

June 21, 2021

Mr. Richard Corey
Executive Officer California Air Resources Board
Attn: Mr. Anil Prabhu
P.O. Box 2815 Sacramento, CA 95812

Submitted by Email to Anil.Prabhu@arb.ca.gov

RE: Tier 2 Pathway Application B0166 by SMUD (S338): Low-CI Electricity from Dairy Manure Biogas Digester Genset System at New Hope; Electricity use to charge electric vehicles in Sacramento County and/or California.

Dear Mr. Corey and Mr. Prabhu,

The Leadership Counsel for Justice and Accountability (“Commenter”) submitted four comments regarding the Tier 2 Pathway Application (No. B0166; SMUD (S338)) for Low-CI Electricity from Dairy Manure Biogas Digester Genset System at New Hope Dairy Farm for electricity production to charge electric vehicles within SMUD’s service territory in Sacramento County and/or California (“Application”). This letter addresses those comments.

As authorized by the California Air Resources Board (“CARB”) Regulations, Title 17 of the California Code of Regulations, Section 95488.7(d)(5)(A)(2), this letter provides a detailed written response to CARB’s Executive Officer explaining why no revisions to the Application are necessary, and the Application should be approved as submitted.

In accordance with the Low Carbon Fuel Standard (“LCFS”), specifically the above-referenced Section 95488.7(d)(5)(A): “Only comments related to potential factual or methodological errors will require responses from the fuel pathway applicant.”

The texts from the comments are quoted, and SMUD as the fuel pathway applicant offers the following responses to the various parts of the comments that were raised by the Commenter.

Comment No. 1. Lack of Available Information and Data Transparency

The applicants and/or the California Air Resources Control Board (CARB) withheld and redacted information regarding calculations related to Life Cycle Results for Carbon Intensity such that it is impossible to determine the air quality and water quality impacts and the carbon intensity value: Such data must be available in order to transparently access the potential harms and supposed benefits of this proposed pathway.

Response:

The information redacted from and/or unavailable in the publicly posted version of the Application is consistent with California law and CARB’s Low Carbon Fuel Standard (LCFS) Guidance 20-05, Redaction of Confidential Business Information under the Low Carbon Fuel Standard (April 2020). SMUD’s Life Cycle Analysis (LCA) report was redacted only to the extent required to

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protect confidential business information (“CBI”) as defined in CARB’s LCFS regulation at 17 CCR §95488.8(c). No emissions data has been redacted and the application is in full compliance with CARB regulations and guidance regarding the process for a fuel pathway applicant to follow in the designation of CBI. While CBI has been redacted from the application as authorized by California law, the application still contains information sufficient to evaluate the underlying carbon intensity calculations or modeling.

CARB’s Staff Summary provided an overview of the pathway and the facility, herd size, genset model and capacity, efficiency of electricity production, and manure management practices both pre- and post-digestion. Permit for the engine-genset is also included in the publicly posted application package to ensure the public is provided convenient access to information regarding air quality. The utility invoices, electricity bills, other monthly data and the CA-GREET Model input values are designated as trade secret, market sensitive or otherwise confidential by the applicant and are appropriately redacted as CBI. All confidential data and supporting documentation were independently reviewed by CARB-accredited third-party verification bodies.

The Staff Summary also provides a description of the Fuel Type Pathways at pages 2-3. At pages 3-4, the Staff Summary states, “Staff has reviewed the application and has replicated, using the Tier 2 modified version of the Simplified CI Calculator, the CI value calculated by the applicant. First Environment, Inc. (H3-20-009) submitted a positive validation statement.”

In addition to the summary and description provided by the Staff Summary, the documents entitled “Pathway Description for Electricity from Biogas for Electric Vehicle Charging in California” and the “Modifications to Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure Applying to Generation of Electricity from Biomethane- Manure Component” provide explicit detail regarding the precise and robust modeling used to calculate the carbon intensity value.

Thus, the publicly available information was sufficient for stakeholders to evaluate the proposed pathway and Commenter did not identify any factual or methodological error in the Application.

Comment No. 2. Environmental Issues with these Dairy CAFOS are Unaddressed

With a herd size of 1500, New Hope Dairy is a concentrated animal feeding operation, or CAFO. CAFOs contribute to both local and regional environmental problems, including but not limited to local air quality problems, discharge of nitrate to groundwater, and nutrient runoff that pollutes local streams and rivers. CARB must verify that each applicant is conforming with all mandated environmental requirements, and that the applicant is not polluting local air and water quality, prior to approving any application and must incorporate reporting procedures that ensure ongoing compliance with legal mandates.

Response:

The comments on water quality and groundwater contamination do not evidence any factual or methodological error of the Application. The New Hope Dairy digester project is in compliance with all mandated environmental requirements and all reporting requirements. Furthermore, the Commenter does not provide authority or support for the assertions contained in this comment and misstates the obligation imposed on the Applicant and CARB under the LCFS regulation.

The Application included the permit to operate issued to New Hope Dairy by Sacramento Metropolitan Air Quality Management District on September 24, 2020.

The dairy farm, animals, manure lagoon, land application of manure, and all the other practices whose environmental impacts the Commenter is concerned about are existing agriculture operations that predate the dairy digester project. These facilities and practices are permitted by the applicable regulatory authorities and their impacts (if any) occur with or without the presence of the digester. The digester proposed by the Application captures existing air emissions from an existing uncovered lagoon or pond. This results in a negative Carbon Intensity (CI) as demonstrated in the unredacted calculations reflected in the Application. Thus, the digester project will reduce methane emissions reported in CO₂equivalent from existing pond.

The digester does create one new emissions source—a lean-burn internal combustion engine with selective catalytic reduction emissions control technology. This system includes the most current air emission reduction technology and is fully permitted by the Sacramento Metropolitan Air Quality Management District. It has successfully met various inspection, reporting, and testing requirements, and the jurisdictional regulator has determined it satisfies air quality requirements.

The Commenter appears to disagree with the presence of dairy farms or the policies of Sacramento County and the Regional Water Quality Control Board in allowing dairy farming but does not identify any inaccuracies in the pathway calculations or other factual or methodological errors in the Application.

Comment No 3. Climate Impacts of Methane Leaks

The analysis fails to take into consideration the climate impacts of methane leaks, including the cataclysmic impacts of methane blowouts involving gas infrastructure that have taken place throughout the country.

Response:

The New Hope dairy digester project utilizes biogas for small scale power generation on site and does not present a risk of a cataclysmic impact from a methane blowout involving gas infrastructure. A stringent level of methane monitoring and avoidance of fugitive methane emissions is required by Operating Condition #4 as stated by the Staff Summary at page 3: “Any quantity of biomethane metered as captured that cannot be demonstrated by meter records to have been destroyed, must be calculated by energy balance and accounted for in the CI as a fugitive methane emission if the calculated value exceeds the default 2% fugitive emission.” The methane is destroyed onsite by converting it into renewable electricity for use as a transportation fuel in zero emission electric vehicles thereby dramatically reducing or eliminating methane release to the atmosphere. The dairy digester project does not inject any natural gas onto any pipeline and as a result no gas pipeline infrastructure is involved.

The pathway is designed to calculate the voluntary reduction in emissions compared to the baseline conditions on the dairy. These baseline conditions are governed by applicable regulations that are not a part of the LCFS program. All emissions reductions claimed must be “additional to

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any legal requirement for the capture and destruction of biomethane” according to the LCFS regulation. The data presented demonstrates the digester project’s voluntary reductions below the dairy’s legal baseline conditions, meeting the requirements of the LCFS rule. If Commenter disagrees with the methodology of the LCFS regulation or believes that dairy farms should be more stringently regulated, there are other resources for them to pursue. This Application is not the appropriate forum.

The calculations of GHG emissions and CI reduction provided in the Application meet all LCFS Regulation requirements. Calculation of enteric fermentation as methane leaks is not included in the protocol as it can be easily manipulated by changing the animal diets.

Commenter expresses concern on methane leaks like in manure productions. A complete life cycle GHG emission or CI was calculated, and a life cycle assessment report (LCA Report) describing the New Hope dairy digester and associated electric generation was completed following the requirements of LCFS Regulation as identified in section 95488.7(a)(2). The GREET 3 model calculates the CI or life cycle GHG emissions associated with the manure in great detail with all inputs and variables. Computational algorithms were drawn from ARB’s Compliance Offset Protocol Livestock Projects, which has been in use since 2011 in partial fulfillment of the Global Warming Solutions Act of 2006 (AB32) that CARB reviewed and provided Applicants with a state- approved computation tool applying them to the case of LCFS electricity generated from dairy manure.

The concerns Commenter identifies are not germane to the calculations of CI in the pathway under consideration in the Application and do not identify any factual or methodological errors.

Comment No.4 Incentivized Production of Methane

This project and similar projects do not just undermine California’s climate and environmental justice goals, but actually incentivize increased production of methane (and the concomitant pollution that accompanies methane production). To the extent New Hope Dairy makes manure and waste management decisions to increase methane production – such as increasing herd size to increase, in whole or in part, manure production, opting out of solid separation to increase methane, sometimes taking in food wastes for digestion, and even opting for liquefied manure management instead of methods that prevent production of methane in the first place – they should not reap the benefits of the LCFS program which is intended to reduce greenhouse gases rather than incentivize production thereof.

Response:

This comment No. 4 is unsubstantiated. As described above, the New Hope Dairy digester project is not producing any methane, instead the project is capturing and destroying methane produced by traditional, legal, regulated manure handling practice. Due to the biochemical or anaerobic fermentation process of dairy manure methane is being captured and destroyed, the project is reducing greenhouse gas emissions. In the absence of this project and other similar projects, the methane produced from manure would be vented into the atmosphere. The benefit of this project and other similar projects has been confirmed by the California legislature through Senate Bill 1383 (2016). Not only is methane voluntarily captured at the dairy farm, but the methane is converted into renewable electricity for use as a transportation fuel in zero emission electric vehicles in SMUD’s Service Area and in California which has the additional benefit of



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decarbonizing thermal fleets or helping to achieve SMUD's carbon zero goal and reducing California's dependence on fossil fuels.

Under the LCFS Regulation dairy farms are not rewarded for increasing methane, but only for reducing methane emissions that would have occurred in the absence of the digester project. In addition, as discussed above, the dairy farm must, as part of the digester project, implement voluntary reductions of methane emissions over and above the legal requirements already placed upon their dairies.

The life-cycle CI calculation described in the LCA Report is a comparative life-cycle assessment, meaning it reports differences between the LCFS pathway (New Hope Dairy digester project electricity generation to charge EVs) and a counterfactual baseline that would have likely occurred without the fuel pathway. The New Hope Dairy digester project simply adds a cover to the conventional lagoon allowing the methane to be captured rather than released to the atmosphere.

Commenter has not identified any factual or methodological errors in the Application or process.

Conclusion:

SMUD appreciates the opportunity to respond to the comments pertaining to factual or methodological issues with the pathway Application for New Hope Dairy digester project. The Pathway Application meets the requirements of the LCFS Regulations and SMUD requests that the Executive Officer certify the pathway pursuant to §95488.7(d)(5)(B).

If the Executive Officer would like any further input or supporting information regarding these issues, please contact the undersigned and SMUD will promptly supplement this response. Thank you for the opportunity to respond to comments on New Hope Tier 2 electricity pathway application.

Sincerely,

A handwritten signature in black ink, appearing to read "Valentino Tiangco".

Valentino Tiangco, Ph.D.

Biomass Program Manager

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