



FILED VIA ePUC

June 16, 2025

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

Re: Case No. 24-3460-INV, Public Utility Commission investigation into thermal energy exchange networks pursuant to Act 142 of 2024

Dear Ms. Anderson:

Vermont Gas Systems, Inc. (“VGS”) is pleased to provide the following comments and responses to the Commission’s April 23, 2025, Information Requests.

*i. Introduction: Networked vs. Non-Networked Geothermal Systems*

Over the last several years, VGS has been exploring how we could play a role in widespread adoption of geothermal systems to heat and cool buildings.<sup>1</sup> In doing so, we have actively engaged many of the area’s largest property developers with the concept of VGS providing neighborhood- or community-scale geothermal service for their buildings. The property developers we have engaged range from affordable housing organizations to market-rate multi-family developers and community-scale single-family home developers. All expressed strong interest in the concept, provided that VGS assume responsibility for the ownership, reliability, and performance of the underground infrastructure that occupants would depend upon for comfort and safety. This desire for VGS to play an energy service provider role complements the strengths and business models of both, these various developers (who are in the business of property development) and VGS (which is in the business of operating piped networks safely, reliably, and affordably). For these networked geothermal systems interconnecting multiple buildings and residences, our experience has shown so far that, at least in Vermont, the economic viability of networked geothermal is limited to a subset of circumstances, namely, where there is diversity of load and a certain level of population density. VGS will continue to pursue networked geothermal opportunities where it makes sense. Given our experiences to date, we expect those opportunities may be limited.

What we have learned from this exploration is that, while we will continue to seek out networked geothermal opportunities, which are the subject of this Investigation, we are discovering that single-home or single-building (i.e., non-networked) installations may prove to be a promising

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<sup>1</sup> See Case No. 24-3460-INV, *Public Utility Commission investigation into thermal energy exchange networks pursuant to Act 142 of 2024*, correspondence of Mary G. Bouchard, Esq. dated March 3, 2025; Case No. 22A-4238, *Notice re: Climate Action and Innovation, RRMC Geothermal Project*, dated Sept. 27, 2022 and *Vermont Gas System, Inc.’s Response to the Public Utility Commission Requests for Information*, dated October 26, 2022; Case No. 22A-3045, *Notice re Climate Action and Innovation, Geothermal Services*, dated July 29, 2022.

opportunity to deploy geothermal more broadly. In the case of these non-networked applications, the reasons for traditional utility-style regulation might not apply as they would to a networked system. Our comments in this investigation are confined to the limited scope of this Case on networked geothermal applications.

*ii. VGS Comments on Networked Geothermal Systems*

We generally explored rates and permitting policy options during stakeholder conversations that predated the enactment of Act 142. As noted above, our most recent exploration has focused on a broader set of topics, including the feasibility of geothermal systems generally. This filing does not present a precise rates or permitting framework. Instead, we have provided high-level comments in response to some of the specific information requests below. It may be that the best next step for promoting thermal energy networks such as geothermal would be to encourage legislation that would enable pilot projects for geothermal, networked or otherwise, as has been done in other states, and that would set forth a research and development period of a few years after which the Commission could revisit the regulatory framework with some data and experience at hand. At this early stage, we are not yet prepared to make a definitive recommendation.

*iii. VGS Responses to the Commission's April 23, 2025, Information Requests*

**Siting authority**

**1. Should the permitting of thermal energy networks be subject to review under 30 V.S.A. § 248, Act 250, or local/municipal zoning?**

We suggest ensuring that permitting does not create an additional barrier to geothermal installation in Vermont. Supporting development includes creating a permitting framework that promotes entry into this space, reduces costs, and simplifies the design and construction processes.

The purpose of 30 V.S.A. § 248 (“Section 248”) is to ensure that major energy infrastructure projects in Vermont serve the public good. It ensures that energy projects align with state energy policy and environmental goals and promotes sustainable development by evaluating the environmental, economic, and social impacts of proposed projects. It is not the right fit for networked geothermal projects because they are not connected to a larger transmission infrastructure and simply do not present impacts like those of a large-scale energy project or transmission system. Many of the Section 248 criteria are irrelevant because geothermal projects are self-contained and there is no supply component. Moreover, no geothermal provider is expected to be operating as a monopoly in the market. Accordingly, the Section 248 process would be overly burdensome and costly to networked geothermal projects with little value to state interests.

Conversely, we believe the existing Act 250 permitting process, as well as local permitting where Act 250 does not apply, appropriately protects many important state interests in circumstances more analogous to networked geothermal, such as sewer systems and other such earth disturbances within discrete housing development projects.

**2. If you suggest that the Commission should issue certificates of public good under Section 248, please respond to the following.**

**a. When should a thermal energy network be subject to Commission review?**

As discussed above, VGS does not believe Section 248 is the right fit for review of networked geothermal projects.

**b. Regarding notice,**

**i. which people, entities, and government agencies should receive notice of a Section 248 application for a thermal energy network? Please explain. 1 Public Act No. 142 (2024 Vt., Adj. Sess.) (“Act 142”).**

The extensive notice provisions of Section 248 are a good example of why Section 248 is not a good fit for networked geothermal projects. Unlike typical Section 248 projects that trigger broad public interests from third parties and other government entities, networked geothermal projects are not interconnected with large infrastructure systems that are dedicated to the public good. Most or all networked geothermal projects are located on private property and are pursued in partnership with private real estate owners and developers that do not have a public service mandate, are not required to provide least cost energy service to customers, and are not accustomed to utility-style regulation under Section 248.

**ii. should there be advance notice and notice of complete applications?**

No.

**iii. which people, entities, and government agencies should be automatic parties, parties as of right (using, for example, a notice of intervention), and parties that must seek intervention?**

None.

**c. Should all Section 248 criteria apply? If so, please explain the applicability of each criterion. If not, which of the criteria should be waived and why?**

Review of the Section 248 factors further demonstrates why Section 248 is not a good fit for review of networked geothermal projects. For example, Section 248(b)(2) regarding

the “need for present and future demand for service” at least-cost is a standard intended to ensure that monopoly regulated utilities make cost-effective investments in utility property that is dedicated to the public good. It is not applicable to non-monopoly TENS located on private property. Also, TENS do not connect to broader infrastructure systems like the transmission and distribution networks, so have no impact on system stability and reliability, the criteria under Section 248(b)(3). Section 248(b)(6) regarding least-cost integrated planning is designed to ensure regulated utilities have a long-term plan for broad transmission and distribution investment, but TENS are not developed under a traditional utility service obligation. TENS are not waste to energy facilities (289(b)(9)), do not produce electricity from woody biomass (248(b)(11)), and have little to no impact on water resources (248(b)(8)) or electrical planning (248(b)(7 and 10)). Regarding, Section 248(b)(5), TENS do not implicate Section 250 criteria unless developed on property subject to Act 250; Section 248 review would create new permitting obligations and conflicting authority with Act 250 and local zoning.

- d. Should new criteria be added specific to thermal energy networks? For example, the Department’s comments reference the development of guidelines for best practices in the development of thermal energy networks. Should such best practices be part of the Commission’s evaluation of whether a thermal energy network receives a certificate of public good (“CPG”)?**

Because we do not believe Section 248 should apply, we do not comment on whether additional criteria added to 248 would be appropriate.

- e. Would it be appropriate for applicants to pay a fee under Section 248c to support the role of the Commission (and any other State agencies) in reviewing applications? If so, how should the fee be calculated?**

No. Networked geothermal projects are developed on private property as standalone systems serving a limited number of parties and should not require significant review by the Commission and other State agencies.

- 3. Should the application process and requirements mirror net-metering, Section 248(j), or Section 248? In providing a response, please reference, if possible, the provisions of Commission Rules 5.100 and 5.400, as relevant. If possible, please describe the form and contents of an application.**

To the extent that permitting is required by the Commission, it should be limited to a registration process that requires the applicant to warrant compliance with any related requirements, such as the best practices referenced by the Department. Any significant process that exceeds a registration process will increase the cost of developing TENS, which will not promote development of such projects.

**4. Should there be an opportunity for site visits and public hearings in thermal energy network proceedings?**

As noted, we do not believe geothermal projects generally trigger review against the public good standard. But it may be appropriate to conduct site visits and public hearings if the Commission finds it appropriate to conduct such a review or if the Act 250 district commission deems it appropriate within its permit proceedings.

**Section 231**

**5. Vermont utilities must obtain a certificate of public good under 30 V.S.A. § 231. If a Vermont utility with an existing Section 231 certificate of public good were to propose owning and operating a thermal energy network, would an amendment to the certificate be required?**

Amendment of an existing Section 231 CPG should not be required for a Vermont utility to own and operate a thermal energy network. The development of networked geothermal projects in Vermont is very limited at this time and there is not enough operating experience to warrant over-arching regulatory obligations like those implicated under Section 231.

**6. Would an owner of a private- or cooperative-owned thermal energy network be required to obtain a Section 231 certificate of public good to own and operate a thermal energy network?**

Because at this time VGS is not proposing any overarching regulatory process requirements in terms of rates and permitting, VGS has no comment on whether other owners of thermal energy networks would need to obtain a Section 231 CPG.

**7. The Department suggests that performance requirements should be imposed on thermal energy network operators. How would these performance requirements be implemented?**

With regard to regulated utilities like VGS, performance requirements could potentially be imposed through existing service quality and reliability plans. Many metrics already in place, such as call answering, billing, customer satisfaction, and reliability, would apply, and others specific to networked geothermal could be added.

**Financing and rate regulation**

**8. Should Vermont distribution utilities be permitted to own and operate thermal energy networks?**

Yes. As the Department noted in its March 3<sup>rd</sup> comments, the capital-intensive nature of thermal energy networks has prevented development in Vermont and throughout the region,

but regulated utilities are familiar with constructing capital-intensive systems and recovering costs over a long period of time.<sup>2</sup> Moreover, distribution utilities are equipped to respond to both small- and large-scale service interruptions with 24/7 emergency response.

**9. Please provide rules, guidelines, or decisions from other jurisdictions regarding the use of electric or gas ratepayer dollars to support the development of thermal energy networks.**

VGS provides the following examples of what some states have done so far because the Commission has requested the information and VGS wants to be responsive. At this embryonic stage of market evolution for TENS in Vermont, however, VGS is not yet prepared to endorse any particular one of these or other approaches. Instead, we provide them simply as points of information.

*A. Colorado*

Colorado House Bill 24-1370, aiming to reduce the cost of using natural gas infrastructure, was signed into law on May 22, 2024. The bill required the Colorado Energy Office to identify local governments interested in becoming gas planning pilot communities. These communities will work with utilities to explore neighborhood-scale alternatives projects, which involve decommissioning or avoiding the expansion of gas distribution systems and providing alternative energy services to reduce greenhouse gas emissions. The law provides that the Colorado Public Utilities Commission shall allow a dual-fuel utility to recover costs incurred during the development of a neighborhood-scale alternatives project, including costs to transition the distribution system, invest in electric infrastructure, and provide customer incentives. The utility must propose to the commission how costs will be recovered across its electric and gas business.<sup>3</sup>

*B. Maryland*

In Maryland, the Working for Accessible Renewable Maryland Thermal Heat (WARMTH) Act, was signed into law on May 9, 2024. Under that law, an electric company, gas company, or water company may own, manage, and recover costs associated with a thermal energy network system, subject to Maryland Public Service Commission approval. It directed each gas company that serves at least 75,000 customers to develop a plan for a pilot system or systems and provided that companies with less than 75,000 may develop plans as well. The law allows for recovery of any costs incurred (after applying other funds and tax credits) within one year of incurring the costs through rate adjustments or other commission-approved mechanisms.<sup>4</sup>

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<sup>2</sup> See Case No. 24-3460-INV, Comments of the Vermont Department of Public Service (Mar. 3, 2025) at 4.

<sup>3</sup> See Colorado Revised Statutes 40-3.3-103.

<sup>4</sup> See Md. Public Utilities Code Ann. § 7-1101 et seq.

*C. Massachusetts*

In Massachusetts, gas utilities are required to file annual plans for the replacement, retirement, or improvement of existing infrastructure, which may include replacing gas infrastructure with networked geothermal. With preliminary acceptance from the Massachusetts Department of Public Utilities, gas companies are permitted to begin recovering estimated project costs. Gas companies then file final project documentation demonstrating substantial compliance with the plan and that project costs were reasonably and prudently incurred.<sup>5</sup>

*D. Minnesota*

Minnesota provides that a natural gas utility may file an innovation plan with the Minnesota Public Utilities Commission, and if the plan meets several criteria, reasonable and prudently incurred costs to implement the plan may be recovered through alternative regulation, the utility's next rate case, annual adjustments after notice and comment, or automatic adjustments for energy and emission control products. Beginning July 1, 2024, innovation plans filed by a utility with more than 800,000 customers must include spending of at least 15% of the utility's proposed total incremental costs over the five-year term of the proposed innovation plan for thermal energy networks projects.<sup>6</sup>

*E. New York*

In 2022, New York Public Service Law § 66-t was added by the Utility Thermal Energy Network and Jobs Act. It directed the New York Public Service Commission ("NYPSC") to support the development of thermal energy networks to help meet the state's greenhouse gas reduction and climate equity goals under the Climate Leadership and Community Protection Act. The NYPSC was directed to initiate a proceeding determining appropriate ownership, market, and rate structures for thermal energy networks and whether utility provision of thermal energy services is in the public interest. The seven largest utilities were also directed to submit pilot project proposals, with at least one project per utility located in a disadvantaged community. The NYPSC was tasked with determining how utilities may recover costs for developing and operating these networks through regulated rates.<sup>7</sup> Currently, the NYPSC is allowing utilities to pilot TENs projects and rate structures that enable customer participation even without covering the entire pilot-related revenue requirement. Ratepayers contribute to the revenue requirement with some offset by TENs rates.<sup>8</sup>

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<sup>5</sup> See Mass. General Laws Part I, Title XXII, Chapter 164, Section 145.

<sup>6</sup> See Minn. Statutes, Chapter 216B, Section 216B.2427.

<sup>7</sup> See Consolidated Laws of N.Y., Chapter 48, Article 4, Section 66-t.

<sup>8</sup> See Case 22-M-0429, *Proceeding on Motion of the Commission to Implement the Requirements of the Utility Thermal Energy Network and Jobs Act* (N.Y. Pub. Serv. Comm'n, May 19, 2023) at 39.

*F. Washington*

In Washington, gas and electrical companies may deploy thermal energy networks within their service territories, consistent with Washington’s thermal energy network pilot project program. Investor-owned utilities must submit the project to the Washington Utilities and Transportation Commission for review and cost validation. If the commission validates the cost assessment, the company may propose to recover the costs of building and operating the project from ratepayers in a rate case filing before the commission.<sup>9</sup>

**10. Under what circumstances, if any, would it be appropriate for Vermont ratepayers to support the development of thermal energy networks?**

As previously outlined, VGS has not yet formulated a particular proposal for the Commission or legislature to adopt to support TENS development. Instead, VGS provides the following directional considerations as the Commission considers the possibilities broadly.

Vermont ratepayer support for the development of thermal energy networks may be appropriate under both existing law or under new legislation that expressly calls for ratepayers to support—and even subsidize—the development of thermal energy networks. The Vermont General Assembly has enacted similar ratepayer support provisions in the context of net metering and other renewable energy initiatives like the standard offer program in the electricity sector. VGS generally supports the development of legislation, with further stakeholder input, that would promote the development of thermal energy networks, however, the specific manner and circumstances under which it would be appropriate for ratepayers to support development is a complex, and often fact-specific, assessment that should be left to the Commission’s sound discretion rather than establishing the appropriate circumstances by statute. Accordingly, any legislation passed to support the development of thermal energy networks through ratepayer support should both acknowledge the existing statutory structure that is available to the Commission to promote thermal energy networks, and to the extent it prescribed new statutory standards, should leave the Commission with discretion to approve ratepayer support based on broad statutory factors rather than a narrowly proscribed mandate.

Under existing Vermont law, Vermont ratepayer support for the development of thermal energy networks may be appropriate pursuant to 30 V.S.A. § 218d, which provides that the Commission may approve an alternative regulation plan for a regulated utility where the plan both provides for “just and reasonable rates for service to all classes of customers” and also offers “incentives for innovations and improved performance that advance state energy policy such as increasing reliance on Vermont-based renewable energy and decreasing the extent to which the financial success of distribution utilities between rate cases is linked to increased sales to end use customers and may be threatened by decreases in those sales.”

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<sup>9</sup> See Revised Code of Washington, Section 80.28.450.

Under this authority, the Commission may determine that the financing and development of thermal energy networks under a regulated utility's existing financial structure (1) maintains just and reasonable rates for both natural gas and networked geothermal customers, (2) provides an investment platform that "advance[s] state energy policy," "increase[es] reliance on Vermont-based renewable energy," and (3) decreases the extent to which the utility's financial success is linked to increased [natural gas] sales."

*a. Just and Reasonable Rates*

Vermont ratepayer support for the development of thermal energy networks could be achieved while maintaining just and reasonable rates among all class of customers in a variety of ways. For example, as discussed in VGS's initial comments, a customer that receives direct service through a utility-owned geothermal system could pay a monthly charge with two components: one that covers the long-term capital investment (the "Capital Costs") and a second that covers ongoing maintenance costs, electric costs to operate the external components, administrative costs, and insurance (the "Operating Costs").

Under VGS's existing financial structure, VGS could meet the capital expenditure requirements of a thermal energy network project using a mix of debt and equity under VGS's existing capital structure. In order to maintain just and reasonable rates for both natural gas customers and thermal energy network customers alike, the Capital Cost component of thermal energy customers' monthly charges could be established in a manner that collects the full amount of initial capital investment over the life of the asset. If the monthly charge is levelized, geothermal customers' monthly payments will not match the depreciation of the asset (VGS would be under-collecting from thermal energy network customers in earlier years and then over-collecting in later years). As a result, natural gas customers would effectively be funding the thermal energy network project in the early years and being paid back in the later years. This could be addressed by including the time value of this mismatch in the levelized rate, which would ensure there is no cost-shift to natural gas customers and that both thermal energy network charges and natural gas charges are "just and reasonable" under 30 V.S.A. § 218d.

Similarly, the Operating Cost component of a thermal energy network customer's monthly charge could be structured to ensure rate neutrality with respect to natural gas customers. In particular, ongoing maintenance costs, electric costs to operate the external components, administrative costs, and insurance could be completely recovered through monthly charges to thermal energy network customers.

Over the long-term, inclusion of thermal energy network investments in VGS rate base along with a broader range of long-term capital investments could also promote "just and reasonable" rates by providing a diversified rate base that could protect ratepayers from increasing costs. In the event there is a significant decrease in natural gas customers, traditional ratemaking policy would dictate increasing costs per customer, presenting an affordability challenge for natural gas customers that cannot afford to transition to alternatives or who are in sectors where the

utilization of natural gas or renewable natural gas is necessary. Assessing tariff charges under a single rate base would provide the Commission and VGS with a regulatory tool that can be scaled to achieve energy policy goals while maintaining affordable rates for both natural gas and thermal energy network customers.

Finally, just and reasonable rates could be maintained through valuation of the carbon reductions achieved through the development of thermal energy networks. As an alternative to establishing thermal energy network charges that ensure rate neutrality, the value of carbon reduction could be used as a proxy for direct subsidy of thermal energy networks by existing natural gas customers, where natural gas customers could reduce the cost to thermal energy customers by effectively buying the value of carbon saved by a thermal energy network.

These are just a few of the ways that Vermont ratepayers could effectively support the development of thermal energy networks while continuing to ensure just and reasonable rates among all classes of customer. VGS believes that the Commission should retain substantial discretion to assess specific rate impacts on a case-by-case basis rather than establishing hard and fast rules through statutory enactment or rulemaking. To the extent that additional legislation or rulemaking is used to promote the development of thermal energy networks, it will be important for the legal framework to be flexible and enable the Commission to balance a variety of factors; similar to the existing statutory considerations set forth in 30 V.S.A. § 218d.

*b. Advancing State Energy Policy and Increasing Reliance on Vermont-based renewable energy.*

Vermont ratepayer support for the development of thermal energy projects could be structured in a manner that not only achieves just and reasonable rates but also advances state energy policy and increases reliance on Vermont-based renewable energy. As recognized in the Vermont Comprehensive Energy Plan, “Vermont home and business owners are often limited ... in the types of fuel they can choose from to meet their energy needs, due to factors such as capital investments and limitations in delivery infrastructure.” CEP at 185. State energy policy, such as the CEP, expressly promotes the electrification of thermal loads, which is achieved through the development of thermal energy networks that are supported with ground-source heat pump (“GSHP”). When combined with other efforts to increase reliance on Vermont-based renewable energy, the electrification of thermal loads through the development of thermal energy networks fits squarely within the purpose and intent of Section 218d(4), while also improving service choices under Section 218d(5), and promoting innovation in the provision of service under Section 218d(6).

*c. Decreasing the extent to which financial sustainability is linked to increased natural gas sales*

Vermont ratepayer support for the development of thermal energy projects, as described above, can also help achieve the statutory goals of Section 218d(4) by reducing financial reliance on

increased, or even continued, natural gas sales. By expanding the diversity of long-term utility investments that are funded through VGS's existing capital structure, the inclusion of thermal energy network developments in existing rate base can reduce VGS's reliance on natural gas revenue as a proportion to the overall revenue needed to meet VGS's cost of service. This not only reduces VGS's reliance on natural gas sales, it directly incentivizes VGS to pursue capital investments that will expand its reliance on alternative thermal energy revenue.

*d. What Kinds of Projects Should Be Eligible for This Kind of Ratepayer Support?*

For several reasons, it is appropriate for Vermont ratepayers to support the development of thermal energy networks all across Vermont when a project provides a viable thermal energy network that reduces Vermont carbon emissions, expands service offerings to Vermont customers, and can participate under VGS's capital structure in a manner that is either (1) rate neutral to natural gas customers over the long-term, or (2) cost-justified with respect to the costs and benefits shared among VGS customers. Non-neutral cost justification could be rooted in the value of carbon reductions, as discussed above, or could be expressly justified based on other factors developed through legislation, Commission-rulemaking, or the terms and conditions of an approved alternative regulation plan, as discussed above.

**a. Would thermal energy network investments qualify under Tier 3 of the Renewable Energy Standard?**

Tier 3 of the Renewable Energy Standard should apply to TENs investments where appropriate. Since the Tier 3 program is a compliance mechanism specifically targeting fossil fuel reduction, it is appropriate to allow other programs with different measurement targets to provide additional incentives. Even when those programs are similar in outcome, allowing multiple programs to participate will ensure the maximum incentive is available to each project, allowing TENs the best opportunity to be deployed at scale.

**b. For gas utility investments, would it be appropriate to evaluate the use of ratepayer funds using a social cost of carbon or similar screen?**

As discussed above, VGS believes that the use of VGS's existing capital structure in the development of thermal energy projects can be achieved with varying degrees of impact on natural gas ratepayers. Where projects are structured and funded in a manner that is rate neutral for natural gas customers, it may be sufficient for "screening" purposes, to assess the extent to which the project meets an identified set of policy goals or factors for consideration, such as those provided under 30 V.S.A. § 218d or something similar. Where ratepayer impacts are neutral, a social cost of carbon or other financial screening process would not be necessary.

To the extent that natural gas customers effectively contribute to the development of thermal energy networks through direct rate support, VGS thinks it would be appropriate to evaluate the reasonableness of that kind of direct subsidy through a set of customer

risks and benefits. For example, a thermal energy network developed as an alternative to existing natural gas service could incorporate avoided natural gas rate base as well as the value of avoided carbon as components of a direct subsidy funded by natural gas customers. Similarly, a thermal energy network outside the natural gas infrastructure could offer natural gas customers long-term benefits other than avoided carbon. In either case, development of alternative, non-fossil energy networks diversifies the revenue sources that flow into rates, potentially providing value to gas customers over time. Because the context of each thermal energy network will vary from place to place and these projects are expected to have a different cost-benefit profile under different circumstances, VGS thinks it would be appropriate for any screening process to offer flexibility and discretion; especially in the earlier stages of promoting this kind of development.

- 11. The Department of Public Service suggests that “The ability for regulated utilities to demonstrate the net benefits that prospective TEN projects could convey to their broader customer base depends on a robust, uniform societal and ratepayer cost-benefit framework against which projects can be evaluated on a case-by-case basis.” Participants are requested to state whether they agree that regulated utility development of thermal energy networks should be evaluated using a robust, uniform societal and ratepayer costs benefit framework. If so, should that framework be developed in this proceeding and submitted as part of the Commission’s report, or would the framework be developed at some other time?**

VGS agrees with the Department’s suggestion that – to the extent ratepayer funds are used to support TENS development – it would be appropriate to employ a uniform cost benefit program. In our response to question 10, we have outlined some considerations to guide that potential regulatory framework, should the Commission be prepared to impose one. But TENS development is in its infancy and imposing a regulatory framework now could prove premature and have adverse unintended consequences on the potential development of a TENS market in Vermont, so we believe a better cost benefit program could be developed after completing and evaluating representative pilots.

- 12. Please provide current examples from other jurisdictions of approved tariffs for thermal energy network tariffs.**

While several states are piloting networked geothermal systems and cost recovery mechanisms, we are not aware of any approved tariffs for thermal energy networks.

- 13. What sections of Title 30 of Vermont Statutes Annotated that apply to electric, gas, and water utilities should apply to the financing and rate regulation of thermal energy networks?**

Though we have suggested a general framework involving cost recovery over time, we do not have enough data or experience to opine on the details of rate regulation at this time.

**14. Would it be appropriate for thermal energy networks subject to the supervision of the Department of Public Service and Public Utility Commission to pay a tax under 30 V.S.A. § 22 to support the work of the Department and Commission? If so, what would be an appropriate rate for that tax?**

Again, we suggest that is too early to determine what amount of work the Department and Commission would conduct around TENS. Piloting projects could inform what level of regulation is appropriate and thus the needed support for regulators.

**15. The Department of Public Service suggests that “[r]ate design and structure for [thermal energy networks] owned and operated by municipalities would be managed at the local level. Any changes in rates would be made by locally elected officials ... [t]herefore the Department suggests that public [thermal energy networks] should be regulated in a similar manner as Vermont’s public water and sewer services.” Participants are requested to state whether they agree with the Department’s suggestion, and if not, their reasoning.**

We agree with the Department’s suggestion regarding thermal energy networks owned and operated by municipalities.

**16. The Department of Public Service suggests that, due to initially high up-front costs of developing thermal energy networks, a “development authority could be established in Vermont to gain [thermal energy network] market insights on pricing, business models, and [thermal energy network] designs that could then be shared with instate stakeholders.” Participants are requested to comment on whether the creation of a development authority would be helpful. If so, would it be housed in an existing institution (such as a State agency) or a newly created public or private entity, and what monies would be used to fund the authority and the projects that it would support?**

With thermal energy networks in their early stages, Vermont lacks enough experience and data to know whether the state would benefit from a development authority for thermal energy networks. Rather, we suggest that market participants be empowered to explore and pilot various projects and then return to inform lawmakers and regulators.

**17. How should environmental justice and service to low- and moderate-income customers/communities be considered in the development of regulations for thermal energy networks?**

As the Commission is aware, VGS is currently working to support the utilization of geothermal systems in a new permanently affordable housing development in Hinesburg, Vermont. Champlain Housing Trust is an active participant in pursuit of serving low- and moderate-income Vermonters with renewable energy like geothermal. It may be appropriate to allow greater subsidies for such developments, analogous to our existing Low Income

Assistance Program for gas customers, but conducting pilots would better inform the economics supporting any such programs.

**Statutory definitions and language**

**18. Vermont Gas suggested that “the Commission analyze the definitions prescribed by the General Assembly and make recommendations for when regulation would be appropriate and when it would not.” Vermont Gas and other participants are invited to identify relevant statutory definitions and propose changes for the Commission to consider as part of its development of the report.**

In general, we suggest that any statute requiring Commission oversight of thermal energy networks be precise in defining which projects are suited for regulatory oversight and which are not. But, again, we believe the opportunity to pilot projects and explore a variety of project designs and their cost-effectiveness will help inform where regulatory oversight is appropriate. As noted above, we believe there are fundamental differences between networked and non-networked systems that are relevant to whether regulatory oversight is appropriate. We therefore reiterate the suggestion that a pilot period be allowed before proposing precise statutory language.

**19. The comments from Deborah New and James A. Dumont recommend several changes to Title 30. Please provide any responses to this proposed language.**

VGS does not directly respond to the language proposed by Ms. New and Attorney Dumont at this time because it is too early to suggest a specific regulatory regime.

**20. Please offer any alternative or additional proposed statutory language.**

VGS does not propose any alternative or additional statutory language at this time.

Thanks again for your time and efforts investigating thermal energy networks. As noted in our March 3<sup>rd</sup> comments, VGS believes geothermal offers many potential benefits and we are eager to see its expansion in Vermont. Please do not hesitate to reach out to our team with any questions or requests.

Respectfully submitted,

/s/ Mary G. Bouchard

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