Petition of Vermont Gas Systems, Inc., for approval of an out-of-state renewable gas purchase contract with a term exceeding 5 years pursuant to 30 V.S.A. § 248(i)

VERMONT GAS SYSTEMS, INC’S PROPOSED FINDINGS OF FACT

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Department of Public Service:

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Intervenor:

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II. INTRODUCTION

Vermont Gas Systems, Inc. (“VGS” or “Company”) submits the following Proposed Findings of Fact in support of its request pursuant to 30 V.S.A. § 248(i) for approval of a long-term Renewable Natural Gas (“RNG”) contract between VGS and Archaea Energy Marketing LLC (“Archaea”). VGS’s Proposed Findings of Fact are organized as follows. First we provide the Procedural History of the case, followed by findings regarding (A) General Contract Terms, (B) Volume Optionality, (C) Renewable Transportation Market Optionality, (D) Contract Management and Rate Impacts, (E) The Department’s Recommendation and proposed condition, and (F) the Environmental Benefits of the Contract.

III. PROCEDURAL HISTORY

On June 13, 2022, VGS filed a petition pursuant to 30 V.S.A. § 248(i) for approval of an agreement (the “Contract” or “Proposed Contract”) to purchase gas from outside the State for resale to firm-tariff customers for a period exceeding five years along with supporting Prefiled Testimony and Exhibits of Thomas Murray, and Todd Lawliss.

On June 13, 2022, VGS filed a Motion for Confidential Designation.

On June 14, 2022, the Vermont Public Utility Commission (the “Commission”) issued a Memorandum requesting the Department of Public Service (the “Department”) file recommendations regarding VGS’s Petition.

On June 16, 2022, VGS filed a Motion for Approval of Protective Agreement.

On June 17, 2022, the Department filed a Notice of Appearance for Attorney Eric B. Guzman.

On June 28, 2022, VGS filed a Motion to Change Schedule, the Department filed a response to the Motion to Change Schedule and the Commission issued a Schedule Order.
On June 29, 2022, the Department filed a response to VGS’s Motion for Confidential Designation.

On July 5, 2022, the Department filed its recommendation.

On July 7, 2022, the Commission issued an Order re Protective Agreement.

On July 11, 2022, the Commission opened an investigation into the Contract, along with setting the case schedule, and scheduling a conference for July 21, 2022.

On July 13, 2022, the Department filed a Notice of Appearance for Attorney Michael Swain.

On July 19, 2022, VGS filed a Motion to Change Schedule.

On July 21, 2022, the Commission held a scheduling conference.

On July 22, 2022, VGS filed a Motion to Change Schedule.

On July 25, 2022, the Department Responded to VGS’s Motion to Change Schedule, the Commission issued a Scheduling Conference Order, and the Department filed a Notice of Appearance for Attorney James Porter.

On July 28, 2022, the Commission issued a Notice of Workshop scheduled on August 11, 2022.

On July 29, 2022, the Department served its First Set of Discovery Requests on VGS.

On July 29, 2022, Catherine Bock (“Intervenor”) filed a Motion to Intervene.

On August 1, 2022, the Commission issued a Scheduling Order.

On August 5, 2022, VGS and the Department filed responses to the Motion to Intervene indicating they did not oppose the intervention.

On August 5, 2022, VGS responded to the Department’s First Set of Discovery Requests.

On August 10, 2022, VGS filed its workshop presentation.
On August 11, 2022, the Commission held a public workshop.

On August 15, 2022, the Commission issued an Order denying the Motion to Intervene.

On August 15, 2022, VGS responded to the Department’s Second Set of Discovery Requests.

On August 15, 2022 and through the date of this order, over 100 public comments were filed with the Commission over the course of this investigation.

On August 16, 2022, VGS filed discovery attachments with the Commission on USB drives.

On August 17, 2022, Intervenor filed a Motion for Reconsideration Denying the Motion to Intervene.

On August 17, 2022, Intervenor served her First Set of Discovery Requests upon VGS.

On August 18, 2022, the Commission issued a Procedural Scheduling Order.

On August 22, 2022, VGS and the Department responded to the Motion for Reconsideration.

On August 25, 2022, the Commission issued an Order Granting the Motion to Reconsider Denying the Motion to Intervene and allowing Ms. Bock to intervene.

On August 26, 2022, Intervenor served her First Set of Discovery Requests upon VGS.

On August 26, 2022, the Department filed the Direct Testimony of witness Adam Jacobs.

On August 26, 2022, VGS filed a Proposed Amended Procedural Schedule.

On August 30, 2022, the Commission issued an Order approving the Amended Procedural Schedule.

On August 30, 2022, Intervenor Served her First Set of Discovery Requests upon the Department.
On September 1, 2022, the Department responded to Intervenor’s First Set of Discovery Requests.

On September 1, 2022, VGS responded to Intervenor’s First Set of Discovery Requests.

On September 2, 2022, Intervenor filed the Direct Testimony and Exhibits of witnesses Catherine Bock, Emily Grubert, and Geoffrey Gardner.

On September 6, 2022, VGS served its First Set of Discovery Requests upon Intervenor.

On September 7, 2022, the Commission issued a Notice of Evidentiary Hearing scheduled for September 20, 2022.

On September 9, 2022, Intervenor filed a Motion to Change Schedule.

On September 9, 2022, the Commission issued a Procedural Order Requesting Comments on the Schedule and Responses to the Motion to Change Schedule.

On September 12, 2022, VGS, the Department, and Intervenor filed Responses to the Request for Comments and Motion to Change Schedule.

On September 13, 2022, Intervenor Responded to VGS’s First Set of Discovery Requests.

On September 15, 2022, VGS Filed a Motion to Strike the Testimony of Witness Geoffrey Gardner.

On September 16, 2022, the Commission issued an Amended Notice of Evidentiary Hearing to be held on September 20, 2022.

On September 16, 2022, the Commission issued a Procedural Order Regarding Outstanding Motions and Logistics for the Evidentiary Hearing.

On September 16, 2022, VGS filed the Rebuttal Testimony of witness Gregory Morse.
On September 19, 2022, Intervenor Filed a Response to VGS’s Motion to Strike the Testimony of Witness Geoffrey Gardner.

On September 20, 2022, the Commission held an Evidentiary Hearing by videoconference, denied VGS’s Motion to Strike, and admitted other evidence.

On October 7, 2022, VGS, the Department, and Intervenor filed Initial Briefs and Proposed Findings of Fact.

On October 14, 2022, VGS, the Department, and Intervenor filed Reply Briefs.

IV. PROPOSED FINDINGS OF FACT

A. GENERAL CONTRACT TERMS

1. The Proposed Contract in this case provides VGS the opportunity to purchase RNG from outside the State for a term of 14.5 years for resale to firm-tariff customers through the incorporation of RNG in VGS’s overall retail supply through the Purchased Gas Adjustment as contemplated under VGS’s Alternative Regulation Plan (“ARP”).\(^1\) Lawliss pf. at 3.

2. Some volumes purchased under the Proposed Contract may be sold to firm or interruptible customers through VGS’s voluntary RNG program.\(^2\) Lawliss pf. at 3.

3. The Proposed Contract, like many VGS gas supply contracts, includes a North American Energy Standards Board (“NAESB”) base contract, which is the widely used template for terms and conditions in gas contracts. See Exhibit VGS-TL-1.

4. The Contract also includes a Transaction Confirmation (“TC”) that outlines the specifics of actual gas sales and delivery. See Confidential Exhibit VGS-TL-2. Confidential Exhibit VGS-TL-2 also includes an amendment to the TC with adjustments to timing and


5. The NAESB template is a standard industry form, a version of which VGS signs for many of its gas supply arrangements. It has been amended in this case to include “Special Provisions”, which include several minor modifications to the NAESB that clarify certain procedural aspects of the Contract. The special provisions section also includes VGS’s annual audit rights to have the facility and renewable attributes audited, as required by the Commission’s Order approving the RNG Program. Lawliss pf. at 4.

6. The Transaction Confirmation includes the Contract term, pricing, nomination obligations, delivery requirements, and other conditions specific to the actual flow of RNG. Lawliss pf. at 4.

7. The Contract term is 14.5 years with an option to extend an additional 5 years if both parties agree. Lawliss pf. at 5.

8. Each full year has a minimum contracted volume of 300,000 dekatherm ("DTH")\(^4\), which VGS will purchase from Archaea’s Seneca Landfill RNG plant in Waterloo, New York. The initial contract year will be less than half a calendar year, with an approximate contract volume of 130,000 DTH, in order to start each full “contract year” on November 1. Lawliss pf. at 5.

9. VGS will pay a price per dekatherm for the RNG plus the cost of delivery. The Contract price also has an escalation clause linked to the annual Consumer Price Index capped at 2%. These details are shown on Confidential Exhibit VGS-TL-2.

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\(^4\) One dekatherm is equivalent to 1 million British thermal units or 1 MMBtu.
10. The Contract has a delivery requirement, under which Archaea will need to secure contractual physical pipeline capacity to reflect delivery to VGS’s physical capacity at the Dawn natural gas hub in Ontario. Lawliss pf. at 5-6.

11. From Dawn, the RNG will be transported on VGS’s existing contracted pipeline capacity to VGS’s point of connection with TC Energy at the Canadian border between Phillipsburg, Quebec, and Highgate, Vermont. Lawliss pf. at 5-6.

12. Each year, prior to June 1, VGS will nominate the volumes that will be delivered to the Delivery Point for use in VGS’s supply portfolio, to be sold as part of VGS’s voluntary RNG program, or to be consumed through VGS’s internal use (building or gate stations). Lawliss pf. at 5-6.

B. **Volume Optionality**

13. The Contract includes two unique tools: an option to increase volumes and an option to resell volumes into the renewable transportation fuel markets. Murray pf. at 3-4.

14. The Contract provides a minimum RNG volume of 300,000 DTH per year, and also provides VGS the option to increase the RNG volume each year. Murray pf. at 3-4.

15. The Contract help VGS contribute to the State’s Global Warming Solutions Act requirements and its climate goals by advancing VGS’s effort to incorporate upwards of 2 billion cubic feet (“Bcf”) per year in alterative supply in VGS’s portfolio. Murray pf. at 3-4.

16. If VGS exercises the option to increase volumes under the Contract, the Contract could secure 50% of the non-fossil gas needed to meet VGS’s supply goal for 2030. Murray pf. at 4-5.

17. With these RNG volumes added to VGS’s existing RNG supply under other contracts, VGS will be on a path to supplying more than 13% of its retail sales with RNG. Murray pf. at 4-5.
18. Based on actual RNG supply under contract, VGS has one of the most aggressive RNG portfolios of any gas utility in the U.S. Murray pf. at 4-5.

19. The Contract’s volumetric optionality is consistent with VGS’s Alternative Regulation Plan. VGS’s ARP contemplates that VGS may include RNG as a component of its overall supply, stating that during “each year of this Plan, VGS may incrementally increase the amount of RNG under the Purchased Gas Adjustment (“PGA”) by up to 2% of VGS’s overall retail gas sales.” ⁵ Murray pf. at 5.

20. The ARP also contemplates that VGS may increase RNG at a slower rate based on factors such as the overall impact on rates and VGS’s competitive position. Murray pf. at 5.

21. This Contract has several features that fit well with the RNG feature of VGS’s ARP. If VGS exercises the option to increase volumes by 100,000 DTH per year, that amount will roughly equal 1% of VGS retail sales volumes. Murray pf. at 5.

22. Such volumes are well within the ARP allowance, and the Contract provides VGS with a structure that allows the Company to gradually ramp up RNG volumes and increase overall RNG volumes in a stable manner. Murray pf. at 5.

23. Conversely, the option also allows VGS not to increase RNG volumes based on the factors set forth in the VGS ARP. Accordingly, the Contract is precisely the kind of arrangement contemplated by VGS’s ARP. Murray pf. at 5.

C. **RENEWABLE TRANSPORTATION MARKET OPTIONALITY**

24. Under the Contract, VGS also has the option to elect to take all of the RNG volumes and add that RNG to its own supply portfolio or it may elect to take only a portion of

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⁵ ARP at 4.
the available volumes and sell the remainder in the renewable transportation fuel markets.

Murray pf. at 6.

25. For the volumes VGS adds to its portfolio, the Company pays the Contract price.

Murray pf. at 6.

26. For volumes that are sold in the renewable transportation fuel markets, VGS expects the wholesale price to be higher than its costs under the Contract, resulting in net revenue for VGS. Murray pf. at 6.

27. With the option to increase volumes or sell some or all volumes into the RTF markets, the Contract enables VGS to gradually pace the amount of RNG it includes in the VGS supply portfolio. Murray pf. at 6.

28. The RTF optionality of the Contract provides the Company the flexibility to gradually ramp up its own use of RNG as contemplated in VGS’s ARP while also offering a stable, relatively long-term contract price that is expected to be favorable over the term of the Contract. Murray pf. at 6.

29. These features of the Contract provide VGS with the opportunity to secure affordable RNG for its customers, while also protecting customers under the option to direct Archaea to sell all or a portion of the VGS volumes into the renewable transportation fuel market,7 which can mitigate costs for VGS customers because the revenue margin from renewable transportation fuel market transactions can reduce overall costs. Murray pf. at 6-7.

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6 Under the contract, Archaea would receive a small percentage of renewable transportation fuel revenues, which would be from the net proceeds above the original cost of the RNG. See Confidential Exhibit VGS-TL-2.

7 These markets include the Federal Renewable Fuels Standard (“RFS”) market, which transfers the Renewable Identification Numbers (“RINs”) associated with the RNG, and other markets like California’s Low Carbon Fuel Standard (“LCFS”). For more information, see https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard.
30. The RTF markets stem from federal and certain state policies that promoted RNG. Murray pf. at 7-8.

31. The Federal Renewable Fuel Standard\(^8\) is a program administered by the Environmental Protection Agency that requires transportation fuel refiners and producers to provide renewable fuels for a certain percentage of their annual volumes. Murray pf. at 7-8.

32. These companies can either produce the renewable fuel directly, purchase RINs associated with other renewable fuel production, or pay a penalty (i.e., an Alternative Compliance Payment). Murray pf. at 7-8.

33. Each year the EPA sets the obligations (known as Renewable Volume Obligations or “RVOs”) for these large transportation fuel producers. This program has created a marketplace\(^9\) for the sale of RINs, which these companies can use to satisfy their annual Renewable Volume Obligations. Murray pf. at 7-8.

34. The Low Carbon Fuel Standards are state-level programs in California, Washington, and Oregon that create an additional marketplace for RNG in the transportation fuel space. Murray pf. at 7-8.

35. California’s program has been in place for several years, while Washington’s and Oregon’s are just coming into existence. Under LCFS programs, RNG is assigned a Carbon Intensity (“CI”)\(^{10}\) value based on the lifecycle carbon benefits from the production and use of RNG as a transportation fuel. Murray pf. at 7-8.

\(^8\) For more information, see [https://www.epa.gov/renewable-fuel-standard-program/overview-renewable-fuel-standard](https://www.epa.gov/renewable-fuel-standard-program/overview-renewable-fuel-standard).


\(^{10}\) For more information, see [https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities](https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities).
36. The CI value translates into a ton of carbon avoided, and this carbon value is then traded in the various states’ cap and trade carbon markets. Murray pf. at 7-8.

37. Entities in those states that need to purchase carbon credits can purchase RNG-associated credits, thereby generating the RNG value stream. Murray pf. at 7-8.

38. The same molecule of RNG can generate both RINs, to satisfy the federal RFS obligations, and state-level LCFS credits, so long as it is used to fuel compressed natural gas (“CNG”) vehicles. Murray pf. at 7-8.

39. While the existing markets are well established federal and state programs, there is always a risk that shifts in policy and regulation could alter these programs. However, there has been an increase in these programs in other jurisdictions (including, for example, in Colorado, New York, and Massachusetts), which suggests that while current markets could shift or contract, new states will be creating additional markets. Murray pf. at 8.

In Canada, some RNG is being shipped to Europe (as Liquefied Natural Gas). Thus, VGS believes that even if some particular programs are altered, there will be new wholesale markets accessible to VGS through this Contract. Murray pf. at 8.

D. CONTRACT MANAGEMENT AND RATE IMPACTS

1. The cost per RNG molecule under the Contract is in the mid-range relative to other RNG molecules already in VGS’s portfolio, without accounting for the potential benefit of offsetting RNG costs through revenue received from selling RNG in the renewable transportation fuel market. Lawliss pf. at 6.

2. Thus, the rate impact of this supply is consistent with VGS’s existing RNG portfolio. Initially, rate impact is limited to 300,000 DTH, which is about 4% of VGS’s firm

11 Archaea, through their renewable transportation fuel market brokers, will be responsible for ensuring that any volumes sold into these markets meet the criteria and that the volumes were used to fuel CNG vehicles.
portfolio by volume. If it is fully utilized in the firm portfolio, it would result in an approximate 3.6% increase to VGS’s overall firm rates. Lawliss pf. at 6-7.

3. When accounting for renewable transportation fuel market revenues, this Contract will actually lower VGS’s Blended RNG Adder and will have a reduced impact to VGS’s overall rates. Lawliss pf. at 6-7.

4. While RNG remains at a premium to conventional natural gas resources, this Contract is a least-cost means for VGS to advance the State’s renewable energy commitments and GHG reductions through VGS’s supply choices. Lawliss pf. at 7.

5. The volumes at the price agreed upon under this Contract are consistent with the modeling in VGS’s 2020 Integrated Resource Plan (“IRP”), which showed potential rate impacts of increased blending of RNG into overall supply.12 Lawliss pf. at 7.

6. The IRP modeled three scenarios with the overall rate impact of RNG varying for each scenario depending on the price of the RNG, but showed generally that increasing overall RNG usage by 2% of total retail sales each year results in an average incremental annual increase to overall rates of 2.6%. Lawliss pf. at 7.

7. The Contract can also be managed consistent with VGS’s ARP, which allows for a 2% annual increase in RNG. Likewise, because this Contract provides RNG competitively priced compared to VGS’s overall RNG supply mix, this Contract will cause little to no increase in VGS’s voluntary RNG adder. Lawliss pf. at 8.

8. To verify RNG attributes, VGS will use the same process established in Docket 8667 for all RNG supply contracts, which includes an annual review by an Environmental Protection Agency Renewable Identification Number certified consulting group. This company

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will review the project, the production, the delivery pathway, and title to the attributes to ensure VGS has received all the RNG consistent with their contracts. Lawliss pf. at 8.

9. Each year, VGS will assess the renewable transportation fuel market prices and decide what volumes to nominate. VGS will determine what RNG volume to receive for its in-state portfolio taking several factors into account, including but not limited to: VGS’s progress toward its climate goals, the rate impact of gas supply costs, the price of RNG adder, the proceeds available from the renewable transportation fuel markets, the status of the overall natural gas markets, and other factors that will benefit VGS’s customers. Murray pf. 9-10.

10. VGS is committed to making these Contract management decisions in a fully transparent manner and has proposed a condition, discussed below, that addresses the Department’s interest in ensuring that the Contract provides a cost effective method to avoid carbon emissions. Murray pf. at 9-10.

11. Any net proceeds, the margin VGS receives from sales into the RTF markets, would be applied to the overall cost of RNG in VGS’s supply, effectively reducing the price of RNG for customers. The possibility of VGS selling RNG into the renewable transportation fuel markets was discussed briefly in Docket 8667.13 Murray pf. at 9.

12. These wholesale transactions are similar to the sale of Renewable Electric Credits in the electricity sector. In VGS’s case, if it purchases some RNG and sells some of these volumes at a higher price, it effectively reduces the cost of the RNG VGS purchases for its own portfolio. Murray pf. at 9.

13. This is also similar to how VGS uses asset management to offset gas supply costs currently. In these agreements, VGS enables marketers to sell unused VGS upstream pipeline

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13 See Supplemental Testimony of Thomas Murray, Docket No. 8667, at 10.
capacity and shares in the profits of those transactions. Any profits made on asset management are flowed back through the PGA to lower gas costs for customers. Likewise, any revenue from the renewable transportation fuel markets will be flowed back to customers to offset the price of RNG. As with all commodity costs, VGS customers pay what VGS pays to procure supply, no more and no less. Murray pf. at 9-10.

14. Volumes sold in the federal or out-of-state renewable transportation fuel markets will not be counted towards the Company’s in-state RNG portfolio, supporting its climate goals, or the State GHG reduction commitments. But VGS expects that by 2030, it will bring most, if not all, of the Archaea RNG volumes into VGS’s Vermont portfolio, rather than selling them externally. However, there may be scenarios based on market and policy conditions, among other factors, under which VGS would continue to sell into these markets. Murray pf. at 10.

15. VGS plans to take advantage of these markets while they are attractive to reduce RNG costs, but based on rate modeling scenarios, the Company is prepared to bring this RNG into its portfolio if the renewable transportation fuel markets do not generate significant margins. Murray pf. at 11.

16. Additionally, if there were a significant change in these markets, VGS may choose not to exercise the annual increase or delay these increases to a later year. Murray pf. at 11.

E. THE DEPARTMENT’S RECOMMENDATION

17. The Department recommends approval of the Contract with a condition regarding how VGS manages the many options allowed under the Contract. Jacobs pf. at 10-11.

18. The Department’s affirmative recommendation in this case is based on its conclusion that the Contract can be managed, “in a manner where the effective price paid for emissions reductions from volumes of RNG delivered to VGS customers, net of any proceeds
from VGS’s sales into renewable transportation fuel markets, results in an avoided cost of emissions from the Contract that does not exceed the social cost of carbon.” Jacobs pf. at 10–11.

19. The Department states that the social cost of carbon (“SCC”) represents “an estimate, in dollars, of the present discounted value of the future damage caused by a metric ton increase in carbon dioxide (CO2) emissions into the atmosphere in that year or, equivalently, the benefits of reducing CO2 emissions by the same amount in that year.” Jacobs pf. at 6.

20. Based on modelling developed for the New York Department of Environmental Conservation, the Department states that the SCC is approximately $128 per short ton of CO2 equivalent levelized over 15 years and concludes that this figure aligns reasonably well with the proposed Contract term-length between VGS and Archaea. Jacobs pf. at 6-7.

21. The Department acknowledges that the SCC value could change in the future from updates to the damages-based approach embedded in the Avoided Energy Supply Costs study or policy-maker’s decisions regarding the appropriate discount rate applied to those future damages. Jacobs pf. at 8.

22. The Department evaluated VGS’s rate impacts analyses and climate benefits and concluded that they were accurate, but result in an avoided cost of carbon that exceeds the SCC. Jacobs pf. at 7-8.

23. Notwithstanding, the Department states that the Contract could be managed to deliver net rate reductions by selling a higher percentage of the contracted volumes into renewable fuel markets. Jacobs pf. at 10.

24. The Department supports “keeping the cost paid for emissions reductions below the social cost of carbon as a ceiling on rate impacts.” The Department also stated that it would expect that resources that reduce emissions “above the social cost of carbon” could be offset by
“other resources below the cost of carbon” and that the Department’s objective regarding the SCC could be achieved by balancing out the social cost of carbon over time; e.g., if some years had higher and other years had lower cost of avoided carbon values. Jacobs pf. at 10-11.

25. VGS agrees that the overall cost of carbon is a valuable reference point, but noted that it evaluates supply contracts like this one based on a variety of factors. Morse pf. at 5.

26. VGS also notes that how cost-effective a particular initiative may be can also be assessed in ways other than the SCC, including by comparison to the cost of other climate action efforts, current RNG contracts, and emerging information about new opportunities in the RNG market and other innovations. Morse pf. at 5-6.

27. VGS intends to manage its options under the Contract in a manner that includes annual consideration of (1) VGS’s progress toward its climate goals; (2) the rate impact of gas supply costs; (3) the price of VGS’s RNG adder; (4) the proceeds available from the renewable transportation fuel (“RTF”) markets; (5) the status of the overall natural gas markets; and (6) other factors that will benefit customers. Morse pf. at 6.

28. Notwithstanding, VGS agreed to the Department’s proposal to manage the Contract with reference to the SCC and proposed the following condition:

To the greatest extent practicable, VGS shall manage its options under the Contract so that the price paid for emissions reductions from volumes of RNG delivered to VGS customers (net of any proceeds from VGS's sales into renewable transportation fuel market) does not exceed the social cost of carbon. The management of options may consider the price paid per ton of carbon over multiple years and in connection with other parts of the alternative supply portfolio. Nothing in this condition removes the obligation to consider rate impacts of the individual contract within the alternative supply portfolio to balance societal and ratepayer interests. Morse pf. at 11-13.
29. In response to questions from the Hearing Officer about how to assess whether VGS is complying with this condition over the term of the Contract, the Department and VGS discussed and agreed to the following additional language regarding compliance:

VGS shall submit its intention regarding annual Contract management decisions, including estimated nominations (“Annual Nominations”) 60 days prior to the Annual Nomination due date to the Commission and the Department, and describe how the Annual Nomination, and any potential changes thereto during the year, is in compliance with this condition. The Department or any party shall have 30 days to provide comments on the Annual Nominations described in VGS’s filing.

30. With this additional language, the Commission’s approval of the Proposed Contract will establish a framework for VGS to manage its Contract options consistent with the Department’s recommendation. Morse pf. at 12.

F. ENVIRONMENTAL BENEFITS

31. The Contract provides environmental benefits by displacing fossil gas used by VGS customers with RNG produced at the Seneca Meadows facility, and VGS notes that once the facility develops a planned carbon capture and sequestration facility, the Contract will meet the Department’s SCC threshold even without the use of other options under the Contract. Morse pf. at 12.

32. In the intervening period, VGS expects to apply revenues from the RTF markets in such a manner that the effective cost of carbon will also be below the Department’s SCC threshold. Morse pf. at 12.

33. Intervenor’s expert witness Dr. Emily Grubert raised several concerns about the environmental benefits of the Proposed Contract. First, Dr. Grubert challenged VGS’s reliance of the GREET model to identify the carbon intensity of this supply resource. Morse pf. at 14.

34. VGS relied on assessments made under the GREET model, as modified by the California Air Resources Board, to value carbon intensity because Vermont has not passed
legislation that establishes a Vermont-specific model under which the Contract can be evaluated. Morse pf. at 13.

35. The GREET model was developed by Argonne National Laboratory and is widely relied upon. Clean fuels programs in California, Oregon, and Washington each specify the use of modified versions of the GREET model to measure the difference in carbon emissions for various fuels. Morse pf. at 13.


37. VGS stated that it relied on assessments under California’s GREET 3.0 model because it has undergone a public approval process and has a robust history of use. Morse pf. at

38. VGS does not claim the GREET 3.0 model used in California is a perfect representation of exact conditions for every resource, however, given the pace of change, the number of possible scenarios, and the challenges of direct measurement for many characteristics, development of such a precise model would be impractical. Morse pf. at 14.

39. California’s model offers reasonable calculations for carbon intensity that facilitate the comparison of two resources. Morse pf. at 14.

40. Dr. Grubert also testified that the Contract is not enough—on its own—to achieve the emissions reductions contemplated by the GWSA, but VGS never made that claim and the proposed Contract is just one part of VGS’s larger climate action and innovation effort. Morse pf. at 14-15.

41. VGS’s climate plan involves at least three main strategies: (1) Weatherization and energy efficiency, which involve accelerating access to affordable weatherization services to
reduce demand; (2) In-Home Innovation, which involves the installation of heat pump water heaters, cold-climate heat pumps, hybrid heating systems, and geothermal systems; and (3) alternative supply, which involves the potential of adding new sources of low- and zero-carbon alternative energy, RNG, hydrogen, and district energy systems to displace traditional natural gas. Morse pf. at 14-15.

42. Dr. Grubert also cited EIA CO\textsubscript{2} emissions relating to petroleum and natural gas, but that analysis has no bearing on the proposed Contract in this case because the Contract is not intended to displace petroleum and other more emission-intensive fuels here. Instead, the purpose of the Contract is to provide a lower-carbon alternative to VGS’s natural gas customers. Morse pf. at 14-15.

43. Dr. Grubert acknowledged that the RNG under the Contract has a lower carbon intensity than the traditional gas in VGS’s portfolio, so it is undisputed that this Contract will reduce emissions. Morse pf. at 16.

44. It is also difficult to assess or apply Dr. Grubert’s analysis of EIA data in this case because Dr. Grubert did not review sector specific information and appears to ignore the fact VGS has deployed millions of dollars in energy efficiency work through its Energy Efficiency Utility. Morse pf. at 16.

45. VGS is familiar with and works with large commercial and industrial customers one by one, and knows their businesses, their usage patterns, and their fuel alternatives and disagrees with Dr. Grubert’s assessment of EIA data. Morse pf. at 16.

46. Dr. Grubert also raised concerns about the reliability of this supply sources based on permitting disputes in New York and claimed that VGS would not be entitled to the renewable attributes from the Project, however, the permitting issues do not relate to the RNG
facility even if no new landfill material is added, the facility would be expected to produce gas for decades. Morse pf. at 17.

47. Archaea’s obligation under the Contract is also firm, and they must provide RNG supply from another source if necessary to meet VGS’s contractual volumes. Accordingly, the landfill permit is not expected to have impacts under the Contract—even if it does expire. Morse pf. at 17.

48. VGS is also entitled to all environmental attributes from the facility, including those associated with carbon capture. The Contract expressly addresses VGS’s right to all environmental attributes, which is defined as “all environmental and other attributes, characteristics, benefits, reporting rights, credits, reductions, offsets, allowances, green tags and all other benefits attributable to the production, delivery, or use of Gas sold pursuant to this Contract.” Morse pf. at 17-18.

49. The “Biogas” or RNG purchased under the Contract includes the RNG and “the Environmental Attributes associated therewith.” Morse pf. at 17-18.

50. From a practical standpoint, the project is expected to submit a modified pathway certification in order to update the assigned CI score upon commissioning of the CCS system. The environmental benefit of the CO2 captured by a CCS facility will be included in the CI score attached to the RNG, and therefore accrues to the owner of the RNG. Morse pf. at 17-18.

51. VGS also specifically negotiated the right to environmental attributes from the facility, defined the terms under the Contract to capture that intention, and agreed with Archaea that the Contract language was the “best definition to use to incorporate the benefit of carbon capture” at the facility. Evidentiary Hearing Transcript (9/20/22) Morse at 85.
V. CONCLUSION

Based on the above findings and the Department’s recommendation, the Commission should approve the Proposed Contract with the following condition:

To the greatest extent practicable, VGS shall manage its options under the Contract so that the price paid for emissions reductions from volumes of RNG delivered to VGS customers (net of any proceeds from VGS’s sales into renewable transportation fuel market) does not exceed the social cost of carbon. The management of options may consider the price paid per ton of carbon over multiple years and in connection with other parts of the alternative supply portfolio. Nothing in this condition removes the obligation to consider rate impacts of the individual contract within the alternative supply portfolio to balance societal and ratepayer interests.

VGS shall submit its intention regarding annual Contract management decisions, including estimated nominations (“Annual Nominations”) 60 days prior to the Annual Nomination due date to the Commission and the Department, and describe how the Annual Nomination, and any potential changes thereto during the year, is in compliance with this condition. The Department or any party shall have 30 days to provide comments on the Annual Nominations described in VGS’s filing.

DATED at Burlington, Vermont, on this 14th day of October 2022.

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