

Public Notice of intent to reissue/amend

Air Permit
06300025-102

General information

Public comment period begins: March 1, 2018**Public comment period ends:** 4:30 p.m. on March 30, 2018

The Minnesota Pollution Control Agency (MPCA) Commissioner has made a preliminary determination to reissue this permit.

Name and address of Permittee:Heron Lake BioEnergy LLC
91246 390th Ave
Heron Lake, Minnesota 56137-3175**Facility name and location:**Heron Lake BioEnergy LLC
91246 390th Ave
Heron Lake, MN 56137-3175
Jackson County
T104N, R37W, Section 016**MPCA contact person:**Rachel Yucuis
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Rd
Phone: 651-757-2863
Email: Rachel.yucuis@state.mn.usFile manager phone: 651-757-2728 or
1-844-828-0942

A draft permit is available for review on the MPCA Public Notices webpage at <http://www.pca.state.mn.us/publicnotices> or at the MPCA office address listed under the MPCA contact person. 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.

Description of Heron Lake BioEnergy LLC facility and amendment

The permit action is for modification and operation of the facility. The permit action is a major amendment and the reissuance of the Part 70 Operating Permit; therefore, the draft permit has been placed on public notice.

Heron Lake Bioenergy is a dry mill fuel grade ethanol production facility with a permitted capacity of 72.25 million gallons of undenatured ethanol per year. The facility also produces wetcake, corn oil, and distillers Dried Grains with Solubles (DDGS) as co-products. The primary sources of pollutants are from grain receiving and transfer, grain milling, fermentation, DDGS drying and cooling, and DDGS transfer and loadout. Grain and DDGS handling activities emit particulate matter (PM), particulate matter less than 10 microns (PM10), and particulate matter less than 2.5 microns (PM2.5). Grain is received within a building at the facility by hopper trucks and straight trucks, and is controlled by a baghouse for particulate matter control. Grain is transferred via elevators and conveyors and stored in silos and day bins before being milled. These processes are either vented to the grain handling baghouse or are fully enclosed. Hammermills mill the grain into fine powder and are controlled by the milling baghouse. The flour is then conveyed to prefermentation where it is mixed with water and enzymes, then transferred to liquefaction tanks, then yeast tanks, and on to the fermentation tanks.

Fermentation activities emit carbon dioxide (CO₂), volatile organic compounds (VOCs), and hazardous air pollutants (HAPs). VOCs and HAPs from fermentation are controlled by a packed gas absorption column (CO₂ scrubber). The resulting beer from fermentation is sent to the beer well, which is also controlled by the scrubber. The next step, distillation, is a multi-stage process that separates the ethanol from the water and remaining solids. The ethanol passes through the 190-proof condenser and is stored in the 190 proof ethanol tank. The 190-proof ethanol is further concentrated by water-absorbing molecular sieves. After the molecular sieves the ethanol is sent to the 200 proof condenser then to the 200 proof ethanol tank. The 190 and 200-proof condensers are vented to the Regenerative Thermal Oxidizer (RTO) for VOC and HAP control. During loadout by truck or rail, denaturant is added. VOC and HAPs emitted during ethanol loadout to trucks is controlled by a flare.

Stillage from distillation is sent to the centrifuge where it is separated into thin stillage and wet distillers grains. The thin stillage is sent through the evaporators to produce syrup, and a portion is mixed back in with the grains in the dryers and some is sent to corn oil extraction. The wet distillers grain is stored on the wet cake pad or dried in the dryers to produce DDGS. DDGS drying is a source of CO₂, VOCs, HAPs, carbon monoxide (CO), nitrogen oxides (NO_x), PM, PM10, PM2.5, and sulfur dioxide (SO₂). VOCs, HAPs, CO, PM, PM10, and PM2.5 emissions from the DDGS drying are controlled by the RTO. The dried DDGS is sent to a DDGS cooling cyclone. The cooling DDGS emits VOCs, HAPs, PM, PM10, and PM2.5, and the particulate matter is controlled by a baghouse. DDGS is conveyed to a storage building, where it accumulates before being moved via payloader to a pit and hopper and conveyed to the DDGS silos before being loaded out by truck or rail. Particulate matter emissions from DDGS loadout are controlled by a baghouse.

Sources of fugitive emissions include particulate matter from roads and cooling towers, VOC from equipment leaks, and VOC from wetcake. Heron Lake also has three emergency generators and a natural gas boiler.

This permit action is a Part 70 Reissuance with two Major Amendments and one Reopening. This permit authorizes construction. One major amendment (IND20160001) is for the replacement of the regenerative thermal oxidizer (RTO) with a new RTO. The other major amendment (IND20170002) authorizes the replacement of the DDGS cooler and baghouse.

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

Pollutant	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOCs	CO	CO _{2e}	Lead	HAPs-Single	HAPs-Total
Total Facility PTE	60.6	47.2	43.9	39.1	182	161	207	347,779	0.00048	9.00	22.5
Emissions Increase from new emission units	25.1	19.2	18.6	0.91	30.3	42.4	25.5	8,208	0.000028	2.00	3.23

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 -- if used and not defined above

The Permittee has submitted a pollution prevention progress report pursuant to Minn. Stat. § 115D.08.

The preliminary determination to reissue and modify 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.