

**AIR EMISSION PERMIT NO. 14300014- 001
IS ISSUED TO**

HEARTLAND CORN PRODUCTS

East State Highway 19
Winthrop, Sibley County, Minnesota 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	Application Date
Total Facility Operating Permit	02/23/95
Major Amendment Application	10/15/97
Addendum to Major Amendment Application	02/23/98

This permit authorizes the Permittee to operate and modify 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: State ; Syn Min PSD/NSR

Issue Date: May 22, 1998

Expiration: Permit does not expire
All Title I Conditions do not expire.

Michael J. Sandusky
Division Manager
Air Quality Division

for Peder A. Larson
Commissioner
Minnesota Pollution Control Agency

TV:lao

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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	(612)296-6300
Outside Metro Area	1-800-657-3864
TTY	(612)282-5332

The rule 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. Certain requirements which have been determined not to apply are listed in Table A of this permit.

The permit shield does not apply to:

1. Any national air quality standards adopted under section 109 of the Clean Air Act or increment or visibility under Part C of Title I of the Clean Air Act, and
2. Any state ambient air quality standard under Minn. R. ch. 7009, and
3. The state noise pollution control rules, Minn. R. ch. 7030.

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 19 million gallons of 200 proof ethanol, 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 installation of a second boiler and a fourth fermentation tank.

The facility has accepted limits on the amounts of total particulate matter, particulate matter smaller than 10 microns, and nitrogen oxides, and volatile organic compounds that can be emitted to the atmosphere, so that it is classified as a non-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

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

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
Production: less than or equal to 19000000 gallons/year using 12-month Rolling Sum of fuel ethanol (pure ethanol, prior to addition of denaturant).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200
Record keeping: By the 15th day of every month, record the gallons of ethanol produced during the previous month, and the gallons of ethanol produced during the previous 12 months (12-month rolling sum).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. The plan shall specify the minimum values for pressure drop and water flow rate for CE 003 and CE 005, and the minimum and maximum values for pressure drop for CE 004 and EU 031.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Shutdowns: Notify the Commissioner at least 24 hours in advance of a planned shutdown, or as soon as possible after an unplanned shutdown of any process or control equipment, if the shutdown would cause an increase in the emission of any regulated air pollutant. At the time of notification, notify the Commissioner of the cause of the shutdown and the estimated duration. Notify the Commissioner again when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdowns: Notify the Commissioner with 24 hours after a breakdown of more than one hour duration of any process or control equipment if the breakdown causes an increase in the emission of any regulated air pollutant. At the time of notification or as soon thereafter as possible, the permittee shall also notify the Commissioner of the cause of the breakdown and the estimated duration. Notify the Commissioner again when the breakdown is over.	Minn. R. 7019.1000, subp. 2
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)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, 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
Oral Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify orally or by facsimile the Commissioner or the state duty officer, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Written Notification of Deviations Endangering Human Health or the Environment: within two (2) working days after 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: cause of the deviation; exact dates of the period of the deviation; if the deviation has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
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 Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

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: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Record keeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products
Permit Number: 14300014 - 001

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 & Unleaded Gas
TK 005 Ethanol & Unleaded Gas

What to do	Why to do it
Record keeping: 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

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: GP 002 Denatured Ethanol Tanks**Associated Items:** TK 004 Ethanol & Unleaded Gas

TK 005 Ethanol & Unleaded Gas

What to do	Why to do it
A. 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 paragraph (a)(1) of this section.	40 CFR Section 60.112b(a); Minn. R. 7011.1520(C)
Each internal floating roof shall be equipped with the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: (B) 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)
B. 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 owner or operator 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 this paragraph. 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)
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)
D. 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 owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator 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

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

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

What to do	Why to do it
Operation and Maintenance of Fabric Filter: The Permittee shall operate and maintain the fabric filter according to the control equipment manufacturer's specifications.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Visible Emissions: The Permittee shall check the outlet of each baghouse (SV 001 and SV 002) for any visible emissions, once each day of operation during daylight hours. Record the time and date of the inspection, and whether or not any visible emissions were observed.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 14
Corrective Actions: If visible emissions are observed, the Permittee shall follow the Operation and Maintenance plan for the fabric filter and take corrective actions as soon as possible to eliminate the visible emissions. The Permittee shall keep a record of the type and date of all corrective actions taken.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: GP 004 Scrubber Monitoring Requirements**Associated Items:** CE 003 Packed-Gas Adsorption Column

CE 005 Packed-Gas Adsorption Column

What to do	Why to do it
Record the pressure drop and water flow rate of each scrubber once each day of operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Corrective Action: if the pressure drop and/or water flow rate are not equal to or greater than the minimum values specified in the Operation and Maintenance Plan, 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.	Title I Condition: Corrective action to avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 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 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: GP 005 Cyclone Monitoring Requirements**Associated Items:** CE 004 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

EU 031 DDGS Cooler

What to do	Why to do it
Record the pressure drop at each cyclone once each day of operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Corrective Action: if the pressure drop is not in the range of values specified in the Operation and Maintenance Plan, the Permittee shall take corrective action as soon as possible to return the pressure drop to within the required operating values. The Permittee shall keep a record of the type and date of all corrective actions taken.	Title I Condition: Corrective action to avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7007.0800, subp. 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

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: GP 006 NOx Emissions From Fuel Combustion**Associated Items:** EU 015 DDGS Dryer

EU 018 Boiler

EU 034 Boiler

What to do	Why to do it
Nitrogen Oxides: less than or equal to 85 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Recordkeeping: By the 15th of each month, calculate and record the GP 006 NOx emissions for the previous month, and the GP 006 NOx emissions from the previous 12 months (12-month rolling sum). To calculate the monthly NOx emissions, use the recordkeeping requirements under Option A (described below) and Equation 1 (as described in the Appendix). The Permittee shall not use Option B (as described below) and Equation 2 (as described in the Appendix) to calculate NOx emissions until after completion of all performance testing requirements (described below), and the Permittee has received written confirmation of the test results from the agency.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Fuel Burned: Natural gas and propane only.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2
OPTION A - FUEL USAGE RECORDKEEPING REQUIREMENTS IF USING UNCONTROLLED AP-42 NOx EMISSION FACTORS FOR ALL GP 006 EMISSION UNITS	hdr
Recordkeeping - Fuel Usage: Once each day, record the following: a. cubic feet of natural gas combusted during the previous day; b. gallons of propane combusted during the previous day.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Recordkeeping - Fuel Usage: By the 15th of each month, calculate and record the following: a. cubic feet of natural gas combusted during the previous month; b. gallons of propane combusted during the previous month.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
OPTION B - FUEL USAGE RECORDKEEPING REQUIREMENTS IF USING TEST-BASED NOx EMISSION FACTORS FOR ONE OR MORE GP 006 EMISSION UNITS	hdr
Recordkeeping - Fuel Usage: Once each day, record the following: a. cubic feet of natural gas combusted by the existing boiler (EU 018) during the previous day; b. cubic feet of natural gas combusted by the the new boiler (EU 034) during the previous day; c. cubic feet of natural gas combusted by the dryer (EU 015) during the previous day; d. gallons of propane combusted by the existing boiler (EU 018) during the previous day; e. gallons of propane combusted by the new boiler (EU 034) during the previous day; f. gallons of propane combusted by the dryer (EU 015) during the previous day.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Recordkeeping - Fuel Usage: By the 15th day of each month, calculate and record the following: a. cubic feet of natural gas combusted by the existing boiler (EU 018) during the previous month; b. cubic feet of natural gas combusted by the the new boiler (EU 034) during the previous month; c. cubic feet of natural gas combusted by the dryer (EU 015) during the previous month; d. gallons of propane combusted by the existing boiler (EU 018) during the previous month; e. gallons of propane combusted by the new boiler (EU 034) during the previous month; f. gallons of propane combusted by the dryer (EU 015) during the previous month.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
TESTING REQUIREMENTS (APPLICABLE IF USING OPTION B - FUEL USAGE RECORDKEEPING REQUIREMENTS)	hdr
Performance Test: due 30 days after Notification of intent to conduct a performance test to establish an emission factor for NOx when combusting natural gas or propane.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Performance Test to establish an emission factor for NOx when combusting natural gas or propane.	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: SV 001 Grain Handling

Associated Items: EU 001 Corn Dump Pit/Auger

EU 002 Corn Elevator

EU 003 Scalper

EU 004 Corn Bin

EU 005 Corn Bin

EU 006 Corn Bin

EU 007 Corn Bin

EU 016 DDGS Dump Pit/Auger

EU 020 DDGS Elevator/Truck Loadout

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 1.2 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21
Total Particulate Matter: less than or equal to 0.1 grains/dry standard cubic foot or the allowable concentration at the exhaust flow rate, as described in Minn. R. 7011.0735.	Minn. R. 7011.1005, subp. 3(D)
Particulate Matter < 10 micron: less than or equal to 1.2 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
B. POLLUTION CONTROL REQUIREMENTS	hdr
Total Particulate Matter: greater than or equal to 95 percent collection efficiency (See GP 003 for CE 001 monitoring and maintenance requirements).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21
Particulate Matter < 10 micron: greater than or equal to 81 percent collection efficiency (See GP 003 for CE 001 monitoring and maintenance requirements).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: SV 002 Hammermill**Associated Items:** EU 008 Hammermill/Belt Scale

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.51 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21
Total Particulate Matter: less than or equal to 0.1 grains/dry standard cubic foot or the allowable concentration at the exhaust flow rate, as described in Minn. R. 7011.0735.	Minn. R. 7011.1005, subp. 3(D)
Particulate Matter < 10 micron: less than or equal to 0.51 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
B. POLLUTION CONTROL REQUIREMENTS	hdr
Total Particulate Matter: greater than or equal to 97 percent collection efficiency (See GP 003 for CE 002 monitoring and maintenance requirements).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21
Particulate Matter < 10 micron: greater than or equal to 94 percent collection efficiency (See GP 003 for CE 002 monitoring and maintenance requirements).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: SV 003 Fermentation**Associated Items:** EU 022 Fermenter

EU 023 Fermenter

EU 024 Fermenter

EU 025 Beer Well

EU 033 Fermenter

What to do	Why to do it
A. 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 5.13 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
B. POLLUTION CONTROL REQUIREMENTS	hdr
Volatile Organic Compounds: greater than or equal to 98 percent collection efficiency (See GP 004 for CE 003 monitoring and maintenance requirements)	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
C. TESTING REQUIREMENTS	hdr
Initial Performance Test: due 180 days after Initial Startup of the new fermenter (EU 033) to measure emissions of volatile organic compounds.	Title I Condition: Emissions testing to avoid major source classification under 40 CFR Section 52.21; emissions testing to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: SV 004 DDGS Dryer**Associated Items:** EU 015 DDGS Dryer

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 7.75 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21
Total Particulate Matter: less than or equal to 0.0766 grains/dry standard cubic foot or the allowable concentration at the exhaust flow rate, as described in Minn. R. 7011.0735.	Minn. R. 7011.1005, subp. 3(D)
Particulate Matter < 10 micron: less than or equal to 7.75 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
Volatile Organic Compounds: less than or equal to 7.85 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
B. POLLUTION CONTROL REQUIREMENTS	hdr
Total Particulate Matter: greater than or equal to 80 percent collection efficiency (See GP 005 for CE 004 monitoring and maintenance requirements)	Title I Condition: To avoid major source classification under 40 CFR Section 52.21
Particulate Matter < 10 micron: greater than or equal to 80 percent collection efficiency (See GP 005 for CE 004 monitoring and maintenance requirements))	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
C. TESTING REQUIREMENTS	hdr
Initial Performance Test: due 180 days after Initial Startup of new fermenter (EU 033) to measure particulate matter emissions.	Title I Condition: Emissions testing to avoid major source classification under 40 CFR Section 52.21; Minn. R. 7017.2020, subp. 1
Initial Performance Test: due 180 days after Initial Startup of new fermenter (EU 033) to measure emissions of particulate matter < 10 microns.	Title I Condition: Emissions testing to avoid major source classification under 40 CFR Section 52.21; emissions testing to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1
Initial Performance Test: due 180 days after Initial Startup of the new fermenter (EU 033) to measure emissions of volatile organic compounds.	Title I Condition: Emissions testing to avoid major source classification under 40 CFR Section 52.21; emissions testing to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1
Initial Performance Test: due 180 days after Initial Startup of new fermenter (EU 033) to measure opacity emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: SV 005 Distillation**Associated Items:** EU 009 Beer Stripper

EU 010 Rectifier

EU 011 Side Stripper

EU 012 Molecular Sieve

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 Rundown Tank

What to do	Why to do it
A. 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 0.71 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200
B. POLLUTION CONTROL REQUIREMENTS	hdr
Volatile Organic Compounds: greater than or equal to 97 percent collection efficiency (See GP 004 for CE 005 monitoring and maintenance requirements)	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification under 40 CFR Section 70.2 & Minn. R. 7007.0200
C. TESTING REQUIREMENTS	hdr
Initial Performance Test: due 180 days after Initial Startup of new fermenter (EU 033) to measure emissions of volatile organic compounds.	Title I Condition: Emissions testing to avoid major source classification under 40 CFR Section 52.21; emissions testing to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: SV 009 DDGS Cooler**Associated Items:** EU 031 DDGS Cooler

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.42 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21
Total Particulate Matter: less than or equal to 0.0936 grains/dry standard cubic foot or the allowable concentration at the exhaust flow rate as described in Minn. R. 7011.0735.	Minn. R. 7011.1005, subp. 3(D)
Particulate Matter < 10 micron: less than or equal to 0.42 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21; to avoid major source classification 40 CFR Section 70.2 & Minn. R. 7007.0200
Opacity: less than or equal to 10 percent opacity	Minn. R. 7011.1005, subp. 3(D)
B. TESTING REQUIREMENTS	hdr
Initial Performance Test: due 180 days after Initial Startup of new fermenter (EU 033) to measure particulate matter emissions.	Title I Condition: Emissions testing to avoid major source classification under 40 CFR Section 52.21; Minn. R. 7017.2020, subp. 1
Initial Performance Test: due 180 days after Initial Startup of new fermenter (EU 033) to measure emissions of particulate matter less than 10 microns.	Title I Condition: Emissions testing to avoid major source classification under 40 CFR Section 52.21; emissions testing to avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200; Minn. R. 7017.2020, subp. 1
Initial Performance Test: due 180 days after Initial Startup of new fermenter (EU 033) to measure opacity emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: EU 018 Boiler**Associated Items:** GP 006 NOx Emissions From Fuel Combustion

SV 006 Boiler

What to do	Why to do it
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

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: EU 034 Boiler**Associated Items:** GP 006 NOx Emissions From Fuel Combustion

SV 010 Boiler

What to do	Why to do it
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

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

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

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: FS 002 Grain Handling Fugitive Emissions

What to do	Why to do it
Opacity: less than or equal to 5 percent opacity for fugitive emissions from truck unloading of grain 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

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

Subject Item: FS 004 DDGS Handling Fugitive Emissions

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

TABLE B: SUBMITTALS

05/22/98

Facility Name: Heartland Corn Products
Permit Number: 14300014 - 001

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:

Permit Technical Advisor
Permit Section
Air Quality 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:

Supervisor
Compliance Determination Unit
Air Quality 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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

What to send	When to send	Portion of Facility Affected
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	EU033, EU034
Notification of the Anticipated Date of Initial Startup	due 30 days before Anticipated Date of Initial Startup	EU034
Notification of the Date Construction Began	due 30 days after Start Of Construction	EU034
Notification	due 30 days before Performance Test that will be used to establish an emission factor for NOx when combusting natural gas or propane.	GP006
Performance Test Notification (written)	due 30 days before Initial Performance Test	SV003, SV004, SV005, SV009
Performance Test Notification (written)	due 30 days before Performance Test to establish an emission factor when combusting natural gas or propane.	GP006
Performance Test Plan	due 30 days before Initial Performance Test	SV003, SV004, SV005, SV009
Performance Test Plan	due 30 days before Performance Test to establish an emission factor for NOx when combusting natural gas or propane.	GP006
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test	SV003, SV004, SV005, SV009
Performance Test Report - Microfiche Copy	due 105 days after Performance Test to establish an emission factor for NOx when combusting natural gas or propane.	GP006
Performance Test Report	due 45 days after Initial Performance Test	SV003, SV004, SV005, SV009
Performance Test Report	due 45 days after Performance Test to establish an emission factor for NOx when combusting natural gas or propane.	GP006
Testing Frequency Plan	due 60 days after Initial Performance Test for particulate matter and particulate matter < 10 microns. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on year (12-month), 36-month, and 60-month intervals, or as applicable, shall be required on written approval of MPCA.	SV009
Testing Frequency Plan	due 60 days after Initial Performance Test for volatile organic compounds, particulate matter, particulate matter < 10 microns, and opacity emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on year (12-month), 36-month, and 60-month intervals, or as applicable, shall be required on written approval of MPCA.	SV004
Testing Frequency Plan	due 60 days after Initial Performance Test for volatile organic compounds. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on year (12-month), 36-month, and 60-month intervals, or as applicable, shall be required on written approval of MPCA.	SV003
Testing Frequency Plan	due 60 days after Initial Performance Test for volatile organic compounds. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on year (12-month), 36-month, and 60-month intervals, or as applicable, shall be required on written approval of MPCA.	SV005

TABLE B: RECURRENT SUBMITTALS

05/22/98

Facility Name: Heartland Corn Products

Permit Number: 14300014 - 001

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance . 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.	Total Facility
Compliance Certification	due 30 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner. The report covers all deviations experienced during the calendar year.	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance (April 1). To be submitted on a form approved by the Commissioner.	Total Facility

APPENDIX

Facility Name: Heartland Corn Products

Permit Number: 14300014-001

Calculation of NO_x Emissions

Step 1: Calculate NO_x emissions for the previous month, using the following equation (Use Option A or Option B):

Option A: If using uncontrolled AP-42 NO_x emission factors for all emission units

Equation 1: $(A \times EF_{NG}) + (B \times EF_P) = N$

Where:

- A = The quantity of natural gas combusted during the previous month, in million cubic feet
- B = The quantity of propane combusted during the previous month, in gallons
- EF_{NG}= The most current AP-42 emission factor for uncontrolled nitrogen oxide emissions from the combustion of natural gas, in tons of NO_x per million cubic feet of natural gas. At the time of permit issuance, the most current AP-42 emission factor is 0.05 tons of NO_x per million cubic feet of natural gas, but may change over the life of this permit.
- EF_P= The most current AP-42 emission factor for uncontrolled nitrogen oxide emissions from the combustion of propane, in tons of NO_x per gallon of propane. At the time of permit issuance, the most current AP-42 emission factor is 9.5×10^{-6} tons of NO_x per gallon of propane, but may change over the life of this permit.
- N = NO_x emissions, in tons, for the previous month

Option B: If using test-based NO_x emission factors for one or more emission units

Equation 2:

$$(A \times EF_{NG1}) + (B \times EF_{NG2}) + (C \times EF_{NG3}) + (D \times EF_{P1}) + (E \times EF_{P2}) + (F \times EF_{P3}) = N$$

Where:

- A = The quantity of natural gas combusted in the existing boiler (EU 018) during the previous month, in million cubic feet

- B = The quantity of natural gas combusted in the new boiler (EU 034) during the previous month, in million cubic feet
- C = The quantity of natural gas combusted in the dryer (EU 015) during the previous month, in million cubic feet
- D = The quantity of propane combusted in the existing boiler (EU 018) during the previous month, in gallons
- E = The quantity of propane combusted in the new boiler (EU 034) during the previous month, in gallons
- F = The quantity of propane combusted in the dryer (EU 015) during the previous month, in gallons
- EF_{NG1}= The appropriate emission factor for nitrogen oxide emissions from the combustion of natural gas in the existing boiler (EU 018), in tons of NO_x per million cubic feet of natural gas. The appropriate emission factor is either
1. A site-specific emission factor obtained from an MPCA approved stack test, or
 2. The most current AP-42 emission factor for uncontrolled NO_x emissions from combustion of natural gas. At the time of permit issuance, the most current AP-42 emission factor is 0.05 tons of NO_x per million cubic feet of natural gas, but may change over the life of this permit.
- EF_{NG2}= The appropriate emission factor for nitrogen oxide emissions from the combustion of natural gas in the new boiler (EU 034), in tons of NO_x per million cubic feet of natural gas. The appropriate emission factor is either
1. A site-specific emission factor obtained from an MPCA approved stack test, or
 2. The most current AP-42 emission factor for uncontrolled NO_x emissions from combustion of natural gas. At the time of permit issuance, the most current AP-42 emission factor is 0.05 tons of NO_x per million cubic feet of natural gas, but may change over the life of this permit.
- EF_{NG3}= The appropriate emission factor for nitrogen oxide emissions from the combustion of natural gas in the dryer (EU 015), in tons of NO_x per million cubic feet of natural gas. The appropriate emission factor is either
1. A site-specific emission factor obtained from an MPCA approved stack test, or
 2. The most current AP-42 emission factor for uncontrolled NO_x emissions from combustion of natural gas. At the time of permit issuance, the most current AP-42 emission factor is 0.05 tons of NO_x per million cubic feet of natural gas, but may change over the life of this permit.
- EF_{P1}= The appropriate emission factor for nitrogen oxide emissions from the combustion of propane in the existing boiler (EU 018), in tons of NO_x per gallon of propane. The appropriate emission factor is either

1. A site-specific emission factor obtained from an MPCA approved stack test, or
2. The most current AP-42 emission factor for uncontrolled NO_x emissions from combustion of propane. At the time of permit issuance, the most current AP-42 emission factor is 9.5×10^{-6} tons of NO_x per gallon of propane, but may change over the life of this permit.

EF_{P2}= The appropriate emission factor for nitrogen oxide emissions from the combustion of propane in the new boiler (EU 034), in tons of NO_x per gallon of propane. The appropriate emission factor is either

1. A site-specific emission factor obtained from an MPCA approved stack test, or
2. The most current AP-42 emission factor for uncontrolled NO_x emissions from combustion of propane. At the time of permit issuance, the most current AP-42 emission factor is 9.5×10^{-6} tons of NO_x per gallon of propane, but may change over the life of this permit.

EF_{P3}= The appropriate emission factor for nitrogen oxide emissions from the combustion of propane in the dryer (EU 015), in tons of NO_x per gallon of propane. The appropriate emission factor is either

1. A site-specific emission factor obtained from an MPCA approved stack test, or
2. The most current AP-42 emission factor for uncontrolled NO_x emissions from combustion of propane. At the time of permit issuance, the most current AP-42 emission factor is 9.5×10^{-6} tons of NO_x per gallon of propane, but may change over the life of this permit.

N = NO_x emissions, in tons, for the previous month

Step 2: Calculate annual NO_x emissions, using a 12-month rolling sum (use this whether you used Option A or Option B above).

Each month, add together the NO_x emissions from the previous 12 months.

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 14300014-001

This technical support document is intended for all parties interested in the permit. The purpose of this document is to set forth the legal and factual basis for the permit conditions, including references to the applicable statutory or regulatory provisions.

1. General Information

1.1. Applicant and Stationary Source Location:

Owner/Operator Address and Phone Number	Facility Location (SIC Code: 2869)
Heartland Corn Products P.O. Box A Winthrop, Minnesota 55396 Ben Brown, General Manager Tim Miller, Plant Manager Phone: (507)647-5000 Fax: (507)647-5010	Heartland Corn Products Highway 19 East Winthrop, Sibley County

1.2. Description Of The Facility

This facility produces fuel-grade ethanol as a primary product, and distillers' dried grains with solubles (DDGS) as a by-product. Emission sources include receiving, storing, handling, and cleaning corn; steam production (boilers); 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, particulate matter smaller than 10 microns, and volatile organic compounds.

1.3 Description of the Activities Allowed By This Permit Action

This permit action allows operation of the facility. In addition, it allows installation of an additional boiler and an additional fermentation tank, to increase the capacity of the facility. No other physical modifications are authorized. Because of the increase in capacity, the production limit in the permit is being increased to 19,000,000 gallons per year, from the original design capacity of 10,000,000 gallon per year. Increases in VOC and PM/PM₁₀ emission limits are also authorized because of the increased ethanol production and corn handling requirements.

Because the increase is nine million gallons, an EAW is required. Expansion of an ethanol plant by 5 million gallons per year or more triggers a mandatory EAW under Minn. R. 4410.4300, subp. 5(B).

1.4. Changes Made Since Beginning of Public Notice

- Revised natural gas combustion calculations to reflect most recent version of AP-42 (3/98). This results in changed total facility emissions, although they remain below 100 tpy.

1.5. Facility Emissions:

Table 1. Emissions Increase Associated With the Modification

Pollutant	Potential to Emit from the mod (lb/hr)	Potential to Emit from the mod (TPY)	Emission Increases Authorized with this Permit Action	Emission Decreases Authorized with this Permit Action	*Other contemporaneous emission increases/decreases (TPY)	Overall Emission Change (TPY)	NSR/ 112(g) Threshold Level (TPY)	NSR/ MACT Review Required (Yes or No)
PM	11.44	50.1	50.1	NA	NA	50.1	100	No
PM ₁₀	7.07	30.9	30.9	NA	NA	30.9	100	No
SO ₂	0.005	0.02	0.02	NA	NA	0.02	100	No
NO _x	1.10	4.77	4.77	NA	NA	4.77	100	No
VOC	6.97	28.7	28.7	NA	NA	28.7	100	No
CO	1.18	5.18	5.18	NA	NA	5.18	100	No
Benzene	0.02	0.14	0.14	NA	NA	0.14	10	No
Total HAPs	0.02	0.14	0.14	NA	NA	0.14	25	No

*Other emission changes during the contemporaneous period as defined by 40 CFR 52.21, 40 CFR 52.24 or 40 CFR 51

Table 2. Total Facility Potential to Emit Summary

Note: See GI-07 and attached calculations for details

	PM	PM ₁₀	SO ₂	NO _x	VOC	CO	Benzene	Tot HAP
Total Facility Limited Potential Emissions	93.7	61.0	0.45	85.0	85.0	44.9	0.23	0.23
Total Facility Actual Emissions *	11.57	6.93	NR	NR	46.51	NR	NR	NR

* 1995 Emission Inventory

NR = Not Reported

Table 3. Facility and Permit Classification

Classification	Major/Affected Source	*Synthetic Minor	*Minor
PSD	NA	PM, PM ₁₀ , VOC	NO _x , SO ₂ , CO, Pb
NAAR	NA	NA	NA
Part 70	N/A	PM, PM ₁₀ , VOC	NO _x , SO ₂ , CO, Pb, HAPs

* Refers to potential emissions that are less than those specified as major by 40 CFR 52.21, 40 CFR pt. 51 Appendix S, and 40 CFR pt. 70.

2. Regulatory and/or Statutory Basis

Summary Regulatory and/or Statutory Basis of the Emission or operational Limit

Regulatory Overview of Facility

EU, GP, SV, etc.	Applicable Regulations	Comments
SV001 SV002 SV004 SV009	Minn. R. 7011.1005	Although Minn. R. 7011.1005 applies to these stacks, the emissions specified in the Title I Condition are less than what is allowed under the rules. The Title I limit (not the rule limit) is what is counted as PTE.
GP 006	Title I NO _x limits	Potential unlimited emissions of NO _x for the facility exceed 100 tpy. These limits require the permittee to calculate 12-month NO _x emissions monthly.

3. Additional Information

- Emission calculations - attached
- Operational limits for baghouses - rather than the traditional pressure drop range monitoring requirements, the permittee is required to monitor visible emissions from the baghouses each day that the associated emission units are in operation. Visible emissions are a better indication of a malfunction in a baghouse; a tear can occur and the pressure drop may not change significantly, but chances are that visible emissions will result.
- Rolling sums - A 12-month rolling sum is used to demonstrate compliance with the annual ethanol production limit. This is consistent with the requirements contained in permits issued to other ethanol plants in Minnesota over the past several years. This is justified because of the lack of complete predictability in the availability and quality of raw material

(corn). While the facility is located in an area where corn is commonly grown and available, there is variability in the growing season and growing conditions such that in a given year, there may be a large crop of high quality corn which would enable the facility to receive a large amount of grain at harvest time and/or produce a larger quantity of ethanol from a given quantity of corn, or a smaller or poorer quality crop, which could result in less corn being available at harvest time, or a lesser amount of ethanol that can be processed from a given amount of corn.

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. 14300014-001 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: Toni Volkmeier, Cary Hernandez, Marshall Cole, Dave Vaaler

Attachment: Calculations - summary and details, Forms GI-04, GI-05A-D, CD-01

Attachment 1
Facility Emissions at 19,000,000 gallons

Attachment 2
Facility Emissions at 10,000,000 gallons

Attachment 3

GI-Forms

Attachment 4
CD-01 Forms