Hammerschlag LLC

9 March 2021

Low Carbon Fuels Standard Program
California Air Resources Board

Dear LCFS Staff:

Please consider these comments on LCFS Tier 2 Pathway application number B0123, posted for public comment on March 5, 2021. Application number B0123 proposes two pathways B012301 covering Renewable Natural Gas (RNG) produced from food scraps and B012302 covering RNG produced form urban landscaping waste. The fuel producer is South San Francisco Scavenger Company, utilizing a digester incorporated in the Blue Line Transfer facility. I am writing to express three concerns regarding this application:

1. The LCA Report is incomplete;
2. Waste transport emissions are omitted; and
3. Substantiality for multiple pathways within one facility has not been demonstrated.

The LCA Report is Incomplete

LCFS §95488.7(a)(2) requires submittal of a Life Cycle Analysis Report (LCA Report) that includes the following sections:

- (A)(1) A description of the well-to-wheels fuel life cycle, including a discussion and schematic of the system boundary;
- (A)(2) A description of all feedstocks, including energy use, transport modes and distances, storage, and pre-processing;
- (A)(3) Any additional material inputs not covered by (A)(2);
- (A)(4) A description of transportation modes used throughout the fuel cycle;
- (A)(5) A description of all facilities and process units;
- (A)(6) A list of all combustion-powered equipment;
- (A)(7) A quantitative discussion of thermal and electrical energy consumption;
- (A)(8) A description of all co-products, byproducts, and waste products;
- (B)(1) A table showing CA-GREET3.0 input values entered by the applicant;
- (B)(2) A detailed discussion of all modifications made to the CA-GREET3.0 spreadsheet not described in (B)(1);
- (B)(3) Documentation of all CA-GREET3.0 values used;
- (B)(4) A description of all calculations performed outside the CA-GREET3.0 spreadsheet;
- C) Descriptions of all co-located facilities;
- D) A list of references;
- E) Process flow diagrams;
- F) A copy of the RFS Third Party Engineering Review Report; and
- G) A copy of the RFS Fuel Producer Co-products Report.

File *b0123_report.pdf* provided in the public posting is the LCA Report, authored by ICF. The LCA Report includes an adequate description of the well-to-wheels fuel cycle (A)(1), but without explicit discussion of the system boundary and without the required system boundary schematic. Item (A)(4) is covered only by an inference of "diesel emissions from trucking." Item (A)(7), the quantitative discussion of thermal and electrical energy consumption, likewise is covered by little more than an offhand mention of a "utility gas supply."

File *b0123_greet.pdf* provided in the public posting covers item (B)(2), and weakly covers item (B)(1).

Items (A)(6) the list of combustion powered equipment; (B)(3) documentation of CA-GREET3.0 values used; and (B)(4) description of calculations performed outside the CA-GREET3.0 spreadsheet are absent entirely. Items (A)(3), (D), (F) and (G) are also absent but possibly due to their nonexistence – in these cases a clear statement to that effect would be appreciated.

In summary, I would find this application to satisfy LCFS §95488.7(a)(2) if it were to add:

- Discussion and schematic of the system boundary per §95488.7(a)(2)(A)(1);
- A detailed description of feedstock transport as described in §95488.7(a)(2)(A)(4);
- A quantitative discussion of energy consumption as described in §95488.7(a)(2)(A)(7);
- A more complete table of CA-GREET3.0 input values as required by §95488.7(a)(2)(B)(1); and
- Addition of elements §95488.7(a)(2)(A)(3), (A)(6), (B)(3), (B)(4), (D), (F), and (G); or statements of their nonexistence when appropriate.

Transport Emissions Are Omitted

The LCA Report states (p.1), "The diesel emissions from trucking the feedstock to the digester have been excluded from the analysis since the digester is co-located with the transfer facility and no incremental trucking is required." This is structurally inconsistent with CA-GREET3.0, which includes rigorous accounting of feedstock transport emissions for all feedstocks. The *Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Organic Waste* instruction manual states for Field 2.4, "Enter monthly weighted average food scraps feedstock transport distance from the source to the digester facility for each month of operation," (p.5) and for Field 2.6, includes similar language regarding urban landscaping waste.

Nearly every prior, certified Tier 2 pathway that includes truck, rail, or marine transport of feedstocks meticulously accounts the associated emissions. Just as three recent examples, application B0080 accounts round trip trucking emissions of transporting creamery waste to a dairy digester; application B0119 accounts transport emissions from various, globally dispersed sources of animal tallow; and B0054 accounts transport of waste oil from over 100 different

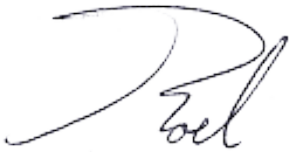
feedstock suppliers. In no applications that I have encountered have I seen the argument made that transport emissions should be excluded because they aren't "incremental."

No Demonstration of Substantiality

§95488.9(a)(1)(A) requires that when two pathways are based on "different inputs for the same feedstock-fuel combination processed within an operational data period at a single fuel production facility," a demonstration of substantiality is required. The applicant must compute a composite CI of all inputs taken together, and then demonstrate that each input's component CI is at least 5% lower than the composite CI.[1]

I find no further clarification in LCFS documentation regarding how to parse the ambiguous specification of "different inputs" versus "same feedstock." At least two certified applications report a composite CI: Gallo Cattle Co. (application B0089) which receives a combination of cattle manure and cheese plant wastewater in a single digester, and Bridge to Renewables (B0080) which receives a combination of cattle manure and creamery wastewater in a single digester. So operationally speaking at least, CARB appears to be applying the criterion to manifestly differentiable organic waste streams that are entering the same digester. This is exactly what is happening at the Blue Line Transfer facility, so I would expect to see a composite CI computed for this facility as well, along with a demonstration of substantiality for each of the two component CIs.

Respectfully submitted,



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[1] Or 1 gCO_2e/MJ lower if the component CI's absolute value is less than 20 gCO_2e/MJ. See §95488.9(a)(2) for details.