STAFF SUMMARY
Application for Certification of
Corn Ethanol Dry Mill with DGS Co-Product Credit LCFS Pathways
Valero Renewable Fuels Company, LLC (Aurora)
Aurora, South Dakota
(ETHC108 and ETHC109)

Date Deemed Complete: August 26, 2015
Date Posted: November 5, 2015
Date Certified: November 16, 2015

Pathway Summary

Valero Renewable Fuels Company operates a corn ethanol plant in Aurora, South Dakota (Valero Aurora). Valero Aurora has applied for two Method 2A pathways for this plant under the California Low Carbon Fuel Standard (LCFS). The plant is a dry mill, natural-gas-fired facility capable of producing 141.5 million gallons per year of corn ethanol.

Carbon Intensity (CI) of the Valero Aurora Pathway

The applicant has requested two corn ethanol pathways. These include one with a DDGS coproduct (ETHC108) and one with an MDGS coproduct (ETHC109). The applicant provided two years of natural gas and electricity invoices covering the months of June 2012 through May 2014. Using average energy consumption values calculated from these invoices and other facility-specific CA-GREET inputs, the applicant calculated a CI of 88.85 gCO_2e/MJ for the DDGS pathway and 85.39 gCO_2e/MJ for the MDGS pathway. The Valero Aurora pathways improve upon their reference pathway CI by more than the requisite five gCO_2e/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 CO_2e/MJ CI improvement over the reference pathway.[1] The reference pathway for the proposed Valero Aurora DDGS method 2A pathway is the Midwest dry mill, dry DGS, natural gas pathway (ETHC004) with a CI of 98.4 gCO_2e/MJ. Valero's Aurora DDGS pathway improves upon the reference pathway CI by more than the requisite five gCO_2e/MJ. There is no ARB reference pathway that applies to the MDGS pathway.

[1] In the LCFS regulation, this 5 gCO_2e/MJ threshold is referred to as the "substantiality requirement."

Proposed Lookup Table Entries

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO_2e/MJ)		
			Direct Emissions	Land Use and Other Indirect Effects	Total
Ethanol from Corn	ETHC108	2A Application*: Midwest; Dry Mill; DDGS; NG	58.85	30	88.85
	ETHC109	2A Application*: Midwest; Dry Mill; MDGS; NG	55.39	30	85.39

*Specific Conditions Apply

Applicable Operating Conditions

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

- No conditions are placed on the amounts of electricity and natural gas consumed and the ethanol yield at the Valero Aurora plant, so long as the CIs reported in the above table are not exceeded. For purposes of determining compliance with this operating condition, the plant's CI will be calculated based on data from the most recent 12 months of operation, excluding periods of abnormal operations, such as planned maintenance or unpredictable, unavoidable, and uncontrollable force majeure events. The plant's thermal and electrical energy use, and ethanol yield values are classified by the applicant as confidential business information.

- As long as both pathway CIs (88.85 and 85.39 gCO_2e/MJ) are not exceeded, fuel pathway codes (FPCs) ETHC108 and ETHC109 may be used to report transactions involving volumes from the Valero Aurora plant, regardless of the proportions of DDGS and MDGS the plant produces.

Staff Analysis and Recommendations

Staff has reviewed Valero Aurora'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 Valero Aurora's 2A application; and

- Staff has concluded that Valero Aurora 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 Valero Aurora's Method 2A application, and that compliance with the operating conditions above can be maintained.

On the basis of these findings, ARB staff recommends that Valero Aurora's application for the above Method 2A LCFS pathways be certified.