

**Staff Summary
Method 2A Application
Heartland Corn Products
Corn Ethanol
(ETHC098)**

Deemed Complete Date: April 16, 2014
Posted for Comment Date: May 21, 2014
Certified Date: May 31, 2014

Plant Summary

Heartland Corn Products (Heartland) produces ethanol from corn at a dry mill plant located near Winthrop, Minnesota. Heartland has applied for a Method 2A pathway for its corn ethanol plant under the California Low Carbon Fuel Standard (LCFS). In its application, Heartland reports the plant capacity to be 103.9 million gallons per year of denatured ethanol. The plant currently produces 102.2 million gallons per year of denatured ethanol. All of the distillers grains co-product is dried to about 10 percent moisture and sold as dry distillers grains with solubles (DDGS). The Heartland plant also produces a small amount of corn oil from the plant.

Carbon Intensity of Ethanol Produced

As shown in the table below, the applicant is applying for one DDGS-based pathway CI. The operating conditions shown below ensure that the average CI of all gallons of ethanol produced at the plant during the year will not exceed 85.34 gCO₂e/MJ. Proposed Method 2A pathways must be evaluated against reference pathways from the LCFS Lookup Table. Although a Method 2A pathway must be very similar to its reference pathway, it must achieve at least a five gram CO₂e/MJ CI improvement over the reference pathway.¹ The reference pathway for Heartland's proposed method 2A pathway is the Midwest dry mill, dry DGS, natural gas pathway (ETHC004) with a CI of 98.4 gCO₂e/MJ. Heartland's pathway improves upon its reference pathway CI by more than the requisite five grams of CO₂e/MJ.

Proposed Lookup Table Entries

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity in gCO ₂ e/MJ (Including Indirect Effects)
Ethanol from Corn	ETHC098	2A Application*: Midwest; Dry Mill; Dry DGS; NG	85.34

*Specific Conditions Apply

¹ In the LCFS regulation, this 5 gCO₂e/MJ threshold is referred to as the “substantiality requirement.”

Operations at the plant will be subject to the following operating conditions designed to ensure that the CI of the of the corn ethanol produced at the Heartland plant will remain at or below the values appearing in table above.

- The total pathway-specific thermal and electrical energy use (BTU/gal) values reported in the Heartland Method 2A application shall not be exceeded. These values are classified by the applicant as confidential business information. For purposes of determining compliance with this condition, the values of the thermal and electrical energy use will be calculated on an annual average basis for a given calendar year.
- The ethanol yield (in gallons of ethanol per bushel of corn), for the Heartland plant shall be equal to or greater than the values specified in Heartland's Method 2A application. This value is classified by the applicant as confidential business information. For purposes of determining compliance with this condition, the value of the ethanol yield will be calculated on an annual average basis for a given calendar year.
- No more than two percent of the corn used as a feedstock at the Heartland plant shall be grown on fields on which lime (CaCO_3) has been applied. This condition applies to all gallons produced at the Heartland plant regardless of where those gallons are sold.

Staff Analysis and Recommendation

Staff has reviewed Heartland's Method 2A application and finds the following:

- Staff has replicated, using the CA-GREET spreadsheet, the carbon intensity value calculated by the applicant;
- Staff has concluded that the plant's actual thermal and electrical energy consumption are not likely to exceed the thermal and electrical energy consumption levels specified in Heartland's Method 2A application; and
- Staff has concluded that Heartland is capable of operating its plant in a manner such that the ethanol yield is equal to or greater than the corresponding value specified in Heartland's Method 2A application, and that compliance with the second operating condition above can be maintained.

On the basis of these findings, staff recommends that Heartland's application for a Method 2A pathway be certified.