



FILED VIA ePUC

February 17, 2022

Holly R. Anderson
Clerk of the Commission
112 State Street
Montpelier, VT 05620-2701

Re: Farm-Based Renewable Natural Gas Study

Dear Ms. Anderson:

By this filing, Vermont Gas Systems, Inc. (“VGS” or the “Company”) provides notice of its intent to commission a feasibility study on Farm-Based Renewable Natural Gas in Franklin County (the “Study”), as a component of our Climate Action and Innovation programming. Section 5 of the Company’s Alternative Regulation Plan (“ARP”) provides that VGS shall pursue “projects, programs, and services that support Vermont’s statewide energy goals by advancing promising technologies to facilitate efficient, lower carbon energy choices for its customers.”¹ Section 5(d) of the ARP requires VGS to provide 30 days’ advance notice to the Commission and the Department before commencing any spending on a project, program, or service under the Climate Action and Innovation Budget that exceeds \$25,000. As detailed below, spending on this project is expected to exceed that threshold. Accordingly, VGS is providing the following notice.

Introduction: Farm-Based RNG

In 2013, the Commission charged VGS with advancing Renewable Natural Gas (“RNG”) by conditioning its approval of the Addison Natural Gas Project in Docket No. 7970 on VGS’s commitment to propose programs promoting biomethane development.² VGS has answered this charge in many ways. In fall 2017, the Commission authorized VGS to begin its RNG Program and approved its voluntary RNG tariff in March 2018. In 2019, VGS partnered with Vanguard Renewables, Middlebury College, and the Goodrich family to launch the Northeast’s largest anaerobic digester (the “Goodrich Family Farm Project”). Vermont-produced RNG began to flow into the VGS pipeline in the summer of 2021.

The Goodrich Family Farm Project is proof of concept that farm-based RNG can be produced in Vermont. At the farm, a digester captures biogas from decomposing manure and food waste. This biogas is then cleaned to pipeline quality biomethane and injected into our pipeline system as RNG, requiring no changes to VGS’s infrastructure or to customer equipment. Projects like the Goodrich Family Farm

¹ See Exhibit VGS-JMP-5 filed May 21, 2021 in Case No. 19-3529-PET.

² *Petition of Vermont Gas Systems, Inc.*, Docket No. 7970, Certificate of Public Good (Vt. Pub. Serv. Bd. Dec. 23, 2013) at ¶ 10.

Project provide many benefits, including capturing methane, removing phosphorus from our watersheds, providing digesters for our food waste, and bringing new sustainable revenue streams to our farmers.

As required by VGS's Memorandum of Understanding with the Department of Public Service, which was incorporated into the final order approving VGS's Integrated Resource Plan,³ VGS commissioned an RNG potential study to provide an assessment of the state's overall RNG potential as well as a GIS mapping tool that allows VGS to select potential single farms and farm clusters for further analysis based on size of herd and distance from our pipeline. VGS has made the mapping tool available to the Agency of Agriculture as well.

To maximize production of in-state RNG, we expect to need a combination of large single farm operations like the Goodrich Family Farm and multi-farm clusters. Cluster operations consist of two or more farms that share a single gas pipeline interconnection. There are numerous potential cluster configurations, each designed to share resources for viable RNG operations where a single farm could not sustain the operation alone. Depending on the farm size and distance from the interconnection, each farm could have a digester, or the manure or biogas could be pumped to the hub farm with the digester and gas upgrader/interconnection. There are cluster farm RNG producers operating successfully in California and Wisconsin with large farm operations, but we need to examine the potential for clusters among Vermont's smaller farms and unique landscape. This study will determine the most practical and cost-effective options and provide a template for VGS and our developer partners to use in pursuing farm cluster projects in the future. Additionally, further research into single farm design options will expand our ability to pursue large farm projects beyond the Goodrich Family Farm Project, which was the result of some unique circumstances.

Description of the GSR Study

GSR Solutions LLC ("GSR") is a Vermont-based firm that conducts studies about nutrient management at farms, digester feasibility, and other innovative projects in and outside Vermont. VGS has engaged GSR to conduct a techno-economic feasibility study of a single farm and a farm cluster for the production of RNG in Vermont, which we believe will be an invaluable tool in our efforts to further promote development of in-state RNG projects.

GSR has identified several farms and farm clusters in the Franklin County area as targets for the Study. It will conduct a techno-economic assessment of two types of projects: (a) one dairy farm and (b) one multi-farm digester development. Both will contemplate RNG production for pipeline injection. In addition, GSR will engage project partners, stakeholders, and potential investors; provide basic front-end engineering design packages for all promising development cases; evaluate candidate host farms for RNG production potential and nutrient recovery systems; assess the potential for combining multiple nearby dairy farms into a single digester system or gas-upgrading system with pipeline interconnection; and evaluate available waste streams.

³ See *Petition of Vermont Gas Systems, Inc. For approval of its 2020 Integrated Resource Plan*, Case No. 21-0167-PET (Vt. Pub. Util. Comm'n, Oct. 13, 2021) at 5, 7.

Upon completing the Study, GSR will provide VGS with a final report, including project designs, estimated costs, preliminary engineering packages, preliminary business cases, and other relevant information compiled through the course of the Study. Though much of the final report is likely to contain sensitive business information, GSR will also produce a public version of the final report that will include a representative example of the feasibility of an RNG farm cluster project. This report will help guide VGS, developers, and stakeholders in identifying opportunities to develop additional RNG projects on Vermont farms. Additionally, VGS has been in discussions with the Agency of Agriculture on various RNG concepts and this report will be useful as the Agency looks to promote sustainable agriculture in the State.

Study Cost and Timeline

VGS plans to contribute a total of \$75,000 to the GSR Study. The expense will be integrated in base rates through our innovation expense budget, impacting all customers equally. There will be no capital expense and no variance from VGS's current tariffs for this expenditure. No customers will be engaged to participate at this stage. GSR will complete the Study and produce a report on its findings by December 30, 2022.

Conclusion

VGS has committed to reducing carbon emissions through our Climate Action Plan. Increased RNG is critical to achievement of our aggressive climate goals, and the greatest benefit to the state comes from in-state RNG projects as a source of that renewable energy. The GSR Study will help VGS to continue to promote and foster growth of in-state RNG projects such as the Goodrich Family Farm Project by broadening our knowledge around how to make farm RNG projects work in Vermont's unique landscape. Additionally, commissioning the GSR Study is consistent with the goals stated in the 2022 Vermont Comprehensive Energy Plan, which encourages the development of RNG as a thermal and transportation fuel.⁴ VGS is eager to move more Vermont-based projects forward, and the GSR Study will build intelligence in all areas necessary to do so.

We are available to the Commission and the Department to answer any questions about this filing.

Respectfully submitted,

/s/ Jill Pfenning

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⁴ See 2022 Vermont Comprehensive Energy Plan at 23.