

STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 24-2797-PET

Petition of Vermont Renewable Gas, LLC for a certificate of public good, pursuant to 30 V.S.A. § 248, to construct and operate a 2.2 MW electric generation facility in Lyndon, Vermont	
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Case No. 24-3359-INV

Investigation of the standard-offer contract between Vermont Renewable Gas, LLC and the Standard Offer Facilitator	
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Order entered: 11/07/2024

ORDER REQUIRING FULL 30 V.S.A. § 248 PROCEDURE, STAYING CASE NO. 24-2797-PET, OPENING AN INVESTIGATION OF THE STANDARD-OFFER CONTRACT, AND REQUESTING INFORMATION AND BRIEFING

I. INTRODUCTION

These proceedings concern a petition filed, pursuant to 30 V.S.A. § 248(j), by Vermont Renewable Gas, LLC (“VRG”) requesting a certificate of public good (“CPG”) to construct and operate a 2.2 MW electric generation facility in Lyndon, Vermont (the proposed “Facility”). A standard-offer contract for the Facility, as a “farm methane” plant, was executed between VRG and the Standard Offer Facilitator on August 28, 2023.¹

In today’s Order, the Vermont Public Utility Commission (“Commission”) determines that the public interest will be best served by using the full procedures of 30 V.S.A. § 248 to review the petition for a CPG. The Commission is also opening a separate investigation, pursuant to 30 V.S.A. §§ 209(a)(8) and 8005a(b)-(d), to review whether the Facility is eligible for a standard-offer contract outside the cumulative capacity limit of the standard-offer program as a plant using methane derived from an agricultural operation.

II. BACKGROUND AND PROCEDURAL HISTORY

On September 3, 2024, in Case No. 24-2797-PET, the petition was determined to be

¹ Standard-offer contract at Attachment F. A copy of the standard-offer contract can be found in Case No. 23A-3008.

administratively complete, and a deadline was established to submit comments on the question of whether the petition raises a significant issue with respect to the substantive criteria of 30 V.S.A. § 248.

The Commission also received several notices of intervention and motions to intervene that were previously addressed by the Hearing Officer in another order. The Town of Lyndon, the Town of St. Johnsbury, the Town of Lyndon Electric Department, and two adjoining neighbors have been granted party status. Most of these parties supported review under 30 V.S.A. § 248, with an opportunity for a public hearing.

On October 7, 2024, the Vermont Department of Public Service (“Department”) filed comments stating that the procedures authorized under § 248(j) are inadequate to satisfy the public interest in this case, and recommending review of the Facility under 30 V.S.A. § 248.

On October 7, 2024, the Vermont Agency of Natural Resources (“ANR”) filed comments stating that the Facility demonstrates compliance with the Biomass Renewability Energy Standard (Title 30, Chapter 89 of the Vermont Statutes Annotated) and ANR’s rule establishing a Biomass Renewable Energy Standard under 10 V.S.A. §2751. ANR also stated that it does not object to a hearing request made by the other parties.

On October 8, 2024, the Vermont Agency of Agriculture, Food, and Markets (“AAF”) filed comments on the Facility and proposed certain conditions in any CPG that issues for the Facility to ensure that the Facility will not cause undue adverse impacts on primary agricultural soils.

The Commission received several public comments requesting opportunities for public participation and requesting review under 30 V.S.A. § 248, with an opportunity for a public hearing.

On October 16, 2024, VRG filed a response arguing that the Commission should review the Facility under the Section 248(j), as the petition was filed. VRG stated that it has engaged in extensive public outreach and remains willing to participate in a public information session and public hearing if required. VRG argued that a full evidentiary process would impose substantial costs and that subjecting a facility to a full Section 248 review because it is a new technology would discourage investment in innovative renewable energy projects.

III. REVIEW UNDER SECTION 248

The Commission may issue a certificate of public good without the notice and hearings otherwise required by Section 248, if the Commission finds that:

- (A) approval is sought for construction of facilities described in subdivision (a)(2) or (3) of this section;
- (B) such facilities will be of limited size and scope;
- (C) the petition does not raise a significant issue with respect to the substantive criteria of [Section 248]; and
- (D) the public interest is satisfied by the procedures authorized by this subsection.²

The Commission received several requests, from members of the public and multiple parties, including the Department, the Town of Lyndon, and the Town of St. Johnsbury, for a full Section 248 review, with an opportunity for a public hearing.

The Facility will convert an organic feedstock into a synthetic fuel gas through a high-temperature ablative pyrolysis process and the gas will then be used to produce electricity.³ The Facility uses a new technology not previously installed or operated in Vermont. The Facility will receive deliveries of feedstock from the surrounding area and will require an air pollution permit to control emissions through use of selective catalytic reduction and a baghouse filter.⁴ These features lead us to conclude that the Facility is not of limited scope. The petition raises significant issues with respect to the Section 248 criteria, including Section 248(b)(1), (3), and (5) because of the Facility's potential impacts on surrounding areas and the natural environment.

Turning to our consideration of the public interest, the Commission has received a significant number of public comments, and requests from the Department, the Town of Lyndon, and the Town of St. Johnsbury asking for a review using the full procedures of Section 248. Given the significant issues raised under Section 248, the number of parties in the case, and the substantial interest in the proceeding, we conclude that the public interest is not satisfied by the procedures authorized by Section 248(j).

Accordingly, in Case No. 24-2797-PET, the Commission will conduct a review under the

² 30 V.S.A. § 248(j)(1).

³ Alexander Skorokhodov, VRG ("Skorokhodov") pf. at 4-19; exh. VRG-AS-8.

⁴ Eric Kingsley, VRG ("Kingsley") pf. at 3-5; Maura Hawkins, VRG ("Hawkins") pf. at 4; exhs. VRG-AS-8 and VRG-MH-2.

full procedures of Section 248.⁵ As discussed further below, the Commission is also opening an investigation into the Facility's standard-offer contract. The outcome of that investigation could have a significant impact on the scope of the Section 248 review.⁶ Therefore, Case No. 24-2797-PET is stayed until the standard-offer contract investigation is completed.⁷

IV. NOTICE OF INVESTIGATION OF THE STANDARD-OFFER CONTRACT

The statute governing the Standard Offer Program establishes a mandate for purchases from specific categories of renewable energy plants. These categories include “methane derived from a landfill; solar power; wind power . . . hydroelectric power; and biomass power using a fuel other than methane derived from an agricultural operation or landfill.”⁸ The statute limits the cumulative capacity of standard-offer plants that may receive a contract, except that “[p]lants using methane derived from an agricultural operation” are outside the program's capacity limits.⁹

The contract price of most standard-offer plants is determined by a market-based mechanism.¹⁰ However, for plants using methane derived from an agricultural operation, the Commission has established a technology-specific price.¹¹ Vermont law also permits a plant using methane from agricultural operations to retain ownership of renewable energy credits generated by the plant, which is a significant financial benefit for the plant owner.¹²

The Commission has established a price of \$0.145 \$/kWh for energy and capacity produced by “farm methane” plants with a plant capacity greater than 150 kW.¹³ The Facility was awarded a contract pursuant to Section 8005a(d). Attachments A and F of the Facility's contract state that the Facility is a “farm methane gas digester plant” and contain the price for

⁵ Under Section 248(a)(4)(B), the Commission must hold evidentiary hearings in which contested issues remain or when any party requests that an evidentiary hearing be held. In the event a case is fully resolved, and no party requests a hearing, the Commission may exercise its discretion and determine that an evidentiary hearing is not necessary.

⁶ For example, if the Facility is not a standard-offer facility, then VRG would need to submit additional information addressing whether the Facility would provide an economic benefit to the State and its residents under Section 248(b)(4). The outcome of the standard-offer contract investigation may also affect the Commission's evaluation of the Facility under the criteria of Sections 248(b)(2) and (7).

⁷ Determinations on any outstanding motions to intervene will be conducted during the stay.

⁸ 30 V.S.A. § 8005a(c)(2).

⁹ 30 V.S.A. § 8005a(d).

¹⁰ 30 V.S.A. § 8005a(f)(1).

¹¹ 30 V.S.A. § 8005a(f)(2)(B).

¹² 30 V.S.A. § 8005a(f)(3).

¹³ Case No. 23-1860-INV, Order of 8/8/23.

farm methane plants.¹⁴ Thus, determining the appropriate categorization of the Facility within the Standard Offer Program's various fuel sources is essential because the Facility would not be eligible for a standard-offer contract if it is not a plant using methane derived from an agricultural operation.¹⁵

Section 8005a(d) has been previously interpreted as applying to so called "cow power" plants that use an anaerobic digester to produce methane.¹⁶ This understanding is reflected in the Commission's use of the costs of constructing and operating a methane digester on a farm in its determination of a technology.¹⁷ The Standard Offer Program has treated "farm methane" plants as a category of plants distinct from other types of plants using biomass, such as plants that produce energy through the combustion of woody biomass.¹⁸

Section 248(q)(1) also contains specific requirements for plants using methane derived from an agricultural operation, and the statute may require that such plants derive their methane from an anaerobic digester. The statute states that for purposes of Section 248, "'biogas' means a gas resulting from the action of microorganisms on organic material such as manure or food processing waste."¹⁹ Similarly, Vermont law's definition of "renewable energy" contemplates that methane will be considered renewable when it is produced by "anaerobic digestion."²⁰

In summary, the Facility is the first plant of its kind to be proposed as a farm methane plant under Section 8005a(d). VRG's proposed fast ablative pyrolysis process could be characterized as the combustion of woody biomass instead of methane derived from an agricultural operation. It is the Commission's understanding that the gases produced by pyrolysis may contain significant quantities of combustible gases other than methane and may be

¹⁴ The contract's plant description uses the term "digester." Leaving aside the question of whether the Facility qualifies as a "plant using methane derived from an agricultural operation," it is not clear that this description is accurate because the Facility would not use a digester.

¹⁵ Contracts for plants within the program's cumulative capacity cap are awarded through a competitive solicitation process. The last solicitation was completed in 2022, and no future solicitations are planned at this time.

¹⁶ The use of anaerobic digesters that convert cow manure into methane is a technology with a long history in Vermont. *See Petition of Foster Brothers Farm Inc. for a certificate of public good under 30 V.S.A. Section 248 authorizing the construction of an electric generation facility and related switchgear on the Foster Brothers Farm in the Town of Middlebury, Vermont*, Docket No. 4585, Order of 11/6/81 (approving construction of a 150-kW electric generation facility using methane produced by a digester on a farm).

¹⁷ Investigation Re: Establishment of a Standard Offer Program for Qualifying Sustainably Priced Energy Enterprise Development ("SPEED") Resources, Docket 7533, Order of 10/28/09 at 5.

¹⁸ *Id.*; see also 30 V.S.A. § 8005a(d).

¹⁹ Section 248(q)(4).

²⁰ 30 V.S.A. § 8002(21)(A).

qualitatively different than the biogas produced by an anaerobic digester. The Commission is opening this investigation to determine whether the statutes relevant to “farm methane” plants apply to plants using a fast ablative pyrolysis reactor without an anaerobic digester and therefore should be outside the Standard Offer Program’s capacity cap under Section 8005a(d).

The ambiguity of the Facility’s classification is reflected in the filings made in the Section 248 case. For example, VRG’s witness addresses the Facility’s compliance with Section 248(b)(11), which establishes efficiency requirements for woody biomass facilities. Similarly, ANR’s comments, on October 7, 2024, classify the Facility under the biomass category of the Standard Offer Program. Based on our review of the testimony and exhibits, we find that VRG has not adequately demonstrated that the Facility is eligible for the farm methane category under the Standard Offer Program.

Therefore, the Commission is opening an investigation to better understand the technical details of the Facility so that the Commission can determine whether the Facility is consistent with the relevant statutory construct that excludes plants using methane derived from an agricultural operation from the Standard Offer Program’s capacity cap. The Commission is also interested in whether the biomass feedstock sources proposed by VRG, including waste from logging operations, constitute feedstock from agricultural operations.

V. REQUESTS FOR INFORMATION AND BRIEFING

A. Information Request

To help resolve the issues discussed above, VRG is directed to respond to the following information requests.

- (1) Page 2 of exhibit VRG-EK-1 states that the majority (at least 51%) of the biomass feedstock used at the Facility will come from sources consistent with the definition of farming, including operations engaged in the cultivation or use of land for growing fiber, Christmas trees, maple sap, and horticultural and orchard crops. The exhibit further states that most of the material will be sourced from logging residues generated from the harvesting of trees as fiber for higher-value uses (e.g., sawlogs, pulpwood) and the management of woodlands for maple sap production. Please provide more information on the feedstock referred to as “land for growing fiber,”

- including what type of trees or other resources are grown on this land and what percentage of the feedstock will be from this land. Please describe how the harvesting of trees as fiber is consistent with the definition of “farming” contained in 10 V.S.A. § 6001(22).
- (2) Page 7 of Skorokhodov’s testimony states that a high-temperature ablative pyrolysis system decomposes organic waste in an oxygen-free environment to produce a renewable fuel gas containing methane. Please describe the constituency of the fuel gas produced, identifying the types and percentage amounts of each gas produced, including the percentage of the fuel gas that is methane.
 - (3) Please compare the constituency of the fuel gas that would be produced by the Facility to the constituency of biogas produced by the organic decomposition of farm waste in an anaerobic digester.
 - (4) Page 9 of Skorokhodov’s testimony states that the Facility uses dual organics-to-energy reactor vessels. In the first vessel, the self-contained high temperature occurring in the reactor vessel extracts volatiles from the organic matter in an anaerobic environment, and in the second vessel, thermos-catalytic cracking of the volatiles occurs, creating a tar-free, high-heating-value fuel gas. Please provide additional information on the high-temperature ablative pyrolysis process, including the pressures, temperatures, and energy source needed for the process.
 - (5) Please describe how the pyrolysis process differs from combustion. Please address the risks of introducing accidental combustion of organic material due to contact with oxygen or high temperature, including what measures are enacted to achieve process control.

B. Request for Briefing

The Commission further requests legal briefing addressing whether farm-based feedstocks fed into a pyrolysis process meet the standard-offer category for renewable energy plants “using methane derived from an agricultural operation.”²¹ While Section 8005a does not

²¹ 30 V.S.A. § 8005a(d)(1). Under 30 V.S.A. § 8005a(d)(1), renewable plants using methane derived from an agricultural operation remain outside the cumulative capacity of the Standard Offer Program and are eligible for standard-offer contract upon request.

define renewable energy, it identifies technologies eligible for the Standard Offer Program.²² We request that the parties address the applicability and relevance of the portions of 30 V.S.A. §§ 248, 8002(21), and 8005a that deal with renewable energy plants using methane derived from an agricultural operation. We ask that parties' briefs address how or whether VRG's pyrolysis process is consistent with statutory intent, including whether farm-based feedstocks fed into pyrolysis process is more appropriately classified in the biomass category for the purposes of the Standard Offer Program.

In addition, parties' briefs should address how or whether the feedstocks proposed for the Facility meet the statutory definition of agricultural products, byproducts, or wastes. In past decisions implementing the Standard Offer Program, the Commission has been guided by the definition of "farming" contained in 10 V.S.A. § 6001(22). The Commission has required that 51% of the feedstocks come from agricultural operations to meet eligibility under the farm methane category.²³ The parties' briefs should address how or whether VRG's proposal to use fiber from timber production as a feedstock constitutes wastes from agricultural operations and is consistent with the definition of farming contained in statute.²⁴

VI. CONCLUSION AND SCHEDULE

For the reasons discussed above, the Commission is opening an investigation to review whether the Facility is eligible for a standard-offer contract for a plant using methane derived from agricultural operation. This proceeding is assigned Case No. 24-3359-INV. Notice of the case is being provided to the parties in Case No. 24-2797-PET, to VEPP Inc. (the Standard Offer Facilitator), and to the Vermont electric distribution utilities.

The deadline for VRG to submit testimony or exhibits in response to the Commission's information requests is November 21, 2024. The deadline for briefs on the Facility's eligibility under the Standard Offer Program is December 5, 2024. Reply briefs may be filed by December 12, 2024.

²² 30 V.S.A. § 8005a(c)(2) and (d)(1).

²³ See *Second Order Re Implementation Issues*, Docket 7533, Order of 10/28/09; *Order Re: Farm Methane Project Eligibility*, Docket 7533, Order of 3/28/11.


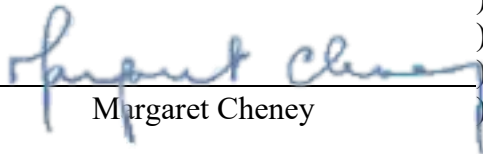
²⁴ 10 V.S.A. § 6001(22)(A)-(H).

IV. ORDER

IT IS HEREBY ORDERED, ADJUDGED, AND DECREED by the Public Utility Commission (“Commission”) of the State of Vermont that:


1. In Case No. 24-2797-PET, the petition of Vermont Renewable Gas, LLC, for a certificate of public good to construct and operate a 2.2 MW electric generation facility in Lyndon, Vermont, will be reviewed pursuant to 30 V.S.A. § 248.
2. The proceeding in Case No. 24-2797-PET is stayed. The case is remanded to the Hearing Officer.
3. Pursuant to 30 V.S.A. § 8005a(b)-(d), an investigation is opened in Case No. 24-3359-INV for the review of the standard-offer contract between Vermont Renewable Gas, LLC and the Standard Offer Facilitator, executed on August 28, 2023.
4. Pursuant to 30 V.S.A. §§ 209(a)(8) and 30 V.S.A. § 8, Mary Jo Krolewski, Utilities Analyst, is appointed to serve as Hearing Officer in the proceeding in Case No. 24-3359-INV.
5. In Case No. 24-3359-INV, the deadline for Vermont Renewable Gas, LLC, to submit testimony or exhibits in response to the Commission’s information requests is November 21, 2024. The deadline for briefs on the Facility’s eligibility under the Standard Offer Program is December 5, 2024. Reply briefs may be filed by December 12, 2024.

Dated at Montpelier, Vermont, this 7th day of November, 2024 .

 _____)	
Edward McNamara)	PUBLIC UTILITY
)	
)	COMMISSION
)	
)	OF VERMONT
 _____)	
Margaret Cheney)	

OFFICE OF THE CLERK

Filed: November 7, 2024

Attest: 

Clerk of the Commission

Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Commission (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: puc.clerk@vermont.gov)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Commission within 30 days. Appeal will not stay the effect of this Order, absent further order by this Commission or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Commission within 28 days of the date of this decision and Order.

PUC Case No. 24-2797-PET - SERVICE LIST

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^Motion to Intervene pending.