1 and Appendix C.2 of AP42. The Permittee shall keep records of silt loading testing.</p> <p>If the tested silt loading values are found to be greater than those assumed in the modeling, and the resulting base factor exceeds the base factors assumed in the modeling, then the road cleaning (sweeping and vacuuming) frequency will be revised so that the silt loading factors are low enough to bring the resulting base factors back down to the values assumed in the modeling. The assumed silt loading factors and base factors are listed for each segment in Appendix IV to this permit.</p>	40 CFR Section 52.21 and Minn. R. 7009.0020
The Permittee shall submit a diesel emission idling prevention plan within 180 days after permit issuance. The plan must be reviewed and approved by the MPCA.	40 CFR Section 52.21 and Minn. R. 7009.0020

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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

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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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

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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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

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	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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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
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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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. 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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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
Nitrogen Oxides: less than or equal to 0.04 lbs/million Btu heat input . This limit applies individually to EU 015, EU 018, EU 034, EU 035, and CE 010 unless the group NOx limit listed below is being complied with. This limit applies to NOx generated by Natural Gas combustion only.	40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 42.7 tons/year using 12-month Rolling Sum Emission factors for each unit (EU 015, EU 018, EU 034, EU 035, and CE 010) shall be set based on the initial performance test. If the emissions factors established by the initial performance test are lower than the 0.04 lb/MMBtu limit for all emission units in the group, then the 0.04 lbs of NOx per MMBtu limit shall apply to each unit in the group, and the group NOx limit shall not apply. This limit applies to NOx generated by natural gas combustion only.	40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 1.82 lbs/hour . This limit applies to NOx generated by anything other than natural gas combustion.	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
Recordkeeping - Fuel Usage: Once each day, record the cubic feet of natural gas combusted by all units in GP 006 during the previous day	40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
The Permittee will calculate the weekly NOx emission and rolling 52 week total NOx emissions using the equation contained in Appendix II of this permit.	40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Performance Test: due 180 days after Permit Issuance of permit 005 to measure for NOx generated by natural gas combustion and NOx generated by other sources.	Minn. R. 7017.2020, subp. 1 and Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

Subject Item: GP 007 VOC Equipment Leaks**Associated Items:** 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
<p>Pumps in light liquid service:</p> <p>(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).</p> <p>(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the seal.</p>	40 CFR Section 60.482-2(b) and (c); Minn. R. 7011.2900
<p>(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.</p> <p>(2) If there are indications of liquids dripping from the pump seal, 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 proved in 40 CFR Section 60.482-9 (Delay of Repair).</p> <p>(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.</p>	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
<p>(b) Each compressor seal system shall be:</p> <p>(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or</p> <p>(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</p> <p>(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.</p>	40 CFR Section 60.482-3(b); Minn. R. 7011.2900
<p>(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.</p> <p>(d) Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.</p>	40 CFR Section 60.482-3(c) and (d); Minn. R. 7011.2900
<p>(e)(1) Each sensor shall be checked daily or shall be equipped with an audible alarm.</p> <p>(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.</p>	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
<p>(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).</p> <p>(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.</p>	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

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(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. (c) In situ sampling systems are exempt from these requirements.	40 CFR Section 60.482-5(b) and (c); Minn. R. 7011.2900
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. (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.	40 CFR Section 60.482-6(b) and (c); Minn. R. 7011.2900
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. (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.	40 CFR Section 60.482-7(b) and (c); Minn. R. 7011.2900
(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 40 CFR Section 60.482-9. (2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	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

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Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

<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

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Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

(5) Repair delayed and the reason for the delay if a leak is not repaired within 15 calendar days after discover of the leak. (6) The signature of the owner or operator whose decision it was that the repair could not be effected without a process shutdown. (7) The expected date of successful repair of the leak if a leak is not repaired within 15 days. (8) Dates of process unit shutdown that occur while the equipment is unrepaired. (9) The date of successful repair of the leak.	40 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
(b) The initial semiannual report to the Administrator shall include the following information: (1) Process unit identification, (2) Number of valves subject to the requirements of 40 CFR Section 60.482-7, (3) Number of pumps subject to the requirements of 40 CFR Section 60.482-2, (4) Number of compressors subject to the requirements of 40 CFR Section 60.482-3	40 CFR Section 60.487(b); Minn. R. 7011.2900
(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR Section 60.486; (1) Process unit identification. (2) For each month during the semiannual reporting period, (i) Number of valves for which leaks were detected as described in 40 CFR Section 60.482(7)(b) or 40 CFR Section 60.483-2 (ii) Number of valves for which leaks were not repaired as required in 40 CFR Section 60.482-7(d)(1), (iii) Number of pumps for which leaks were detected as described in 40 CFR Section 60.482-2(b) and (d)(6)(i), (iv) Number of pumps for which leaks were not repaired as required in 40 CFR Section 60.482-2(c)(1) and (d)(6)(ii).	40 CFR Section 60.487(c); Minn. R. 7011.2900
(v) Number of compressors for which leaks were detected as described in 40 CFR Section 60.482-3(f), (vi) Number of compressors for which leaks were not repaired as required in 40 CFR Section 60.482-3(g)(1) (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.	40 CFR Section 60.487(c); Minn. R. 7011.2900
(3) Dates of process unit shutdowns which occurred within the semiannual reporting period. (4) Revisions to items reported according to paragraph (b) if changes have occurred since the initial report or subsequent revisions to the initial report.	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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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	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	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	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	40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 1 inches of water column and less than or equal to 6 inches of water column , 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 pressure drop once every 24 hours when in operation.	40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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
Pressure Drop: greater than or equal to 1 inches of water column and less than or equal to 6 inches of water column , 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 pressure drop once every 24 hours when in operation.	40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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
Pressure Drop: greater than or equal to 3.5 inches of water column , 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 pressure drop 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 39 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 pressure drop once every 24 hours when in operation.	Title I Condition: 40 CFR Section 52.21 (j); BACT and Minn. R. 7007.3000
TESTING REQUIREMENTS	hdr
Initial Performance Test: due 180 days after Startup of the expansion in permit 005 to measure HAP (testing must include all chemicals listed in Appendix VI of this permit) and VOC emissions from SV 003.	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

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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
Initial Performance Test: due 180 days after Startup of the expansion in permit 005 to measure HAP (testing must include all chemicals listed in Appendix VI of this permit) and VOC emissions from SV 007.	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

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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)
Particulate Matter < 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
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
Particulate Matter < 10 micron: greater than or equal to 90 percent control efficiency	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Total Particulate Matter: greater than or equal to 90 percent control efficiency	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
Initial Performance Test: due 180 days after Startup of the expansion in permit 005 to measure HAP, VOC, CO, SO2, PM and PM10 emissions from the dryers. Performance testing must include all chemicals listed in Appendix VI of this permit.	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)
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

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products
Permit Number: 14300014 - 005

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
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TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

Subject Item: SV 014 Grain Handling Baghouse #2 (CE 006)**Associated Items:** EU 048 Cornn 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

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.43 lbs/hour	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	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	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	40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 8 inches of water column , 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 pressure drop 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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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 0.27 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
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 8 inches of water column , 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 pressure drop 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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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

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 4.70 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
Pressure Drop: greater than or equal to 3 inches of water column and less than or equal to 6 inches of water column , 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 pressure drop 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 68 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
TESTING REQUIREMENTS	hdr
Initial Performance Test: due 180 days after Startup of the expansion in permit 005 to measure HAP and VOC emissions from SV 016. Performance testing must include all chemicals listed in Appendix VI of this permit.	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

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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

Associated Items: EU 032 Ethanol Loading Rack

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 071 DDGS Dryer #3

EU 072 VRTO #2

EU 076 Truck Ethanol Loadout #2

EU 077 Rail Ethanol Loadout

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
Particulate Matter < 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
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
Nitrogen Oxides: less than or equal to 0.04 lbs/million Btu heat input . This limit includes all NOx generated from natural gas combustion.	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)
Particulate Matter < 10 micron: greater than or equal to 90 percent control efficiency	Title I Condition: 40 CFR Section 52.21 (j): BACT and Minn. R. 7007.3000
Total Particulate Matter: greater than or equal to 90 percent control efficiency	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
Initial Performance Test: due 180 days after Initial Startup in permit 005 to measure HAP (testing must include all chemicals listed in Appendix VI of this permit)VOC, CO, NOx, SO2, PM, and PM10 emissions from the dryers.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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)
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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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 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 pressure drop 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: due 180 days after Initial Startup of the expansion in permit 005 to measure HAP(testing must include all chemicals listed in Appendix VI of this permit), VOC, PM and PM10 emissions.	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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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
Nitrogen Oxides: 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
Nitrogen Oxides: less than or equal to 3.13 lbs/hour . This limit applies to all NOx generated from anything other than natural gas combustion.	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
Initial Performance Test: due 180 days after Initial Startup of EU 071 to measure NOx emissions.	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

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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
Initial Performance Test: due 180 days after Initial Startup of EU 074 to measure CO and NOx emissions.	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

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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
Initial Performance Test: due 180 days after Initial Startup of EU 075 to measure CO and NOx emissions.	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

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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 nonassisted flare.	Minn. R. 7007.0800, subp. 14
The Permittee shall operate and maintain the flare any time that any process equipment controlled by the flare is in operation.	Minn. R. 7007.0800, subp. 16J
The Permittee shall operate and maintain the flare in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M plan available on site for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Monitoring Equipment: The Permittee shall install and maintain thermocouples to monitor the presence of a pilot flame. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required.	Minn. R. 7007.0800, subp. 4
Quarterly Inspections: At 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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

Subject Item: EU 079 Ethanol Loading Rack/Flare #2**Associated Items:** CE 019 Flaring

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

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

12/22/05

Facility Name: Heartland Corn Products
Permit Number: 14300014 - 005

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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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 1 inches of water column and less than or equal to 6 inches of water column , 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 pressure drop once every 24 hours when in operation.	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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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 1 inches of water column and less than or equal to 6 inches of water column , 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 pressure drop once every 24 hours when in operation.	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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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 3.5 inches of water column , 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 pressure drop once every 24 hours when in operation.	Minn. R. 7007.0800, subp. 2 and 14
Water flow rate: greater than or equal to 39 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 pressure drop once every 24 hours when in operation.	Minn. R. 7007.0800, subp. 2 and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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 4 inches of water column , 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 pressure drop once every 24 hours when in operation.	Minn. R. 7007.0800, subp. 2 and 14
Water flow rate: greater than or equal to 6 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 pressure drop once every 24 hours when in operation.	Minn. R. 7007.0800, subp. 2 and 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

Subject Item: CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** EU 048 Cornn 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 2 inches of water column and less than or equal to 8 inches of water column , 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 pressure drop 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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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 2 inches of water column and less than or equal to 8 inches of water column , 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 pressure drop 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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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

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 and less than or equal to 6 inches of water column , 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 pressure drop 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 68 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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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 1580 degrees F as a three-hour rolling average at the Combustion Chamber unless a new minimum is set by permit reopening or permit amendment, based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. 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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

Subject Item: CE 012 VRTO**Associated Items:** 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 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 1500 degrees F as a three-hour rolling average at the Combustion Chamber unless a new minimum is set by permit reopening or permit amendment, based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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.	40 CFR Section 52.21 and Minn. R. 7009

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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.	40 CFR Section 52.21 and Minn. R. 7009

TABLE B: SUBMITTALS

12/22/05

Facility Name: Heartland Corn Products
Permit Number: 14300014 - 005

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.

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 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

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.

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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 of EU 071.	EU071
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU 072.	EU072
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU 074.	EU074
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU 075.	EU075
Notification	due 30 days before Performance Test that will be used to establish an emission factor for NOx when combusting natural gas for GP 006.	GP006
Testing Frequency Plan	due 60 days after Initial Performance Test for HAP (testing must include all chemicals listed in Appendix VI of this permit), VOC, CO, NOx, SO2, PM and PM10 emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	SV018
Testing Frequency Plan	due 60 days after Initial Performance Test for HAP (testing must include all chemicals listed in Appendix VI of this permit), VOC, CO, SO2, PM and PM10 emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	SV011
Testing Frequency Plan	due 60 days after Initial Performance Test for HAPs (testing must include all chemicals listed in Appendix VI of this permit) and VOC emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	SV003, SV007, SV016
Testing Frequency Plan	due 60 days after Initial Performance Test for silt loading values. The testing frequency plan will propose a frequency for additional silt loading testing for each road segment.	Total Facility
Testing Frequency Plan	due 60 days after Performance Test for HAP (testing must include all chemicals listed in Appendix VI of this permit), VOC, PM, and PM10 emissions. The plan shall specify a testing frequency using the test data and MPCA guidance. Future performance tests shall be based on 12-month, 36-month, and 60-month intervals and when applicable, shall be required upon written request of MPCA per Minn. R. 7017.2020, subp. 1.	EU031
Testing Frequency Plan	due 60 days after Performance Test for NOx emissions. The plan shall specify a testing frequency using the test data and MPCA guidance. Future performance tests shall be based on 12-month, 36-month, and 60-month intervals and when applicable, shall be required upon written request of MPCA per Minn. R. 7017.2020, subp. 1.	EU071
Testing Frequency Plan	due 60 days after Performance Test for NOx emissions. The plan shall specify a testing frequency using the test data and MPCA guidance. Future performance tests shall be based on 12-month, 36-month, and 60-month intervals and when applicable, shall be required upon written request of MPCA per Minn. R. 7017.2020, subp. 1.	EU074

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

Testing Frequency Plan	due 60 days after Performance Test for NOx emissions. The plan shall specify a testing frequency using the test data and MPCA guidance. Future performance tests shall be based on 12-month, 36-month, and 60-month intervals and when applicable, shall be required upon written request of MPCA per Minn. R. 7017.2020, subp. 1.	EU075
Testing Frequency Plan	due 60 days after Performance Test for NOx emissions. The plan shall specify a testing frequency using the test data and MPCA guidance. Future performance tests shall be based on 12-month, 36-month, and 60-month intervals and when applicable, shall be required upon written request of MPCA per Minn. R. 7017.2020, subp. 1.	GP006

TABLE B: RECURRENT SUBMITTALS

12/22/05

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 005

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: 14300014-005

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:

NOx Emissions Recordkeeping

Record fuel usage daily for each unit subject to the NOx group emissions cap. Calculate the NOx group emissions from the previous week and the NOx Group emissions from the previous 51 weeks (52 week rolling sum). Calculate the total 52-week rolling sum for NOx emissions from each unit according to Equation 1:

$$\sum_1^n NO_{x_n} = \sum_1^n \left[NG_{x_n} \left(\frac{MMBtu}{week} \right) * EF_x \left(\frac{lb}{MMBtu} \right) * 0.0005 \left(\frac{ton}{lb} \right) \right] \quad \text{Eqn. 1}$$

where:

x = number of emission units

n = number of weeks of interest

$\sum_1^n NO_{x_n}$ = sum of weekly NOx emissions from unit x (tons/52 weeks)

NG_{x_n} = weekly natural gas usage of emission unit x (MMBtu/week)

EF_x = unit specific emission factor determined by stack testing

Appendix III:

Modeling Inputs

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

Hardcopy Report Submittal

Prevention of Significant Deterioration Air Pollution Control Permit to Construct Application, Heartland Corn Products, submitted May 2005 (revised July 2005; September 2005; October 2005).

Electronic (CD-ROM) Submittal

Heartland Corn Products PSD Modeling Files, prepared by Natural Resource Group, Inc., October 12, 2005.

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>

Note: A separate table is shown for each applicable pollutant (CO, NOX, and PM10). If any difference exists between summary values in this appendix vs. the hardcopy report vs. the electronic CD-ROM modeled values, the electronic CD-ROM modeled values prevail.

*** AERMOD - VERSION 04300 *** *** Heartland Corn Products
 *** 10/02/05
 *** PSD and MN AERA Modeling

*** 15:13:03

C:\PROJECTS\HCP0CT05\OCT_12TH\HCPFinal4_86_CO.LST

**This Run Includes: 7 Source(s); 10 Source Group(s); and 656 Receptor(s)

AREA	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	XDIM(M)	YDIM(M)
VOLUME	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	SYI(M)	SZI(M)
AREACIRC	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	RADIUS	#VERTS.
AREAPOLY	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	#VERTS.	SZI(M)
POINT	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	DIA(M)	DIA(FT)
DEG(K)	DEG(C)	DEG(F)	VS(M/S)	VS(F/M)	ACFM						
POINT SV011		393543	4932926	310	1.62	12.82	56.15	24.38	79.99	1.520	4.987
0.	-273.	-460.	21.91	4312.99	84241						
POINT SV013		393570	4932894	310	0.03	0.20	0.87	4.57	14.99	0.300	0.984
700.	427.	800.	0.52	102.36	78						
POINT SV018		393370	4932928	310	2.78	22.05	96.58	50.29	164.99	1.830	6.004
422.	149.	300.	26.17	5151.57	145848						
POINT SV020		393365	4932928	310	1.63	12.94	56.69	50.29	164.99	1.520	4.987
422.	149.	300.	17.50	3444.88	67285						
POINT SV021		393714	4932952	310	0.02	0.17	0.75	9.75	31.99	1.070	3.510
700.	427.	800.	4.22	830.71	8040						
POINT SV022		393109	4932880	309	0.04	0.29	1.29	9.75	31.99	1.070	3.510
700.	427.	800.	4.22	830.71	8040						
POINT SV023		393274	4932935	309	0.04	0.35	1.53	3.35	10.99	0.300	0.984
700.	427.	800.	0.91	179.13	136						
TOTAL					6.15	48.83	213.87				

*** AERMOD - VERSION 04300 *** *** Heartland Corn Products
 *** 10/02/05
 *** PSD and MN AERA Modeling

*** 14:26:02

C:\PROJECTS\HCP0CT05\OCT_12TH\HCPFinal4_86_NOX.LST

**This Run Includes: 7 Source(s); 10 Source Group(s); and 656 Receptor(s)

AREA	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	XDIM(M)	YDIM(M)
VOLUME	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	SYI(M)	SZI(M)
AREACIRC	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	RADIUS	#VERTS.
AREAPOLY	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	#VERTS.	SZI(M)
POINT	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	DIA(M)	DIA(FT)
DEG(K)	DEG(C)	DEG(F)	VS(M/S)	VS(F/M)	ACFM						
POINT SV011		393543	4932926	310	1.33	10.54	46.16	24.38	79.99	1.520	4.987
0.	-273.	-460.	21.91	4312.99	84241						
POINT SV013		393570	4932894	310	0.03	0.24	1.04	4.57	14.99	0.300	0.984
700.	427.	800.	0.52	102.36	78						
POINT SV018		393370	4932928	310	1.31	10.37	45.41	50.29	164.99	1.830	6.004
422.	149.	300.	26.17	5151.57	145848						
POINT SV020		393365	4932928	310	1.63	12.94	56.69	50.29	164.99	1.520	4.987
422.	149.	300.	17.50	3444.88	67285						
POINT SV021		393714	4932952	310	0.01	0.07	0.32	9.75	31.99	1.070	3.510
700.	427.	800.	4.22	830.71	8040						
POINT SV022		393109	4932880	309	0.02	0.13	0.55	9.75	31.99	1.070	3.510
700.	427.	800.	4.22	830.71	8040						
POINT SV023		393274	4932935	309	0.05	0.42	1.83	3.35	10.99	0.300	0.984
700.	427.	800.	0.91	179.13	136						
TOTAL					4.37	34.70	151.99				

*** AERMOD - VERSION 04300 ***
*** 09/28/05

*** Heartland Corn Products

*** PSD and MN AERA Modeling

*** 20:59:21

C:\PROJECTS\HCP0CT05\OCT_12TH\HCPFinal4_86_PM10.LST

**This Run Includes: 253 Source(s); 36 Source Group(s); and 656 Receptor(s)

AREA	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	XDIM(M)	YDIM(M)
VOLUME	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	SYI(M)	SZI(M)
AREACIRC	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	RADIUS	#VERTS.
AREAPOLY	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	#VERTS.	SZI(M)
POINT	SRCIDNT	EASTING	NORTHING	ELEV(M)	G/SEC	#/HOURL	T/YEAR	HGT(M)	HGT(FT)	DIA(M)	DIA(FT)
DEG(K)	DEG(C)	DEG(F)	VS(M/S)	VS(F/M)	ACFM						
POINT FS005A	393667	4932947	310	0.01	0.11	0.48	8.53	27.99	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS005B	393672	4932947	310	0.01	0.11	0.48	8.53	27.99	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS005C	393678	4932947	310	0.01	0.11	0.48	8.53	27.99	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS005D	393667	4932928	310	0.01	0.11	0.48	8.53	27.99	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS005E	393673	4932928	310	0.01	0.11	0.48	8.53	27.99	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS005F	393685	4932926	310	0.01	0.11	0.48	8.53	27.99	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS006A	393203	4932903	309	0.01	0.11	0.48	10.67	35.01	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS006B	393210	4932903	309	0.01	0.11	0.48	10.67	35.01	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS006C	393222	4932902	309	0.01	0.11	0.48	10.67	35.01	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS006D	393231	4932902	309	0.01	0.11	0.48	10.67	35.01	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS006E	393204	4932884	309	0.01	0.11	0.48	10.67	35.01	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS006F	393211	4932884	309	0.01	0.11	0.48	10.67	35.01	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS006G	393223	4932884	309	0.01	0.11	0.48	10.67	35.01	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT FS006H	393231	4932884	309	0.01	0.11	0.48	10.67	35.01	5.490	18.012	
0. -273. -460.	25.54	5027.56	1281036								
POINT SV001	393548	4932866	310	0.05	0.43	1.88	19.81	64.99	0.610	2.001	
0. -273. -460.	16.17	3183.07	10013								
POINT SV002	393550	4932868	310	0.03	0.27	1.17	19.81	64.99	0.610	2.001	
0. -273. -460.	10.09	1986.22	6248								
POINT SV011	393543	4932926	310	0.44	3.47	15.19	24.38	79.99	1.520	4.987	
0. -273. -460.	21.91	4312.99	84241								
POINT SV014	393308	4932905	309	0.05	0.43	1.88	28.96	95.01	0.610	2.001	
0. -273. -460.	16.17	3183.07	10013								
POINT SV015	393312	4932905	309	0.03	0.27	1.17	28.96	95.01	0.610	2.001	
0. -273. -460.	10.09	1986.22	6248								
POINT SV017	393535	4932900	310	0.13	1.06	4.64	22.86	75.00	0.760	2.493	
0. -273. -460.	20.39	4013.78	19599								
POINT SV018	393370	4932928	310	0.75	5.97	26.13	50.29	164.99	1.830	6.004	
422. 149. 300.	26.17	5151.57	145848								
POINT SV020	393365	4932928	310	0.30	2.34	10.26	50.29	164.99	1.520	4.987	
422. 149. 300.	17.50	3444.88	67285								
VOLUME FS002A	393504	4932846	310	0.00	0.01	0.04	2.44	8.01	1.420	2.270	
VOLUME FS002B	393512	4932846	310	0.00	0.01	0.04	2.44	8.01	1.420	2.270	
VOLUME FS002C	393495	4932878	310	0.00	0.01	0.04	2.44	8.01	1.420	2.270	
VOLUME FS002D	393534	4932877	310	0.00	0.01	0.04	2.44	8.01	1.420	2.270	
VOLUME FS003A	393495	4932878	310	0.00	0.01	0.05	2.44	8.01	1.420	2.270	
VOLUME FS003B	393534	4932878	310	0.00	0.01	0.05	2.44	8.01	1.420	2.270	
VOLUME FS7&8A	393317	4932868	310	0.00	0.01	0.05	2.44	8.01	1.420	2.270	
VOLUME FS7&8B	393317	4932863	310	0.00	0.01	0.05	2.44	8.01	1.420	2.270	
VOLUME FS7&8C	393316	4932856	310	0.00	0.01	0.05	2.44	8.01	1.420	2.270	
VOLUME FS7&8D	393349	4932868	310	0.00	0.01	0.05	2.44	8.01	1.420	2.270	
VOLUME FS7&8E	393349	4932861	310	0.00	0.01	0.05	2.44	8.01	1.420	2.270	
VOLUME FS7&8F	393349	4932857	310	0.00	0.01	0.05	2.44	8.01	1.420	2.270	
VOLUME R1A	393154	4933040	309	0.00	0.00	0.02	2.33	7.64	4.650	2.170	
VOLUME R2A	393154	4933030	309	0.00	0.00	0.02	2.33	7.64	4.650	2.170	
VOLUME R3A	393158	4933020	309	0.00	0.00	0.02	2.33	7.64	4.650	2.170	
VOLUME R4A	393165	4933013	309	0.00	0.00	0.02	2.33	7.64	4.650	2.170	
VOLUME R199A	393174	4933009	309	0.00	0.00	0.02	2.33	7.64	4.650	2.170	
VOLUME R160D	393651	4933011	311	0.00	0.00	0.02	2.33	7.64	4.650	2.170	
VOLUME R161D	393653	4933004	311	0.00	0.00	0.02	2.33	7.64	4.650	2.170	
VOLUME R176D	393651	4933021	311	0.00	0.00	0.02	2.33	7.64	4.650	2.170	
VOLUME R177D	393651	4933031	311	0.00	0.00	0.02	2.33	7.64	4.650	2.170	
VOLUME R200B	393184	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170	
VOLUME R201B	393194	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170	
VOLUME R202B	393204	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170	

VOLUME	R203B	393214	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R204B	393224	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R205B	393234	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R206B	393244	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R207B	393254	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R208B	393264	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R209B	393274	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R210B	393284	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R211B	393294	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R212B	393304	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R213B	393314	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R214B	393324	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R215B	393334	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R216B	393344	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R217B	393354	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R218B	393364	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R219B	393374	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R220B	393384	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R221B	393394	4932996	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R222B	393404	4932996	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R223B	393414	4932996	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R224B	393424	4932996	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R225B	393434	4932996	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R226B	393444	4932996	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R178C	393455	4933005	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R179C	393465	4933005	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R180C	393475	4933005	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R181C	393485	4933005	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R182C	393495	4933005	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R183C	393505	4933005	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R184C	393515	4933005	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R185C	393525	4933005	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R186C	393535	4933005	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R187C	393545	4933005	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R188C	393555	4933005	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R189C	393565	4933005	310	0.00	0.01	0				

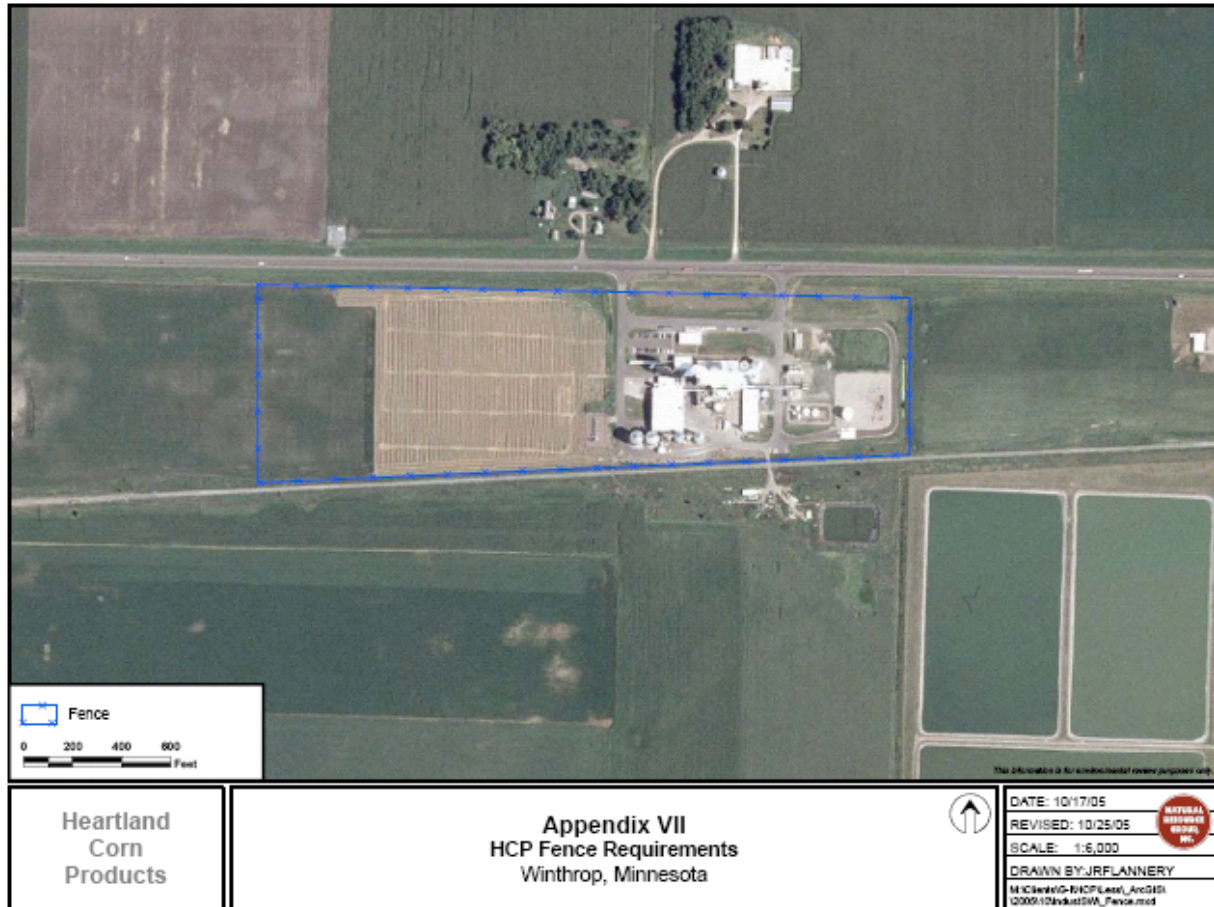
VOLUME	R125G	393706	4932866	311	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R114H	393593	4932856	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R115H	393607	4932854	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R116H	393619	4932855	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R117H	393629	4932855	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R118H	393640	4932855	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R119H	393648	4932856	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R96I	393534	4932846	310	0.00	0.00	0.00	2.33	7.64	4.650	2.170
VOLUME	R97I	393545	4932847	310	0.00	0.00	0.00	2.33	7.64	4.650	2.170
VOLUME	R98I	393554	4932849	310	0.00	0.00	0.00	2.33	7.64	4.650	2.170
VOLUME	R99I	393564	4932851	310	0.00	0.00	0.00	2.33	7.64	4.650	2.170
VOLUME	R100I	393573	4932856	310	0.00	0.00	0.00	2.33	7.64	4.650	2.170
VOLUME	R101I	393580	4932858	310	0.00	0.00	0.00	2.33	7.64	4.650	2.170
VOLUME	R87K	393453	4932867	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R88K	393457	4932858	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R89K	393465	4932851	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R90K	393474	4932846	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R91K	393484	4932846	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R75M	393453	4932992	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R76M	393453	4932982	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R77M	393453	4932972	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R78M	393453	4932962	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R79M	393453	4932952	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R80M	393453	4932942	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R81M	393453	4932932	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R82M	393452	4932924	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R83M	393453	4932913	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R84M	393453	4932902	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R85M	393453	4932889	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R86M	393452	4932879	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R41N	393399	4932867	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R42N	393409	4932868	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R43N	393419	4932868	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R44N	393429	4932868	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R45N	393439	4932868	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R46O	393166	4932928	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R47O	393175	4932922	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R48O	393184	4932919	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R49O	393194	4932919	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R50O	393204	4932919	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R51O	393214	4932919	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R52O	393224	4932919	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R53O	393234	4932919	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R54O	393244	4932918	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R55O	393255	4932919	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R56O	393264	4932918	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R57O	393273	4932918	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R58O	393284	4932918	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R59O	393294	4932917	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R60O	393305	4932917	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R61O	393314	4932917	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R62O	393324	4932917	309	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R63O	393334	4932917	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R64O	393344	4932916	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R65O	393354	4932916	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R66O	393364	4932914	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R67O	393374	4932910	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R68O	393383	4932904	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R69O	393390	4932900	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R70O	393400	4932895	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R71O	393410	4932891	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R72O	393419	4932886	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R73O	393427	4932881	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R74O	393435	4932875	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME	R38P	393370	4932866	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R39P	393380	4932867	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R40P	393389	4932868	310	0.00	0.00	0.02	2.33	7.64	4.650	2.170
VOLUME	R29R	393279	4932870	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R30R	393289	4932868	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R31R	393299	4932866	310	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R12S	393154	4932930	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R13S	393154	4932920	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R14S	393154	4932910	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R15S	393154	4932900	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R16S	393156	4932887	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R17S	393160	4932878	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R18S	393169	4932873	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R19S	393179	4932870	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R20S	393189	4932870	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R21S	393199	4932870	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R22S	393209	4932870	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R23S	393219	4932870	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME	R24S	393229	4932870	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170

VOLUME R25S	393239	4932869	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME R26S	393249	4932869	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME R27S	393259	4932869	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME R28S	393269	4932869	309	0.00	0.01	0.03	2.33	7.64	4.650	2.170
VOLUME R5T	393180	4932991	309	0.00	0.01	0.04	2.33	7.64	4.650	2.170
VOLUME R6T	393171	4932985	309	0.00	0.01	0.04	2.33	7.64	4.650	2.170
VOLUME R7T	393164	4932979	309	0.00	0.01	0.04	2.33	7.64	4.650	2.170
VOLUME R8T	393159	4932969	309	0.00	0.01	0.04	2.33	7.64	4.650	2.170
VOLUME R9T	393156	4932960	309	0.00	0.01	0.04	2.33	7.64	4.650	2.170
VOLUME R10T	393154	4932950	309	0.00	0.01	0.04	2.33	7.64	4.650	2.170
VOLUME R11T	393154	4932940	309	0.00	0.01	0.04	2.33	7.64	4.650	2.170
VOLUME R162U	393653	4932994	311	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R163U	393653	4932984	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R164U	393653	4932974	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R165U	393653	4932964	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R166U	393653	4932954	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R167U	393653	4932944	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R168U	393653	4932934	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R169U	393653	4932924	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R170U	393653	4932914	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R171U	393653	4932904	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R172U	393653	4932894	311	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R173U	393653	4932884	311	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R174U	393653	4932874	311	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R175U	393653	4932864	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R92J	393493	4932846	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R93J	393502	4932846	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R94J	393516	4932846	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R95J	393524	4932846	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R102L	393463	4932879	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R103L	393473	4932878	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R104L	393483	4932878	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R105L	393493	4932878	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R109L	393535	4932878	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R110L	393545	4932878	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R111L	393555	4932875	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R112L	393564	4932871	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R113L	393574	4932865	310	0.00	0.00	0.01	2.33	7.64	4.650	2.170
VOLUME R32Q	393309	4932865	310	0.00	0.01	0.04	2.33	7.64	4.650	2.170
VOLUME R36Q	393349	4932865	310	0.00	0.01	0.04	2.33	7.64	4.650	2.170
VOLUME R37Q	393359	4932864	310	0.00	0.01	0.04	2.33	7.64	4.650	2.170
TOTAL				2.11	16.75	73.34				
SUMP=				1.99	15.76	69.03				
SUMV=				0.12	0.98	4.31				

Appendix IV:

Truck Traffic

Spreadsheet and Fence Diagram



Appendix V:

HAP Potential to Emit Emissions Summary

Appendix VI:

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-butanedione, 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
DRAFT/PROPOSED AIR EMISSION PERMIT NO. 14300014-005

This technical support document (TSD) is intended for all parties interested in the draft/proposed 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 draft/proposed permit.

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: 2869)
Heartland Corn Products P. O. Box A Winthrop, MN 55396	State Highway 19 E Winthrop Sibley County
Contact: Ben Brown, General Manager Phone: (507) 647-5000	

1.2. Description of the Permit Action

The facility produces fuel grade ethanol and distillers dried grains with soluble (DDGS). Emission sources include receiving, storing, handling, and cleaning corn; steam production (boiler); drying, storage, handling, and shipping of DDGS; fermentation and distillation; storage of ethanol of varying purities at various points in the process; storage of gasoline (denaturant); and shipping of denatured ethanol. Primary pollutants include particulate matter, volatile organic compounds, and nitrogen oxides.

The existing facility was permitted as a synthetic minor for both Part 70 and new source review purposes. With this permit, the facility will become classified as a major source under new source review/PSD and Part 70.

1.3 Description of the Activities Allowed by this Permit Action

This permit allows for the addition of equipment needed to increase allowed production from 35 million gallons per year to 99 million gallons per year. This permit authorizes the construction of three new storage tanks, a new corn dump pit, elevator and scalper, 2 new corn bins, 2 additional hammermills, four new fermenters, one beer well, two liquefaction tanks, one additional DDGS dryer, an additional thermal oxidizer, two new boilers, and two DDGS bins.

Natural gas is the primary fuel being used. A table identifying the emissions units and their specific pieces of control equipment is attached in Attachment 1 to this document.

Prior to issuance of this permit, the facility was an existing synthetic minor source for new source review and Part 70 purposes. With the issuance of this permit, the plant becomes a major source under new source review because the potential Nitrogen Oxide (NO_x), Carbon Monoxide (CO), and Volatile Organic Compounds (VOC) emissions exceed 100 tons per year. The source becomes a major source under Part 70 and PSD.

This permit action also incorporates the requirements of the Consent Decree (Civil Action No. CV02-3790) into the permit. The Consent Decree set VOC reduction limits for the existing DDGS dryers (EU 015 and EU 035), fermentation units (EU 022-025, EU 033, EU 039, and EU 040), and ethanol truck loadout (EU 025). In order to meet the VOC reduction requirement, the facility installed a valveless regenerative thermal oxidizer for controlling VOC from the DDGS dryers, wet scrubbers to control VOC emissions from the fermentation and distillation processes, and a closed loop ethanol truck loadout system designed to capture all VOC emissions and route them to the valveless regenerative thermal oxidizer. The facility was also required to develop a leak control program that meets the requirements of 40 CFR 60, subp. Vv to control fugitive VOC emissions from the plant. The consent decree also set a group natural gas combustion NO_x limit on the existing DDGS dryers, the existing boilers, and the Valveless Regenerative Thermal Oxidizer (VRTO) based on an average on 0.04 lb NO_x/MMBtu of heat input. The facility installed low NO_x burners in order to comply with the group NO_x limit. The Consent Decree required the facility to develop a fugitive dust control program to minimize the fugitive dust emissions from facility operations. The Consent Decree also established a source-wide HAP emissions cap of 9 tons per year (tpy) for a single Hazardous Air Pollutant (HAP) and 24 tpy of total HAP.

1.4. Facility Emissions:

Table 3. Total Facility Potential to Emit Summary

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	90.8	73.4	35.8	131.6	193.1	184.8	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

The facility, including the expansion, is becoming a major source under New Source Review regulations with this permit action.

Part 70 Permit Program

The facility, including the expansion, is becoming a major source under the Part 70 permit program with this permit action.

New Source Performance Standards (NSPS)

Several of the tanks in this permit are subject to 40 CFR 60 subp. Kb. Natural gas fired boilers are subject to 40 CFR 60 subp. Dc. The entire facility is subject to 40 CFR 60 subp. VV.

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.

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

EU, GP, or SV	Applicable Regulations	Comments:
Total Facility FC	Title I limit to avoid NESHAPs	Limit set on HAPs emissions to avoid major source classification under 40 CFR § 63.
GP 003: Baghouse Monitoring Requirements	Minn. R. 7007.0800	PM/PM10 control efficiencies set as BACT.

GP 004: Scrubber Monitoring Requirements	Minn. R. 7007.0800	VOC limit set as BACT.
GP 006: NOx Emissions	BACT 40 CFR § 52.21	Prevention of Significant Deterioration. BACT limits NOx to 0.04 lb/MMBtu or group NOx limit as negotiated in the Consent Decree. An emission limit of 1.82 lbs NOx/hr was established to limit "Process NOx." EPA has approved testing methods to differentiate combustion NOx from Process NOx. Because the BACT limit was established on a lb/MMBtu basis, it does not apply to the process NOx.
SV 001: Grain Handling	BACT 40 CFR § 52.21	Prevention of Significant Deterioration. BACT limits set for PM/PM10 and pressure drop as a surrogate.
SV 002: Hammermilling	BACT 40 CFR § 52.21	Prevention of Significant Deterioration. BACT limits set for PM/PM10 and pressure drop as a surrogate.
SV 003: Fermentation	Minn. R. 7011.0715 BACT 40 CFR § 52.21	Limits Opacity PSD. BACT Limits for VOC, pressure drop and water flow rate.
SV 007: Distillation Scrubber	Minn. R. 7011.0715 BACT 40 CFR § 52.21	Limits Opacity BACT limit for VOC.
SV 011: VRTO #1	BACT 40 CFR § 52.21	Prevention of Significant Deterioration. BACT limits set for PM, PM10, CO, VOC, and SO2.
SV 014: Grain Handling Baghouse	Minn. R. 7011.1005 BACT 40 CFR § 52.21	Limits Opacity. PSD. BACT limits set for PM/PM10.
SV 015: Hammermill Baghouse #2	Minn. R. 7011.1005 BACT 40 CFR § 52.21	Limits Opacity. PSD. BACT limits set for PM/PM10.
SV 016: CO2 Scrubber #2	Minn. R. 7011.0715 BACT 40 CFR § 52.21	Limits Opacity. BACT limits set for VOC.
SV 018: VRTO #2	BACT 40 CFR § 52.21	Prevention of Significant Deterioration. BACT limits set for PM, PM10, CO, VOC, NOx, and SO2.
EU 018: Boiler	BACT 40 CFR § 52.21	BACT limit set for CO.
EU 031: DDGS Cooling Cyclone	BACT 40 CFR § 52.21 Minn. R. 7011.0715	BACT limit set for VOC, PM, PM10. Limits Opacity

EU 034: Boiler	BACT 40 CFR § 52.21	BACT limit set for CO.
EU 071: DDGS Dryer #3	BACT 40 CFR § 52.21	BACT limit set for NOx.
EU 074: Utility Boiler #3	BACT 40 CFR § 52.21	BACT limit set for NOx and CO.
EU 075: Utility Boiler #4	BACT 40 CFR § 52.21	BACT limit set for NOx and CO.
EU 078: Ethanol Loading Rack #1	BACT 40 CFR § 52.21	BACT limit set for VOC and opacity.
EU 079: Ethanol Loading Rack #2	BACT 40 CFR § 52.21	BACT limit set for VOC and opacity.
CE 001: Fabric Filter	BACT 40 CFR § 52.21	BACT limit set for PM/PM10
CE 002: Fabric Filter	BACT 40 CFR § 52.21	BACT limit set for PM/PM10
CE 003: Wet Scrubber	Minn. R. 7007.0800	Pressure drop and water flow rate limits set as a surrogate to ensure compliance with VOC limits.
CE 004: Cyclone	Minn. R. 7007.0800	Pressure drop limit set as a surrogate to ensure compliance with VOC limit.
CE 005: Wet Scrubber	Minn. R. 7007.0800	Pressure drop and water flow rate limits set as a surrogate to ensure compliance with VOC limits.
CE 006: Fabric Filter	BACT 40 CFR § 52.21	Pressure drop limit set as a surrogate to ensure compliance with PM/PM10 limits.
CE 007: Fabric Filter	BACT 40 CFR § 52.21	Pressure drop limit set as a surrogate to ensure compliance with PM/PM10 limits.
CE 008: Wet Scrubber	Minn. R. 7007.0800	Pressure drop and water flow rate limits set as a surrogate to ensure compliance with VOC limits.
CE 010: VRTO	Minn. R. 7007.0800	Temperature limit set as a surrogate to ensure compliance with VOC limit.
CE 012: VRTO	Minn. R. 7007.0800	Temperature limit set as a surrogate to ensure compliance with VOC limit.
FS 002: Grain and DDGS Fugitive Emissions	Minn. R. 7011.1005	Limits Opacity.
FS 007: New Grain Receiving Fugitives	Minn. R. 7011.1005	Limits Opacity.
FS 008: New DDGS Loadout Fugitives	Minn. R. 7011.1005	Limits Opacity.

3. Technical Information

Environmental Review: An environmental assessment worksheet is required by Minn. R. 4410.4300, Mandatory Environmental Assessment Worksheet (EAW) Categories, subp. 5. B. which specifies that construction or expansion of a facility for the production of alcohol fuels which would have or would increase its capacity by 5,000,000 or more gallons per year of alcohol produced must complete an EAW. Heartland has submitted that worksheet to the MPCA, and an EAW has been prepared by the MPCA.

BACT Analysis:

VOC Emissions

Fermentation Process - The Permittee will use a wet scrubber for controlling VOC emissions from the fermentation operation. A wet scrubber meets Best Available Control Technology (BACT) for VOC emissions from the fermentation process. A wet scrubber is a control device capable of achieving LAER (Lowest Achievable Emission Rate).

Distillation Process – The Permittee will use a wet scrubber for controlling VOC emissions from the distillation operation. A wet scrubber is a control device capable of achieving LAER.

DDGS Dryer – The Permittee will be using a VRTO for controlling VOC emissions from the DDGS dryers.

DDGS Cooler – The consent decree requires 95% reduction in VOC emissions or no higher than 10 parts per million. The company has submitted a request to remove this requirement from the consent decree, and that request is being reviewed. The BACT analysis for the DDGS cooler supports no additional control of the VOC emissions from the DDGS cooler.

Wetcake offload Alternate Operating Scenario – The wet cake scenario is not worst case for VOC emissions. BACT for this alternate operating scenario is no control.

Natural Gas Boilers – The use of good combustion practices meets BACT for controlling VOC emission from a natural gas boiler.

Ethanol Loadout – Wet scrubbing has been eliminated because it is a technologically infeasible option. Of the remaining control technologies, flaring has the highest control efficiency. Flaring meets BACT for the ethanol truck loadout process.

Storage Tanks – Vapor balancing and Vapor recovery were eliminated because they are technologically infeasible options. BACT for storage tanks is internal floating roofs. Internal floating roofs are capable of achieving up to 98% control of VOC.

PM Emissions

Grain Handling – Electrostatic precipitators were eliminated as technologically infeasible for PM control. The MPCA agrees that BACT for PM emissions from grain handling is a baghouse. 99% control efficiency is expected.

Hammermilling – Electrostatic precipitators (ESP) were eliminated because they are technologically infeasible for PM control from a hammermilling process. BACT for PM emissions from the hammermilling process is a baghouse.

Truck Traffic – BACT for truck traffic PM emissions is paved roads and a vacuum sweeping schedule.

DDGS Storage Building Vent – The MPCA agrees that best management practices for DDGS handling in the DDGS Storage Building meets BACT.

DDGS Dryer – Baghouses, wet scrubbers, and ESPs were eliminated because they are technologically infeasible control technologies. Dryer emissions will be vented to the VRTO. No additional add-on controls are needed.

Natural Gas Boilers – Baghouses, wet scrubbers, ESPs and cyclones were eliminated because they are technologically infeasible control technologies for controlling PM from a natural gas boiler. Good combustion practices are BACT for reducing PM emissions from the natural gas boilers.

Cooling Towers – Mist eliminators are the only technologically feasible control technology for cooling towers. Mist eliminators meet BACT for controlling PM emissions from cooling towers.

Nitrogen Oxide Emissions

DDGS Dryer – As required by the consent decree, 0.04 lb NO_x/MMBtu heat input is required of each emission unit, but CE 010, EU 015, EU 018, EU 034 and EU 035 are allowed the option of meeting a group NO_x limit based on an average of 0.04 lb NO_x/MMBtu heat input. The DDGS dryer to be constructed during the expansion must meet 0.04 lb NO_x/MMBtu heat input by installing a low NO_x burner.

Natural Gas Boilers and VRTO Burners – SNCR and SCR were eliminated as technologically infeasible control technologies. Low NO_x burners capable of meeting 0.04 lb NO_x/MMBtu meet BACT for the natural gas boilers.

Carbon Monoxide Emissions

DDGS Dryer – The VRTO meets BACT for DDGS dryer CO emissions.

Natural Gas Boiler – Oxidation Catalyst was eliminated because it is a technologically infeasible control technology. The MPCA agrees that the implementation of good combustion practices meets BACT for the natural gas boiler CO emissions.

Insignificant Activities: A detailed list of insignificant activities is located in Appendix I to the permit.

PSD and AERA Modeling: Federal (40 CFR Section 52.21) Dispersion Modeling

Federal Prevention of Significant Deterioration (PSD) modeling (40 CFR 52.21) was conducted for CO, NOX, and PM10. The dispersion modeling used the new USEPA AERMOD model (version 04300) together with 1986-1990 Rochester (surface) and St. Cloud (upper air) meteorological data.

Predicted CO impacts are less than federal significant impact levels.

Predicted NOX impacts are well below applicable ambient standards and PSD increment ceilings.

Predicted PM10 impacts are below applicable ambient standards and PSD increment ceilings. However, the predicted 24-hour PM10 increment impacts are within 5 ug/m3 of the PSD increment ceiling of 30 ug/m3, and modeling results indicate onsite vehicle traffic is the most important source category for the 24-hour PM10 increment analysis. Commensurate permit conditions include fencing, speed limits, recordkeeping of daily truck traffic, onsite silt loading tests for all road segments, and regular periodic cleaning of all truck routes.

The paved road cleaning frequency is once a week for all onsite truck routes with grain delivery, DDGS loadout, and ethanol loadout.

The paved road cleaning frequency is twice a week for selected truck route areas with higher expected silt loadings such as grain unloading and DDGS loadout.

State (Air Emission Risk Analysis) Dispersion Modeling

The AERA modeling used a refined modeling approach based on the Equivalent Risk Emission Rate (ERER) approach which generally increases the accuracy of risk estimates.

The AERA considered most onsite emission sources. The AERA did not consider onsite emissions of truck traffic or train traffic or natural gas fired boilers or any offsite emission sources. The AERA considered two scenarios - normal operating scenario without wetcake, and alternative operating scenario with wetcake.

The AERA results indicate risks below recommended thresholds for the alternative operating scenario with wetcake, and risks at or below recommended thresholds for the normal operating scenario without wetcake.

Future modeling may include onsite truck emissions and onsite train emissions.

Heartland Corn Products modeled their truck traffic (in their Federal PSD Dispersion Modeling) assuming that 100% of the corn delivered to the facility and product loaded from the facility would be hauled using trucks rather than rail. Because of this high volume of truck traffic, it became evident that permit conditions would be necessary to limit the emissions associated with truck traffic. The model assumptions broke the HCP facility into 21 segments (A-U), each segment assuming different silt loading values, vehicle speeds, vehicle weights, and vehicle traffic. In order to demonstrate compliance with the parameters assumed in the modeling, it was decided that HCP would have to clean their roads once per week (twice per week in dustier areas), keep track of the number of trucks on each segment of the facility, and post speed limit signs. On-site silt loading testing is also required. The MPCA felt it was necessary for the Permittee to get site-specific silt loading data to demonstrate compliance with the model, therefore a requirement for HCP to test each segment at least once was added to the permit. After the initial silt loading testing, the Permittee is expected to submit a testing frequency plan, similar to a testing frequency plan submitted after a stack test. The testing frequency plan should specify suggested frequency of silt loading testing, and should also address which segments should be tested. It may not be necessary to test all 21 segments during subsequent tests, because many adjacent segments may have similar silt loading values.

AERA: The assessment was performed in accordance with the AERA guidance and it incorporated new health benchmarks for ethanol plants. MPCA staff considers the quantitative and qualitative risk evaluation for the chemicals assessed to be acceptable following current AERA practice.

3.1 Calculations of Potential to Emit

Attachment 1 to this TSD contains a table which summarizes the PTE of the Facility. Additional PTE calculations are also attached. The potential to emit for HAP and VOC was calculated using twenty tests from ethanol facilities in Minnesota and three from other states. The test results were converted to a ppm basis. A statistical analysis was performed on the emissions data, and the 99% confidence interval was computed. The 99% upper confidence limit was used to calculate potential emissions except for acetaldehyde on the CO₂ scrubbers. Facility-specific test data was used on the CO₂ scrubbers. The permit limits for VOC were calculated using the 99% upper confidence limit. PM/PM₁₀ emissions from the regenerative thermal oxidizers were also calculated using this method. Combustion emissions were calculated using vendor-guaranteed values and AP-42 values. Tanks fugitive emissions were calculated using U.S. Environmental Protection Agency (EPA) Tanks 4.09 software.

3.2 Periodic Monitoring

In accordance with the Clean Air Act, it is the responsibility of the Permittee 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 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 4 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 6. Periodic Monitoring

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
FC	HAPs Single and Total, limit to remain minor	Recordkeeping: Daily records of HAP usage; Monthly calculations of emissions	Record the amount of HAP emitted and calculate the amount of HAP (single and total) emitted each month for the previous 12 months.
GP 001	Tanks Subject to NSPS subp. Kb	None	Maintain records showing the dimensions of each tank and an analysis showing each tank's capacity.
GP 002	40 CFR 60.113	None	Keep a record of each inspection performed on each tank.
Baghouse Monitoring Requirements: GP 003	BACT PM/PM10 limits	Recordkeeping of Visible Emissions and Pressure Drop.	
Scrubber Monitoring Requirements: GP 004	BACT VOC limits	Recordkeeping of pressure drop and water flow rate to determine compliance with	

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
		emission limits.	
Cyclone Monitoring Requirements: GP 005	BACT PM/PM10 limits	Recordkeeping of pressure drop daily.	
NO _x Emissions: GP 006	BACT NO _x limits	Record fuel usage daily, calculate weekly NO _x emissions and 52-week total NO _x emissions	
VOC Equipment Leaks: GP 007	BACT VOC limits	Keep records of all leaks detected.	
SV 001 Grain Handling	BACT PM/PM10 limits	See GP 003 for recordkeeping requirements.	There are no recordkeeping requirements at SV 001 in the permit. The applicable requirements are listed at GP 003.
SV 002 Hammermillin g	BACT PM/PM10 limits	See GP 003 for monitoring/record keeping requirements.	There are no recordkeeping requirements at SV 002 in the permit. The applicable requirements are listed at GP 003.
SV 003 Fermentation	Opacity and BACT VOC limits	See GP 004 for monitoring/record keeping requirements.	There are no recordkeeping requirements at SV 003 in the permit. The applicable requirements are listed at GP 004.
SV 007 Distillation Scrubber Stack	Opacity and BACT VOC limits	See GP 004 for monitoring/record keeping requirements.	There are no recordkeeping requirements at SV 007 in the permit. The applicable requirements are listed at GP 004.
SV 011 VRTO #1 Stack	BACT PM, PM10, VOC, CO, SO ₂ limits	See CE 010 for monitoring/record keeping requirements.	There are no recordkeeping requirements at SV 011 in the permit. The applicable requirements are listed at CE 010.

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
SV 014 Grain Handling Baghouse	BACT PM/PM10 and opacity limits	See GP 003 for monitoring/record keeping requirements.	There are no recordkeeping requirements at SV 014 in the permit. The applicable requirements are listed at GP 003.
SV 015 Hammermill Baghouse #2	BACT PM/PM10 and opacity limits	See GP 003 for monitoring/record keeping requirements.	There are no recordkeeping requirements at SV 015 in the permit. The applicable requirements are listed at GP 003.
SV 016 CO2 Scrubber #2	BACT VOC and opacity limits	See GP 004 for monitoring/record keeping requirements.	There are no recordkeeping requirements at SV 016 in the permit. The applicable requirements are listed at GP 004.
SV 018 VRTO #2	VOC, CO, SO2, PM/PM10 and opacity limits	See CE 012 for monitoring/record keeping requirements.	There are no recordkeeping requirements at SV 018 in the permit. The applicable requirements are listed at CE 012.
EU 018 Boiler	BACT NOx limit	Keep records of fuel combusted to comply with NOx limit.	
EU 034 Boiler	BACT NOx limit	Keep records of fuel combusted to comply with NOx limit.	
CE 001 Fabric Filter		See GP 003 for additional monitoring/record keeping requirements.	There are no recordkeeping requirements at CE 001 in the permit. The applicable requirements are listed at GP 003.
CE 002 Fabric Filter		See GP 003 for additional monitoring/record keeping requirements.	There are no recordkeeping requirements at CE 002 in the permit. The applicable requirements are listed at GP 003.
CE 003 Packed Gas Adsorption		See GP 004 for additional monitoring/record	There are no recordkeeping requirements at CE 003 in the permit. The applicable requirements are listed at GP 004.

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
Column		keeping requirements.	
CE 005 Packed Gas Adsorption Column		Monitor and record pressure drop and water flow rate daily.	
CE 006 Fabric Filter		See GP 003 for additional monitoring/record keeping requirements.	There are no recordkeeping requirements at CE 006 in the permit. The applicable requirements are listed at GP 003.
CE 007 Fabric Filter		See GP 003 for additional monitoring/record keeping requirements.	There are no recordkeeping requirements at CE 007 in the permit. The applicable requirements are listed at GP 003.
CE 008 Wet Scrubber		See GP 004 for additional monitoring/record keeping requirements.	There are no recordkeeping requirements at CE 008 in the permit. The applicable requirements are listed at GP 004.
CE 010 VRTO		Record 3-hour rolling average temperature.	
CE 012 VRTO		Record 3-hour rolling average temperature.	
FS 004 VOC Service Equipment	NSPS subp. VV	None	Monitor and record leaks detected.
FS 010 VOC Service Equipment	NSPS subp. VV	None	Monitor and record leaks detected.

3.3 Insignificant Activities

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

3.4 Permit Organization

This permit does not deviate from normal format. Its format is consistent with other ethanol plant permits.

3.5 Comments Received

Public Notice Period: November 7, 2005 – December 7, 2005

EPA 45-day Review Period: November 7, 2005 – December 21, 2005

Comments were received from the public during the public notice period. The comments received did not include adverse comments on any applicable requirements of the permit.

Comments were received from EPA during their review period. Changes to the permit were made as a result of the comments. The only change made to the permit was changing all references to “destruction efficiency” or “collection efficiency” to “control efficiency.” This change acts to make the permit more stringent, so it is not necessary to re-notice the permit.

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. 14300014-005 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Beth Freymiller (permit writer/engineer)
 Sarah Kilgriff (enforcement)
 Dave Beil (peer reviewer)

Attachments: 1. PTE Summary Calculation Spreadsheets
 2. CD-01 Forms
 3. BACT Analysis