

September 17, 2024

Liane M. Randolph, Chair  
California Air Resources Board  
Low Carbon Fuel Standard  
1001 I St #2828  
Sacramento, CA 95814

**By electronic mail**

**Re: Tier 2 Pathway Application No. B0603**

Dear Chair Randolph:

I write further to the above-captioned application by GREENGASCO, LLC which seeks a Tier 2 Pathway (the “*Application*”) for a Texas-based dairy manure digester located at Hartley Farms LLC, 5537 FM281, Dumas, Texas 79029 (the “*Facility*”), which raises material regarding the precise methodology deployed by an out-of-state dairy digester facility uses to claim substantial reduction methane emissions given California Air Resources Board’s published rules and guidance on calculating baseline emissions.

My below comments reiterate comments made on a previous application for a Tier 2 Pathway by Oak Valley Energy, LLC (a copy of which is attached hereto as Exhibit A)

I herein seek to provide California Air Resources Board (“*CARB*”) with information highlighting the issues with this Application that are likely to create uncertainty around the “additionality” policy of California’s nationally-leading efforts to reduce methane emissions. More specifically, approved Tier 2 Pathways that claim methane abatement on greenfield and dry lot or solid storage baseline dairies that conflict with CARB’s established guidance and the requirements. Approval of the Application’s Tier 2 Pathway will, as with the application in Exhibit A, cast further doubt the additionality, integrity, reliability, and consistency of California’s Low Carbon Fuel Standard Program (“*LCFS*”) at large.

As discussed in further detail below, these issues contravene LCFS’s policy goals and, by favoring out-of-state dairies at the expense of California-based dairies, invite dairy digester developers to forum-shop to receive an economic advantage not available to California’s dairy farmers.

**A. Pathways for Out-of-State Dairies Warrant Heightened Scrutiny**

LCFS measures the emissions reductions of a given dairy digester facility by comparing the baseline emissions prior to the digester operation against the project’s emissions subsequent to operation of the digester. In the case of newly-constructed, or “greenfield,” dairy, CARB has guided applicants to review the emissions baseline for that dairy herd while assuming dairy manure handling practices that predominate in the State to discourage developers from constructing new, high methane emitting dairy projects that claim significant methane mitigation benefits for abating these previously non-existent, methane emissions.

California air and water permit regulations requires new dairy projects to construct and install emission mitigation technologies to address their methane footprint. Consequently, these new California dairy projects are ineligible to receive the benefits of LCFS because there is no “additionality” in building a new high -emitting facility; Tier 2 Pathways must reduce emissions from the status quo ante. Dairies located in other states, however, are seemingly (according to the discordance between CARB’s guidance and approved Tier 2 Pathways) not necessarily subject to this stricture.

In order to address this disparate treatment, CARB has required projects use manure management practices that predominate in the project's home state when determining the baseline emissions for a greenfield, dairy digester project. This guidance references the EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022 – Annexes (a copy of this table is attached hereto as Exhibit A).

CARB's guidance has provided historical certainty, ensuring true global warming benefits are realized and rewards retrofitting polluting dairies with digesters that has been seemingly undermined by recent approved Tier 2 Pathway applications. It has been helpful and instrumental in guiding dairies' assessing the viability of obtaining a Tier 2 Pathway and participating in LCFS.

However, the Application has been conveniently timed with respect to the new dairy to demonstrate methane abatement on paper when it should reference the dairy's EPA-documented solid storage and dry lot baseline.

### **B. Deficiencies in the Application**

The Application is for a dairy digester project sited in Texas. Texas, according to the EPA data referenced by CARB, is a predominantly low-methane emitting dairy jurisdiction as more than half of all dairies use solid storage (41%) or dry lot (10%); 58% of all Texas dairies have low methane baselines when accounting for dairies that do not have anaerobic digesters.

Google Earth imagery shows the Facility commenced construction in 2011 (images attached as Exhibit B) and has been continuously in construction in various phases through completion of the digesters and the dairy's final interconnection to a biogas gathering line. Notwithstanding the inconsistencies in the dates of the imagery and the dates cited in the Application, these satellite pictures indicate the Facility's greenfield status and the baseline claimed in the Application is inconsistent with the pre-project emissions that should apply to the Facility as a Texas-based project.

### **C. Request for Information and Clarification**

Given the preceding persistent issues (also identified in Exhibit C), as well as the continued growth of LCFS and the reliance of developers on the consistent, fair application of LCFS rules, CARB's guidance and clarification on addressing the emissions baseline and the in-state/out-of-state disparity is urgent and necessary for LCFS participants to engage in conduct consistent with LCFS policy aims when accounting for the LCFS policy aims of avoided methane and project additionality.

#### 1) Consistent Application of LCFS Rules to In-State and Out-of-State Dairy Digester Projects

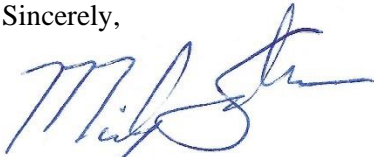
##### *Actions requested:*

- i) CARB should decline to approve the Application as it claims inaccurate and misleading methane reductions which depart from CARB's established practice in determining the Facility's appropriate emissions baseline.*
- ii) CARB should publish a detailed policy statement and guidance for LCFS applicants and verifiers on how to properly utilize the CA-GREET 3.0 model in calculating the avoided methane emissions (and carbon intensity scores) for upgrades and conversions of a low-methane baseline dairy to a higher-methane baseline dairy (i.e. from dry-lot manure management to liquid-manure management).*
- iii) CARB should define how to establish the baseline emissions for greenfield dairies and herd-relocations.*

- iv) CARB should establish a uniform standard for “additionality” in order to discourage dairy operators and investors from forum-shopping for jurisdictions that offer an economic advantage over California-sited projects.*
  - v) CARB should publicize activities of verifiers that are designed to exploit the imperfections of LCFS for their own financial gain.*
- 2) Applicant, the Application’s verifier, and/or CARB provide detailed information on the steps and calculations taken to establish the Facility’s baseline methane emissions to inform other Tier 2 Pathway applications.

***Action requested: Applicant should revise and resubmit application with the appropriate baseline for similarly situated projects in Texas using publicly available CARB guidance.***

Sincerely,



M. Stewart Salem  
M.Stewart.Salem@gmail.com

Copies to:

California Air Resources Board  
arbboard@arb.ca.gov

Rajinder Sahota  
Deputy Executive Officer - Climate Change & Research  
rajinder.sahota@arb.ca.gov

Matthew Botill  
Chief, Industrial Strategies Division  
matthew.botill@arb.ca.gov

**EXHIBIT A**

**EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022**

State	Dairy Cow Farms <sup>a</sup>								Dairy Heifer Facilities			
	Pasture, Range, Paddock	Daily Spread	Dry Lot	Solid Storage	Liquid/Slurry	Anaerobic Lagoon	Deep Pit	Anaerobic Digester	Daily Spread <sup>b</sup>	Dry Lot <sup>b</sup>	Liquid/Slurry <sup>b</sup>	Pasture, Range, Paddock <sup>b</sup>
Alabama	48	0	0	14	2	22	14	0	17	38	0	45
Alaska	25	12	0	26	5	9	22	0	6	90	1	4
Arizona	10	0	11	26	6	15	2	30	10	90	0	0
Arkansas	47	0	0	13	3	23	14	0	15	28	0	57
California	5	0	3	26	2	24	9	30	11	88	1	1
Colorado	11	0	11	41	5	30	2	0	1	98	0	1
Connecticut	15	3	0	16	6	32	26	3	43	51	0	6
Delaware	14	2	0	18	7	29	31	0	44	50	0	6
Florida	48	0	0	7	0	34	4	7	22	61	1	17
Georgia	48	0	0	9	1	36	6	0	18	42	0	40
Hawaii	4	0	4	27	2	54	9	0	0	99	1	1
Idaho	5	0	3	26	2	45	10	8	1	99	0	0
Illinois	24	0	0	23	2	33	18	1	8	87	0	5
Indiana	21	0	0	21	1	21	16	21	13	79	0	8
Iowa	20	0	0	21	2	40	16	1	10	83	0	6
Kansas	14	0	0	16	1	55	13	0	5	92	0	3
Kentucky	51	0	0	14	2	23	11	0	14	24	0	61
Louisiana	48	0	0	13	3	23	12	0	14	26	0	60
Maine	18	4	0	16	5	24	28	6	45	48	0	7
Maryland	21	4	0	16	6	23	29	0	44	49	0	7
Massachusetts	25	5	0	12	0	1	30	27	45	47	0	7
Michigan	11	3	0	22	5	34	22	4	6	91	0	3
Minnesota	16	6	0	24	5	21	23	6	10	84	0	6
Mississippi	50	0	0	14	2	16	11	6	15	28	0	57
Missouri	29	0	0	25	2	26	17	0	14	77	0	8
Montana	19	0	0	21	4	31	18	7	4	93	0	3
Nebraska	15	0	0	18	2	50	15	0	6	90	0	4
Nevada	11	0	0	14	2	61	13	0	0	99	0	0
New Hampshire	21	4	0	17	5	22	31	0	44	49	0	7
New Jersey	27	5	0	16	6	16	29	0	45	47	0	8
New Mexico	10	0	11	42	6	30	2	0	10	90	0	0
New York	14	3	0	15	0	34	25	9	45	48	0	7
North Carolina	48	0	0	10	2	31	9	0	15	31	0	54
North Dakota	18	0	0	19	3	44	16	0	11	83	0	6
Ohio	24	0	0	23	2	32	17	3	14	78	0	8
Oklahoma	11	0	8	41	5	23	12	0	6	94	0	0
Oregon	9	0	3	24	4	17	11	33	0	80	1	20
Pennsylvania	27	6	0	16	2	17	29	3	47	44	0	9
Rhode Island	29	6	0	17	5	14	30	0	47	44	0	9
South Carolina	45	0	0	10	2	33	11	0	15	31	0	54
South Dakota	14	0	0	16	2	53	14	1	8	87	0	5
Tennessee	48	0	0	12	2	26	11	0	15	26	0	59
Texas	11	0	10	41	5	18	3	12	8	92	0	0
Utah	12	0	9	40	3	28	7	1	1	98	0	1
Vermont	14	3	0	16	0	27	26	13	44	49	0	7
Virginia	49	0	0	12	1	26	11	2	15	28	0	57
Washington	8	0	3	25	3	46	10	6	0	83	1	17
West Virginia	29	6	0	17	5	13	30	0	45	48	0	7
Wisconsin	15	5	0	24	3	23	23	7	12	82	0	7
Wyoming	16	0	0	18	2	49	15	0	12	81	0	7

A-326 Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022

(Available at: <https://www.epa.gov/system/files/documents/2024-04/us-ghg-inventory-2024-annexes.pdf>)

## EXHIBIT B

### Satellite Imagery

Google Earth shows the Facility

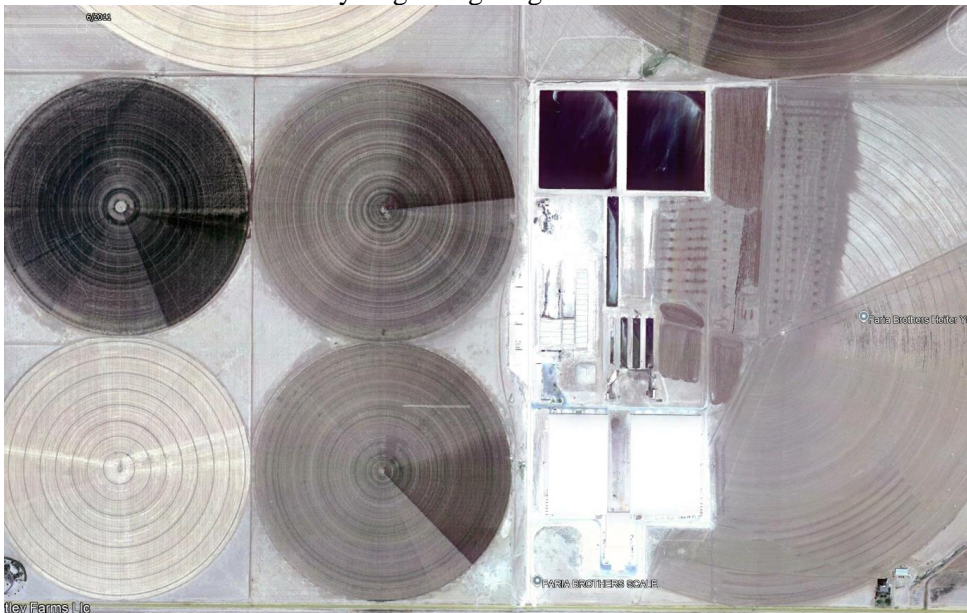
Below shows continuous construction of the new Hartley Farms dairy operation of 35,400 cows. Hartley Farms completed construction sometime in 2021 or 2022 and was able to capture biomethane in May 2022 after completion of the off-site upgrading and utility interconnection facilities.

Google Earth Time Machine Photographs

- 1) August 2008 Unimproved Farm Land



- 2) June 2011 New Greenfield Dairy Beginning Stages of Construction



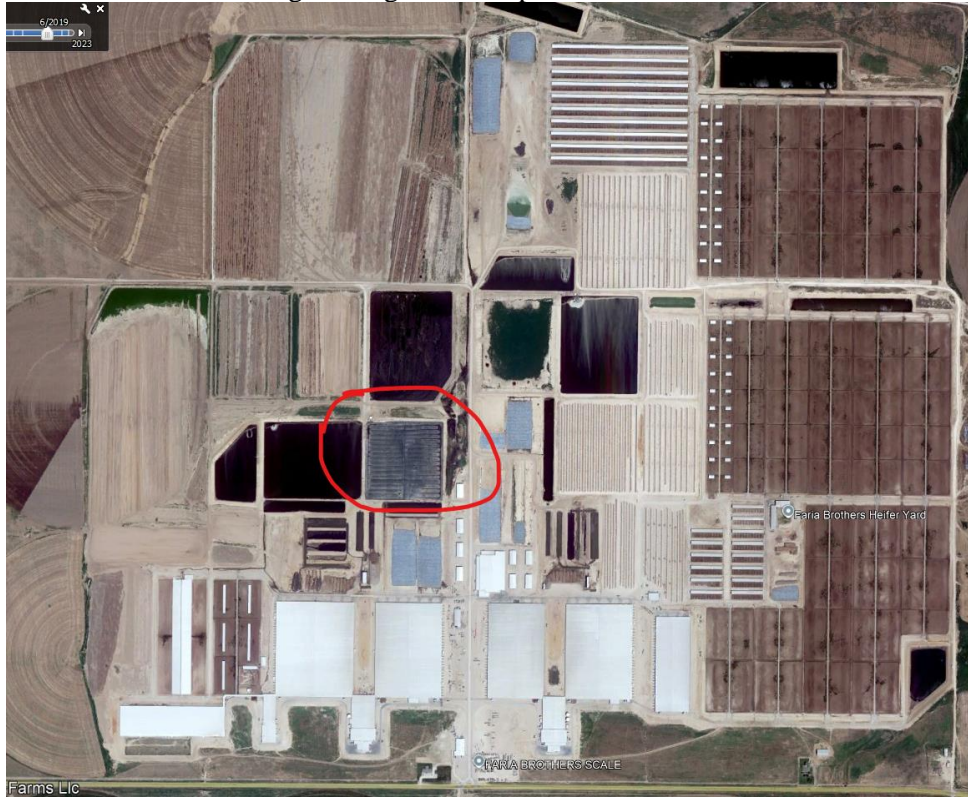
3) May 2013 New Dairy Continues In Construction



4) February 2015 New Dairy Nearing Completion



5) June 2019 First Covered Lagoon Digester Completed



6) July 2022 Second Covered Lagoon Digester Completed



7) September 2023 New Dairy Completed and Operational with Digesters





**EXHIBIT C**

**Previously Submitted Comments for Tier 2 Pathway for Oak Valley Energy, LLC**

July 19, 2024

Liane M. Randolph, Chair  
California Air Resources Board  
Low Carbon Fuel Standard  
1001 I St #2828  
Sacramento, CA 95814

**By electronic mail**

**Re: Tier 2 Pathway Application No. B0547; Response to Maas Energy Works, LLC**

Dear Chair Randolph:

I write further to the response provided by Maas Energy Works, LLC on behalf of Oak Valley Energy, LLC (“*Applicant*”) regarding the above-captioned application seeking a Tier 2 Pathway (the “*Application*”) for an Idaho-based dairy facility (the “*Facility*”).

Applicant’s response (the “*Response*”) did not respond to the “potential factual or methodological errors” identified in my comments and therefore did not satisfy Cal. Code Regs. Tit. 17, §95488.7. Also, the Response was filed June 18, 2024, five days after the end of the public response period, thus foreclosing an opportunity to address the inadequacy of the Response. I herein seek to provide California Air Resources Board (“*CARB*”) with additional information responsive to the Response, which highlights the continued deficiencies with the Application—deficiencies which, if not corrected, may create a proliferation of similarly defective applications and impair the future ability of California Air Resources Board to support California’s Carbon Fuel Standard (“*LCFS*”) consistent with its established policy goals.

As discussed in further detail below, these potential factual and methodological errors are inconsistent with carbon-intensity scores approved for other Tier 2 Pathway applications and invite jurisdiction-shopping to achieve valuable methane reductions not otherwise permitted within the State of California. Applicant, understandably, seeks to maximize the economic value of the Oak Valley dairy facility, but does so at the cost of domestic market participants and the integrity of LCFS as a whole.

**A. §95488.7 Requires a Detailed Response**

§95488.7 states that an Applicant must provide detailed responses to any comments which “pertain to potential factual or methodological errors...”. The Response did not address the potential factual and methodological errors raised in my comments on the Application, let alone provide the requisite detail. A detailed response from Applicant is therefore required by §95488.7, which the Response attempts to satisfy by plain assertions of fact.

A detailed response by Applicant is necessary for stakeholders to evaluate the impact of the extremely novel Tier 2 Pathway proposed for the Facility, as set forth in the Application, which materially deviates from CARB’s established precedent, and will have the unintended consequence of altering the commercial landscape for hundreds of other dairy digesters which are considering upgrades to, or herd relocations from, existing ultra-low methane-emission dry-lot dairy facilities. Approving a Tier 2 pathway for this and other similar projects may generate LCFS credits underpinned by few or none of the environmental benefits intended by LCFS.

At core, Applicant avails itself of the regulations of Idaho, which are less stringent than those imposed in California, which remains a national leader in environmental standards. By relying on the laws and rules

of Idaho, Applicant asserts a higher baseline emission than CARB would permit a similarly situated and California-sited dairy digester. More specifically, Applicant suggests that the Facility, originally permitted, built and operated for over a decade as an ultra-low methane-emission dry-lot dairy facility, may be properly expanded and converted into a high methane-emission liquid manure facility while simultaneously claiming methane-emission reductions by mitigating the newly created emissions resulting from such alterations to the Facility. The abatement of these newly created emissions seems aimed at creating additional and artificial financial benefits for Applicant, rather than to help satisfy LCFS's policy goals by creating additional environmental benefit; LCFS program requires "additionality" as a core metric to ascertain whether a proposed Tier 2 Pathway delivers actual environmental benefits.

Numerous greenfield dairy digester facilities have been proposed in states that chiefly utilize open-air, dry-lot manure management processes—an already best-in-class, ultra-low-methane emission practice—which may undermine the policy aims of LCFS. Dairy operators in several other states seek to use herd expansions or relocations which would have the same end result as the Application: an LCFS benefit for mitigating *newly created* methane emissions.

Converting (or expanding and relocating herds from) such open-air, dry-lot dairies to 100% housed animals with a liquid manure system is, of course, economically more attractive way to produce milk, but permitting this change in dairy processes would, according to LCFS, require that such modified facilities to first reach baseline methane emissions *before* receiving the additional methane reductions from such modifications.

#### **B. Baseline Emission Standards Differ Between In-State and Out-of-State Dairies**

Whether a dairy digester is in-state or out-of-state may have substantial, material impacts on the emissions baselines incorporated into emission scores. California-based dairies must satisfy requirements specific to California and not typically mandated of dairies in other states. As an Idaho dairy, the Facility enjoys numerous commercial and regulatory advantages not available to California dairies.

The stringent environmental requirements imposed on dairies in California by state agencies, counties, regional water boards, air districts, and other governmental instrumentalities often differ in substantial and material ways from those of other states.

California SB 1383 requires California dairies to voluntarily reduce their methane emissions by 40% by 2030 or face regulatory intervention. CARB's efforts have made good progress, but according to a recent by UC Davis,<sup>1</sup> California will require an 100 additional dairy digesters to meet this 40% goal. A dairy's proposal to convert from ultra-low methane-emission dry-lot dairy to a liquid manure process undermines statewide efforts to achieve of this 40% reduction goal and, in any event, such proposed modifications are generally not permitted or at highly discouraged by state agencies, including California Department of Food and Agriculture.

The California Department of Food and Agriculture explicitly excludes any digester program support to any dairy that proposes an increase in baseline emissions of greenhouse gases by increasing the herd size permit or changing existing manure management practices to those that increase greenhouse gas emissions, such as from dry-scrape to liquid manure systems.<sup>2</sup>

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<sup>1</sup> <https://clear.ucdavis.edu/sites/g/files/dgvnsk7876/files/inline-files/Meeting-the-Call-California-Pathway-to-Methane-Reduction.pdf>

<sup>2</sup> [https://www.cdffa.ca.gov/oefi/ddrdp/docs/2022\\_DDRDP\\_RGA\\_DRAFT.pdf](https://www.cdffa.ca.gov/oefi/ddrdp/docs/2022_DDRDP_RGA_DRAFT.pdf)

Whether a dairy digester is in-state or out-of-state may thus have a substantial and material impact on the emissions baselines which undergird emission scores used in evaluating the carbon intensity of dairy digester projects. California-based dairies have pre-determined and closely-regulated methane baselines and must satisfy requirements not mandated by dairies in many other states. As an Idaho dairy, the Facility enjoys numerous commercial benefits and regulatory liberties to freely change their operational processes without regard to resulting methane emissions, a freedom not available to California dairies. Consequently, out-of-state dairies may seek to gain financially from LCFS without providing the same “additionality” mandated by LCFS. As a consequence, the disparate treatment of non-California dairies places them at a substantial commercial advantage against California-based dairies.

### **C. Potential Factual or Methodological Error to be Addressed**

§95488.7(d)(5)(A) states that “comments pertaining to potential factual or methodological errors will require responses from the fuel pathway applicant.”

Maas’ response to my comments reads:

*We have carefully reviewed the public comments received on the Application and have determined that only one comment (referring to a formula discrepancy) refers to a factual or methodological error. Furthermore, we believe that after the California Air Resource Board (“CARB”) has sufficiently reviewed and approved our response, there is no need to make any changes to our pending application.*

This bare assertion denying the existence of any potential “factual or methodological error” in the Application (aside from their admission of a formula discrepancy) fails to address fundamental potential factual and methodological errors in the Application.

LCFS calculates emissions reductions based on the difference between (i) the emissions resulting from the voluntary installation of a digester at the Facility and (ii) the emissions that would otherwise have been emitted by the Facility had it continued to operate as a dry-lot farm. Instead of reducing emissions through digester installation, the Facility has instead likely increased its emission output as a result of the conversion into a liquid-storage dairy.

The Application states the Facility will generate over 300 million cubic feet/year of new methane (> 200,000 MMBtus/year), consistent with an expanded dairy cow herd size of approximately 11,000 milking head (excluding support stock). The significant quantity of new methane emissions resulting from the conversion of the Facility from a dry-lot to liquid-manure handling project when analyzed through the required CA-GREET 3.0 model, including its required digester leakage factors (2% minimum plus flare leakage and biogas to biomethane upgrader tail pipe emissions), indicate the Facility releases approximately 15 million cubic feet *more* methane emissions as a result of the conversion of the Facility from a dry-lot to liquid-manure facility. Therefore, the Facility’s avoided methane emissions is thus not a *reduction* of 300 million cubic feet (resulting in the tentative carbon-intensity score of -407), but rather an *increase* of 15 million cubic feet of methane emissions—and this is without accounting for the emissions flowing from the burn of natural gas in the new boilers required to operate the digester. Thus, the Application presents a potential major “factual or methodological error” requiring a detailed response from Applicant.

#### **D. Factual or Methodological Errors Requiring Response**

- 1) The provisional carbon-intensity score for the Pathways is -407.68. Applicant has not provided a detailed response explaining how the out-of-states Facilities identified in the Application can achieve such a significantly low carbon-intensity score using the dry-lot dairy emissions baseline.

***Response and action suggested: A second opinion from a different verifier or a detailed re-review by CARB Staff to ensure the score's accuracy or existing verifier should amend and resubmit the CA-GREET 3.0 calculator reflecting the dry-lot baseline.***

- 2) The permit for the Facility issued by the Idaho Department of Environmental Quality in July 2006 (attached hereto as Exhibit A and described in Exhibit B) (the "**Permit**") requires the dairy be a dry-lot dairy; additional Best Management Practice points were awarded, accounted for, and considered at the time of approval of the Facility's original dry-lot dairy permit.

***Response and action suggested: Disclosure of all permits and licenses which evidence that the Facility operated as a liquid-manure in compliance with all such permits and licenses.***

- 3) Historical satellite imagery of the Facility from Google Earth (attached hereto as Exhibit C and Exhibit D) indicates the Facility operated as a dry-lot dairy until 2016-2020; these images depict feed lanes with manure scraping by heavy machinery rather than liquid manure collection, all in compliance with, and required by, the Permit.

***Response and action suggested: Existing or substitute verifier should amend and resubmit the CA-GREET 3.0 calculator to reflect the dry-lot baseline and Applicant should provide copies of all permits and documentation evidencing that the Facility did not operate previously as a dry-lot dairy.***

- 4) Historical satellite imagery of the Facility from Google Earth (attached hereto as Exhibit C and Exhibit D) indicates the then-existing lagoon was small and functioned as an ordinary dairy lagoon for milk parlor washout.

***Response and action suggested: Existing or substitute verifier should amend and resubmit the CA-GREET 3.0 calculator to reflect the dry-lot baseline and Applicant should provide documentary evidence that the then-existing lagoon was used as a full dairy digester flush-lagoon and not for washout or other non-flush-lagoon purposes.***

- 5) Oak Valley Dairy 1 & 4 operated as dry-lot dairies, an already relatively environmentally friendly process for manure management until the covered digesters and lagoons were completed in 2021.

***Action suggested: Existing or substitute verifier should amend and resubmit the CA-GREET 3.0 calculator to reflect the dry-lot baseline and Applicant should submit documentary evidence that the Facility actually operated as a regulatorily-compliant liquid-storage facility since 2006.***

- 6) Please could CARB help me understand the baseline scores used for the Facilities and how and why the CARB Staff Summary proposes or CI scores which are less than -400 for a non-greenfield project, and if CARB Staff made a determination that Oak Valley was indeed a greenfield project notwithstanding its 15-years of operation as a dry lot?

*No action. Maas confirmed the Facility is not considered a Greenfield Dairy (“Regarding the questions raised by M. Stewart Salem, Oak Valley Dairy is not modeled as a greenfield project.”)*

#### **E. Request for Clarity from CARB in Calculating Baseline Emissions**

A strength of CARB as a national and international leader in transportation fuel emission regulations is in the certainty, consistency, and reliability of the LCFS program to accurately credit generators for producing renewable transportation fuels. The Application and Staff Summary seem to endorse crediting out-of-state dry-lot dairy facilities in a manner which raises questions as to the “additionality” offered by such facilities.

LCFS participants, LCFS itself, and the public would benefit from CARB clarifying best practices for reliably and consistently calculating baseline emissions of dairy facilities seeking Tier 2 Pathway approval, particularly as applied to out-of-state dry-lot dairies. Approval of the Application may inadvertently set precedent inviting LCFS participants to forum-shop and seek to maximize their economic benefits by implementing dairy digester operations in other states without the stringent and effective environmental regulations in California and without the additionality contemplated by LCFS.

Approval of the Application incentivizes out-of-state regulators to create the mere appearance of voluntary methane emission mitigation and extract value from California’s LCFS program without subjecting those dairies to the stringent requirements and policies aims facing California dairies. Moreover, the dairy upgrade to a liquid-manure processes in the Application is apparently contemporaneous with a permit to add a methane mitigation project that is conveniently untethered to any regulatory requirement. In combination, the alleged methane emission reductions in the Application rely on an incorrect baseline and gloss over the absence of a regulatory requirement for best-available methane control technology.

Instead of investing in California-sited dairies, operators may instead construct digesters in states which, by dint of the availability of laxer regulatory landscapes in such states, offer greater economic benefits than would be available in California. Moreover, dairy operators account for numerous commercial and economic factors in deciding when and how to convert or upgrade their facilities, which require that such operators have a clear-eyed view of the regulatory landscape and its impact on their competitors when evaluating whether to invest in such upgrades—especially where such landscape may favor investing in facilities located in outside California.

*Action suggested: CARB should publish a detailed policy statement and guidance to: i) define how LCFS applicants and verifiers should utilize the CA-GREET 3.0 model to calculate the avoided methane emissions and fuel carbon intensity scores for upgrades and conversions of a low-methane baseline dairy to a higher-methane baseline dairy—including from a dry-lot dairy to a liquid-manure dairy; ii) establish a uniform standard for “additionality” to discourage dairy operators and investors from forum-shopping for economically advantageous regulatory regimes outside California; and iii) define how to establish the baseline emissions for greenfield dairies and herd-relocations to a greenfield dairies.*

The efficacy of LCFS in meeting California’s climate goals rests on the credibility and integrity of the program. Providing detailed responses to the concerns raised in this letter regarding the Application and

by CARB publishing the requested guidance will aid in supporting the legitimacy, reliability, and authority offered by LCFS and further the program's policy aims.

Sincerely,

A handwritten signature in blue ink, appearing to read "M. Stewart Salem". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

M. Stewart Salem  
M.Stewart.Salem@gmail.com

Copies to:

California Air Resources Board  
arbboard@arb.ca.gov

Rajinder Sahota  
Deputy Executive Officer - Climate Change & Research  
rajinder.sahota@arb.ca.gov

Matthew Botill  
Chief, Industrial Strategies Division  
matthew.botill@arb.ca.gov

California Air Resources Board  
arbboard@arb.ca.gov

## EXHIBIT A

### Original Enabling Dairy Permit



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 NORTH HILTON • BOISE, IDAHO 83706 • (208) 373-0502

JAMES E. RISCH, GOVERNOR  
TONI HARDESTY, DIRECTOR

July 12, 2006

**Certified Mail No. 7005 1160 0000 1550 6193**

Mike and Sarah Aardema  
4109 Hidden Lakes Dr.  
Kimberly, ID 83341

RE: Permit by Rule Registration Notification-PR-<sup>06</sup>090421

Dear Mike and Sarah:

The Idaho Department of Environmental Quality (DEQ) received a Permit by Rule Registration form for a dairy farm from **Oak Valley Dairy** on July 4, 2006. The registration contains the following information:

1. Mike and Sara Aardema  
Oak Valley Dairy  
4109 Hidden Lakes Dr.  
Kimberly, ID 83341  
208-280-6453
2. NUMBER OF COWS: 4,500 OR ANIMAL UNITS: 0,
3. **PERCENTAGE OF FARM THAT IS DRY LOT: 100%,  
FREESTALL SCRAPE: 0, FREESTALL FLUSH: 0**
4. BEST MANAGEMENT PRACTICES (BMPs) EMPLOYED TO TOTAL 27 POINTS  
INCLUDE THE FOLLOWING: 47

Your registration for Permit by Rule is in our files. We recommend that you maintain a copy of this letter and a copy of the enclosed registration form for your records. Additional information and guidance regarding your permit is available at [http://www.deq.idaho.gov/air/permits\\_forms/permitting/pbr\\_dairies.cfm](http://www.deq.idaho.gov/air/permits_forms/permitting/pbr_dairies.cfm)

Please be advised that you must comply with Section 764 of the Rules for the Control of Ammonia from Dairy Farms by employing the requisite point total of BMPs. These Rules are located within the Rules for the Control of Air Pollution in Idaho. You can download a copy of the rules by visiting the rules page on DEQ's web site at [http://www.deq.idaho.gov/rules/admin\\_rules.cfm](http://www.deq.idaho.gov/rules/admin_rules.cfm).

(Available at <https://www2.deq.idaho.gov/admin/LEIA/api/document/download/9737>)



## **EXHIBIT B**

### **Permit History**

Google Earth shows the Facility was constructed between 2006 and 2009 and operated as a 100% dry-lot dairy (in compliance with its July 12, 2006 permit) for more than a decade (2009 to 2020) and that by October 2020, the Facility began construction on the first of four cross-vent barns that house dairy cows, that converted the dairy from a dry-lot to liquid-manure handling project. This expansion and conversion seems to have been substantially completed in 2022.

The AIR PERMIT TO CONSTRUCT APPLICATION FOR OAK VALLEY ENERGY DIGESTER PROJECT, Burley, ID. Built by Maas Energy Works, Inc. APPLICATION PREPARED BY: KRISTIN NEIBLING (208) 420-0144. [KRIS.NEIBLING@GMAIL.COM](mailto:KRIS.NEIBLING@GMAIL.COM), NEIBLING ENVIRONMENTAL CONSULTING, KIMBERLY, ID. APPLICATION SUBMITTAL DATE: MAY 21, 2021

The final permit to construct the liquid-manure project OAK VALLEY ENERGY DIGESTER PROJECT is dated October 28, 2021, Application Scope P-2021.0024. This was the initial PTC to install and operate above ground covered digester tanks and anaerobic covered lagoon digesters, a natural gas fired water heater (boiler), and a flare. Construction was completed in 2022.

Google Maps images in [Exhibit C](#) and [Exhibit D](#), taken from the same location show the transformation from an open-air, dry-lot dairy permitted for 4,500 total cows in 2012, to the partially-completed cross-vent housing accommodating an estimated 10,000 dairy cows, plus support stock with liquid manure handling, in August of 2021.

**EXHIBIT C**

**Satellite Photography Confirming Dairy Conversion Simultaneous with Digester Addition**

3-2007 Google Earth: Dairy Starts Construction under 100% Dry Lot Permit



6-2016 Google Earth: Still Operating as a Dry Lot Dairy



**10-2020 Google Earth: First Cross Vent Bern Installed Commences Conversion to Liquid Manure**



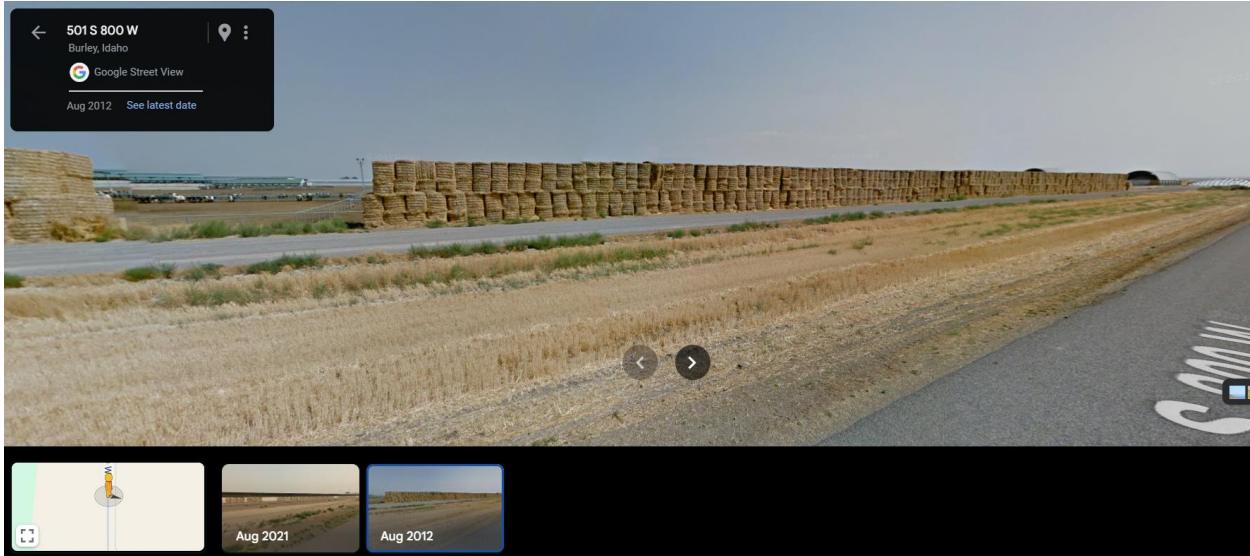
**9-2022 Google Earth Conversion to Liquid Manure Complete and Digesters Installed**



## EXHIBIT D

### Google Drive-By Photography Confirming Dairy Conversion Simultaneous with Digester

August 2012 – Open air dry lot dairy visible in background.



August 2021 – Cross vented animal housing installed, requiring liquid manure handling

