

General information

Public comment period begins: July 16, 2021

Public comment period ends: August 16, 2021 (4:30 p.m.)

The Minnesota Pollution Control Agency (MPCA) Commissioner has made a preliminary determination to reissue this permit for a term of approximately five years.

Name and address of Permittee:

Heartland Corn Products
PO Box A
Winthrop, Minnesota 55396-0429

Facility name and location:

Heartland Corn Products
53331 State Highway 19
Winthrop, MN 55396-2158
Sibley County

MPCA contact person:

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A draft permit is available for review on the MPCA Public Notices webpage at <http://www.pca.state.mn.us/publicnotices>. Additional materials relating to the issuance of this permit are available for inspection by appointment at any MPCA office (<https://www.pca.state.mn.us/about-mpca/mpca-offices>) between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday. The MPCA will mail or email a copy of the draft permit upon request. Comments, petitions, and other requests must be received at the MPCA in writing on or before the public comment period end date and time identified above.

Watershed: NA

Receiving water: NA

Description of Heartland Corn Products

Heartland Corn Products (Facility) is located at 53331 State Highway 19 in Winthrop, Minnesota.

Heartland Corn Products operates an ethanol production plant and is made up of an East Plant and West Plant. The facility uses grain to produce fuel ethanol (Denatured ethanol and E-85) and byproducts (DDGS). The facility is permitted to produce up to 155 million gallons of undenatured ethanol, loadout 3.958 million gallons of denaturant, receive 11.563 million tons of grain, and loadout 2.453 million tons of dry distiller's grain with solubles per year. Operations at the facility include grain receiving, milling, fermentation, distillation, denaturing, storage and loadout to railcars or trucks. DDGS is also stored and shipped out via railcar and truck. Corn Oil is also shipped out via truck.

Heartland Corn Products is required to have a Part 70 permit and has taken limits to avoid Prevention of Significant Deterioration (PSD) permitting thresholds. Pollutants emitted include particulate matter (PM), particulate matter smaller than 10 microns (PM10), particulate matter smaller than 2.5 microns (PM2.5), volatile organic compounds (VOC), nitrogen oxides (NOx), sulfur dioxide (SO2), carbon monoxide (CO), hazardous air pollutants (HAP), and greenhouse gases (GHG). Sources of emissions from the facility include: grain receiving and handling, milling, fermentation, distillation, DDGS production, DDGS handling and storage, product and denaturant storage and loadout, combustion sources, cooling towers, truck traffic, and VOC leaks.

Wet scrubbers control VOC and HAP emissions from the fermentation and distillation processes at both the east and west plant. Regenerative thermal oxidizers controls VOC and HAP emissions for the DDGS drying and other various units at the east and west plant. Baghouses control PM, PM10, PM2.5 emissions from grain receiving and handling, milling, and DDGS handling and loadout. A flare controls VOC and HAP emissions from the ethanol loadout process. Emissions from equipment leaks are controlled through an inspection and maintenance program.

This permit action is a Part 70 reissuance that incorporates several permit applications.

This permit action included several test extensions and submittal extensions, of which those dates have now passed.

This permit action also incorporates four major amendments.

Major Amendment (DQ 5846): This major amendment is to replace 2 DDGS dryer burners (EQUI 176 and 177), that has a combined burner size of 97 MMBtu/hr, at the east plant with a new natural gas DDGS dryer (EQUI 247) that has a burner capacity of 90 MMBtu/hr. The new DDGS dryer includes product recovery multiclones that are considered inherent to the process equipment. Additionally, the East Plant Cooling Cyclone (EQUI 179) is being replaced with a Fluid Bed Cooler (EQUI 246), baghouse (TREA 51), and a bypass stack (STRU 165). The fluid bed cooler will vent to the baghouse before routing to the DDGS dryer and the VRTO (TREA 11).

Major Amendment (DQ 6066): This major amendment plans to increase the facility production from 124.9 million gallons per year of undenatured ethanol to 155 million gallons per year. Grain receiving operations will also be modified with this amendment. The facility will be replacing 2 baghouses (TREA 43 and 44) and their associated venting stacks (STRU 85 and 86). The new baghouses (TREA 47 and 48) and associated stack vents (STRU 101 and 102) were constructed before the issuance of this permit action through a compliance agreement amendment with the MPCA.

The grain receiving modifications for the East Plant includes the removal of one of the grain dump pits (EQUI 193). The second dump pit (EQUI 181) will be modified to accommodate 15,000 bushels/hr. Straight trucks delivering grain will be delegated to this dump pit only. East Plant Grain receiving operations will be limited to the hours of 6am - 6pm.

The grain receiving modifications for the West Plant will include an hourly grain receiving limit of 560 tons/hr, based on the most recent dispersion modeling between the two dump pits (EQUI 11 and EQUI 29). West Plant Grain receiving operations will be limited to the hours of 6am - 8pm.

Under an April 2021 compliance agreement, the facility has revised modeling to incorporate their April 2020 building capture study. The revised modeling removed the limited hours of operation of the dump pits at the East and West plants and the increased the West Plant grain receiving limit from 560 tons/hr to 900 tons/hr. The revised modeling also removed the restriction of straight trucks at the East and West plant receiving pits.

Major Amendment (DQ 6234): This major amendment will replace both the fermentation and distillation scrubbers (TREA 30 and 31) and their associated stacks (STRU 69 and 79) at the East Plant with a scrubber (TREA 49) and a new stack (STRU 103). This amendment also includes a pre-condenser (EQUI 265) that will be before TREA 49 to recover additional ethanol. The facility has since decided they will not go forward with the pre-condenser. The facility will also install a whole stillage tank (EQUI 266/STRU 104) at the East Plant. This major amendment also included a BACT analysis for the scrubber replacement.

Notification of Replace of Unit (DQ 6234): The East Plant Cooling Tower (FUGI 14) was to be replaced by a new 3-cell cooling tower (FUGI 11) from Permit 14300014-011. The new cooling tower was constructed, but the facility altered what was originally permitted to increase the water flow rate from 30,000 gallons per minute (gpm) to 40,000 gpm. The water cooling tower permitted in 14300014-011 had a higher drift loss factor (0.0014%) compared to what the new proposed cooling tower (0.0007%), and therefore will not have an emissions increase from this change. HCP has provided the MPCA with the manufacturers guarantee for the 0.0007% drift loss factor and HCP has included this new tower within their modeling. **Major Amendment (DQ 6605):** This major amendment is for the addition, replacement, and/or repurpose of equipment associated with the East plant fermentation process. EQUI 217 (Enclosed flour conveyance) is being replaced with EQUI 350-352 (Flour conveyors). EQUI 349 (Cook Water Tank), 358-360 (Yeast Tank #2, Fermenter 3 and 4) are being added. EQUI 353 (Slurry Mixer) is replacing EQUI 216. EQUI 354 (Slurry Tank) is replacing EQUI 194. EQUI 355 and 356 (Liquefaction Tank 1 and 2) are replacing EQUI 27 and EQUI 35, respectively. EQUI 357 (Yeast Tank #1) is replacing EQUI 38 and EQUI 36. The units were allowed to commence construction and operation under a compliance agreement with the MPCA.

The permit action is for construction and operation of the facility. The permit action is the reissuance of the Part 70 operating permit with major amendments rolled in; therefore, the draft permit has been placed on public notice.

A summary of the Potential to Emit (PTE)/Emissions Increase in tons per year is as follows:

Pollutant	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOCs	CO	CO _{2e}	Single HAP	All HAPs
Total Facility PTE	165.02	82.84	74.57	40.02	226.88	216.02	244.41	560,521	9.36	24.37
Emissions Increase from new and modified emission units	67.2	11.7	0.8	-1.6	4.8	36.5	10.7	61506	NA	4.3

PM = Particulate Matter
 PM_{2.5} = PM, 2.5 microns and smaller
 NO_x = Nitrogen Oxides
 CO = Carbon Monoxide

PM₁₀ = PM, 10 microns and smaller
 SO₂ = Sulfur Dioxide
 VOCs = Volatile Organic Compounds
 CO_{2e} = Carbon Dioxide Equivalents as defined in Minn. R. 7007.0100
 HAP = Hazardous Air Pollutant

The Permittee is not required to submit a pollution prevention progress report pursuant to Minn. Stat. § 115D.08.

The preliminary determination to issue this Air permit is tentative.

Procedure for public participation

As stated in Minn. R. chs. 7000 and 7001, there are three formal procedures for public participation in the MPCA's consideration of this matter. Interested persons may:

- (1) Submit written comments on the draft permit.
- (2) Petition the MPCA to hold a public informational meeting.
- (3) Petition the MPCA to hold a contested case hearing.

Submitting written comments

To submit comments or petitions to the MPCA through the mail or email, you must state:

- (1) Your interest in the permit application or the draft permit.
- (2) The action you wish the MPCA to take, including specific references to the section of the draft permit you believe should be changed.
- (3) The reasons supporting your position, stated with sufficient specificity as to allow the MPCA to investigate the merits of the position.

Public informational meeting

A public informational meeting is an informal meeting during which interested persons can ask questions concerning the proposed facility. MPCA staff will be present to provide information. If an interested person would like the MPCA to hold a public informational meeting, the person should include all information identified above and in addition include a statement of the reasons the person desires the MPCA to hold a public informational meeting and the issues that the person would like the agency to address at the public informational meeting.

Contested Case Hearing

A contested case hearing is a formal proceeding before an administrative law judge empowered to advise the MPCA regarding issues of fact. As described in Minn. R. 7000.1800, persons who submit petitions for a contested case hearing must also state the issues they propose to address in a contested case hearing, the specific relief requested or resolution of the matter, and the reasons (which may be in the form of proposed findings) supporting an MPCA decision to hold a contested case hearing. Failure to comply with these rules exactly may result in a denial of the request. To the extent known, the petitioner may also submit a list of prospective witnesses to be called at a hearing, a proposed list of publications, references, or studies to be introduced at a hearing and the approximate time required for the petitioner to present the matter at a hearing. The decision whether to hold a contested case hearing will be made under Minn. R. 7000.1900.