CALIFORNIA AIR RESOURCES BOARD

Low Carbon Fuel Standard
Tier 2 Pathway Application

Application No. B0302

Updated: 06/03/2022 (See Underlined Text)

Staff Summary

REG Albert Lea, LLC
REG Albert Lea, LLC, Albert Lea, Minnesota
Biodiesel from Distillers' Corn Oil, Used Cooking Oil, Non-Rendered Used Cooking Oil, and Animal Fat

Joint Applicant: REG Juhl Glenville Wind LLC (F00390)

Deemed Complete Date: 2/17/2022
Posted for Comment Date: 5/13/2022
CI Certified Date: 6/3/2022
CI Start Date: 1/1/2022

Pathway Summary

REG Albert Lea, LLC (REG) seeks provisional certification of four Tier 2 pathways for Biodiesel derived from Distillers' Corn Oil, Used Cooking Oil, Non-Rendered Used Cooking Oil, and Animal Fat. REG receives these feedstocks from depots across the United States of America. Once received, the feedstock information from each load is entered into their inventory system. At months end, REG reconciles the facilities feedstock inventory.

REG has a nameplate capacity of approximately 30 million gallons per year of biodiesel production. This facility is a multi-feedstock plant capable of processing high FFA feedstocks and uses natural gas, steam, and both grid and renewable electricity for process energy. Besides the main product, the plant also produces co-products: Glycerin, Free Fatty Acids, Distillation Bottoms, and Recovered Fatty Acids.

Renewable Electricity is supplied by a wind turbine constructed by Juhl Clean Energy Assets and is owned by REG Juhl Glenville Wind, LLC (RJGW), the joint applicant. RJGW began supplying renewable electricity to REG behind the utility meter in December 2020.

Carbon Intensity of Fuel Type Pathways

The CI is determined from life cycle analysis conducted using a modified version of the Board-approved Tier 1 Simplified CI Calculator for Biodiesel and Renewable Diesel.

Well-to-wheel GHG emissions of this pathway were modelled using the modified Tier 1 Simplified Carbon Intensity Calculator for Biodiesel and Renewable Diesel. The table lists the proposed Carbon Intensities (CIs), using six (6) months of operational data for these pathways. These pathways will accordingly be classified as provisional until 24 months of operational data become available.

Proposed Pathway CIs

Pathway Number	Fuel & Feedstock	Pathway FPC	Pathway Description	Carbon Intensity (gCO2e/MJ)
B030201	Distillers' Corn Oil to Biodiesel	BIO003B03020100	Fuel Producer: REG Albert Lea, LLC (4305); Facility Name: REG Albert Lea, LLC (82613); North American Sourced Corn Oil transported by truck and rail to Biodiesel plant in Albert Lea, MN; Natural Gas, Steam, Grid Electricity, and Renewable Electricity; Biodiesel transported by truck and rail to California	24.50
B030202	Used Cooking Oil to Biodiesel	BIO001B03020200	Fuel Producer: REG Albert Lea, LLC (4305); Facility Name: REG Albert Lea, LLC (82613); North American Sourced Rendered Used Cooking Oil transported by truck and rail to Biodiesel plant in Albert Lea, MN; Natural Gas, Steam, Grid Electricity, and Renewable Electricity; Biodiesel	18.50

Pathway Number	Fuel & Feedstock	Pathway FPC	Pathway Description	Carbon Intensity (gCO2e/MJ)
			transported by truck and rail to California	
B030203	Used Cooking Oil to Biodiesel	BIO001B03020300	Fuel Producer: REG Albert Lea, LLC (4305); Facility Name: REG Albert Lea, LLC (82613); North American Sourced Non-Rendered Used Cooking Oil transported by truck and rail to Biodiesel plant in Albert Lea, MN; Natural Gas, Steam, Grid Electricity, and Renewable Electricity; Biodiesel transported by truck and rail to California	12.50
B030204	Animal Fat to Biodiesel	BIO002B03020400	Fuel Producer: REG Albert Lea, LLC (4305); Facility Name: REG Albert Lea, LLC (82613); North American Sourced Rendered Animal Fat transported by truck to Biodiesel plant in Albert Lea, MN; Natural Gas, Steam, Grid Electricity, and Renewable Electricity: Biodiesel transported by truck and rail to California	29.00

Operating Conditions

The certified CI value in the above table may be used to report and generate credits for fuel quantities that are produced at the facility in the manner described in the

applicant's Life Cycle Analysis (LCA) report, and dispensed for transportation use in California, subject to the following requirements and conditions:

1. Fuel pathway holders are subject to the requirements of the CARB Low Carbon Fuel Standard (LCFS) regulation, which appears at sections 95480 to 95503 of title 17, California Code of Regulations. Requirements include ongoing monitoring, reporting, recordkeeping, and third-party verification of operational CI and a controlled process for providing product transfer documents or other similar records to counterparties or CARB.

2. CARB staff are proposing modified Operating Conditions (OCs) applicable to unprocessed used cooking oil (UCO) feedstocks used for Biodiesel production at the REG Albert Lea facility (82613) in order to facilitate the third-party validation process by a Verification Body (VB). Previously, CARB LCFS Regulation section 95488.2(a) required that "the UCO collection facility shall be registered as an intermediate facility in the Alternative Fuels Portal, and is subject to a verifier site visit, as it is supplying site-specific data for CI determination." In your letter to CARB dated June 8, 2020, REG asserts that UCO feedstock providers subscribe to a model where centralized UCO collection centers ("Hubs") receive UCO from satellite facilities ("Spokes") distributed throughout the city. REG further estimates that as many as 55 UCO collection facilities exist. Hence, it would not only be constraining on time and resources, but also extraordinarily burdensome to register and validate all "Hub and Spoke" UCO collection facilities as intermediate facilities in the AFP. Correspondingly, REG has proposed that CARB modify the OC to require that no-cook UCO providers that subscribe to the hub and spoke model only register their company headquarters ("Hubs") as intermediate facilities in the AFP. Validation of pathway inputs and provision of verification services by the VB would then be provided for each "Hub" facility, along with a risk-based determination of how many other "Spoke" facilities would need to have their data also verified. We have concluded it is reasonable to modify the OC applicable to the REG Albert Lea fuel pathway application (A0083) as requested with the following constraints:

a. Pursuant to the LCFS Regulation section 95488.2(a), each UCO collection facility considered to be a "Hub" or headquarters facility shall be registered as an intermediate facility in the Alternative Fuels Portal, and is subject to a verifier site visit, as it is supplying site-specific data for CI determination.

b. The fuel pathway applicant / pathway holder(s) shall provide a list of all "Spokes" or satellite UCO collection facilities in their annual fuel pathway report, along with direct or indirect volumes of UCO delivered from each satellite location.

c. The VB will conduct a verification site visit to each "Hub" or headquartered facility and additionally complete a risk-based assessment to determine how many other "Spoke" or satellite UCO collection facilities need to be verified

for the annual CI validation. Criteria for the risk-based satellite facility sampling plan shall be based upon, but not be limited to, the following:

i. Quantity of UCO procured from each one of the satellite facilities
ii. Quality of the UCO feedstock delivered to the "Hub" facility (eg., moisture content, type of grease, etc.)
iii. Material misbalances, suspect volumes, or quantities of UCO received by the "Hub" facility that could not be reconciled in the annual report
iv. Professional judgement of the VB or lead verifier
v. A request by CARB that the VB audit a specific "Spoke" or satellite facility based on any criteria specified.

3. CARB is further requiring that the Sampling and Analysis Plan (SAP) proposed by REG in their response letter be modified as follows:

a. REG Albert Lea will perform Energy Density testing of Co-Products Fatty Acid Distillate, Recovered Fatty Acids, and Distillate Bottoms, and correspondingly, C-H-O testing, at a frequency no less than two samples per month, each collected two weeks apart during the first three months of operation following receipt of this OC, followed by a frequency no less than monthly until the next annual fuel pathway report is submitted to CARB (2022). After the submission of the next annual fuel pathway report to CARB, REG Albert Lea may petition CARB that testing for both co-products be reverted to a quarterly basis, if the energy density values (LHV) obtained from the tests results demonstrate low variability or low co-variance, and are statistically indifferent from the value reported in the Simplified CI Calculator.

4. These Operating Conditions will accompany any previously issued OC applicable to the fuel pathway application, and annual verification, and shall be presented to the Verification Body prior to scheduling an inspection/site visit. CARB may add applicable conditions or limitations during its certification review post-validation. All operating conditions will appear in the summary of the certified fuel pathway(s) and are relevant to maintaining all fuel pathway(s) requested by the applicant.

5. CARB staff has approved the conversion methodology from imported steam to natural gas usage (based on CA-GREET3.0 default emission factors for natural gas combusted in an industrial boiler, with 80% boiler efficiency and steam energy of 1,000 Btu/pound), which is included in a separate tab in the CI calculator. Imported steam is used at the facility as thermal energy for the process, which must be reported in Field 2.13 Alternative Fuel Use as natural gas in the Tier 1 Simplified CI Calculator for BDRD. The fuel pathway holder must report the calculated quantities of natural gas combusted in its Annual Fuel Pathway Report submitted to CARB for third-party verification of the operational CI.

6. The utility bill received monthly by REG Albert Lea, LLC is the total amount of electricity consumed – both grid and renewable. The reported electricity is the invoiced grid electricity minus the renewable electricity which is included in a separate tab in the calculator.

Staff Analysis and Recommendation

Staff has reviewed the provisional application and has replicated, using a modified Tier 1 Simplified Carbon Intensity Calculator for Biodiesel and Renewable Diesel, the CIs value calculated by the applicant. Christianson, PLLP (H3-20-006) submitted a qualified positive validation statement. Staff recommends this application be considered for certified after all the comments received during the 10-day comment period are addressed satisfactorily by the applicant. The certification is subject to the operating conditions set forth in this document.

Comments and Certification

<u>These pathways did not receive public comments during the 10-day comment period. CARB certified the pathways.</u>