

**State of Vermont****Department of Public Service**

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May 14, 2019

Ms. Judith Whitney, Clerk  
Vermont Public Utility Commission  
112 State Street, Floor 4  
Montpelier, Vermont 05620

Re: Case No. 19A-1242  
PSD Comments and Recommendation for Investigation

Dear Ms. Whitney:

On April 29, 2019, the Green Mountain Power Corporation (GMP) provided notice of a proposed Resilient Home Innovative Pilot (RH Pilot) to the Public Utility Commission (Commission) and the Department of Public Service (Department). GMP's innovative pilot programs are authorized under GMP's current alternative regulation plan as approved by the Commission in Case No. 17-3232-PET, which requires that GMP provide 15 days' advanced notice for any new innovative pilot.<sup>1</sup>

The Department recognizes the need for Vermont utilities to be responsive to the demands of the modern energy marketplace and be aggressive in pursuing grid modernization technologies that yield both financial and environmental benefits for their ratepayers. Indeed, the Department has generally been supportive of GMP's efforts to pursue innovative projects in recent years. With respect to GMP's RH Pilot, the Department sees value in pursuing the primary objectives of the pilot, which include an evaluation of whether measurement functionality embedded within battery storage systems can supplant the need for traditional metering infrastructure, experimentation with new consumer pricing options, and developing more practical relationships between GMP and construction developers. The Department, however, has conducted a preliminary review of the RH Pilot, and for the reasons described below, the Department finds that the RH Pilot as proposed may be duplicative of an already completed innovative pilot and raises significant issues with respect to ratepayer impact, competitive fairness, and consumer protections. The Department therefore recommends that the Commission open an expedited investigation, pursuant to its authority under 30 V.S.A. §§ 218, 218d, and 229, into the RH Pilot and suspend its implementation until such investigation is completed or GMP submits a revised version of the RH Pilot that adequately addresses the concerns identified by the Department.

To be clear, GMP discussed the RH Pilot with Department staff and answered informal questions prior to filing its notice. Although GMP has provided some helpful and clarifying

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<sup>1</sup> *GMP Petition for Temporary Limited Regulation Plan*, Case No. 17-3232-PET, Order of 11/29/17, at Attachment I.

information to address several potential problems identified by the Department and the Department is supportive of the overall objectives of the RH Pilot, the Department still has concerns regarding the issues detailed below.

### **1. Powerwalls as Necessary Component of the RH Pilot**

It is unclear to the Department why deployment of new Tesla Powerwall units is a necessary component of the RH Pilot. To date, GMP has already completed two separate innovative pilot programs that included Tesla Powerwalls. The innovative pilot mechanism is intended for GMP to experiment with new and innovative technologies to determine potential value for ratepayers. Having already completed two separate Powerwall pilots, GMP should have ample data to determine whether additional deployment of Powerwalls (or similar battery storage devices) as a permanently tariffed service is in ratepayers' best interest. Indeed, in its April 15, 2019 *Grid transformation Pilot – Update* filing, GMP described the benefits achieved by its most recent Tesla Powerwall innovative pilot and represented that “GMP intends to file and is currently working on a tariff filing to make the Powerwall Pilot a permanent offering for all GMP customers.”<sup>2</sup>

It is also unclear to the Department as to why Powerwall systems (or other storage systems) installed pursuant to a tariff cannot be used to achieve the goals of the RH Pilot (or whether existing Powerwalls can be used). If the RH Pilot ultimately includes up to 1,000 customers, it will potentially add over \$9 million of capital spending on Powerwalls on top of the \$15+ million that GMP has already incurred on Powerwall deployments. Including an additional batch of Powerwalls and the associated capital investments through a third successive innovative pilot appears duplicative and runs counter to intent of the innovative pilot program. To the extent the GMP seeks to offer Powerwalls or other storage devices to its customers, it should now do so as permanent service offering that is subject to a tariff review by the Commission, which would entail a thorough evaluation of the costs, benefits, and other matters related to the Powerwalls that have been deployed to date. If the RH Pilot requires data from newly installed Powerwall systems (as opposed to those already deployed), it would be more appropriate for GMP to open the pilot to customers that receive Powerwalls subject to tariff requirements approved by the Commission as opposed to offering the Powerwalls as a component of the pilot.

Additionally, the financial modeling that underlies the projected benefits of the RH Pilot assumes an even distribution of Powerwall systems installed by GMP and systems installed by independent third-party providers subject to GMP's “bring your own device” (BYOD”) program (250 of each). GMP's April 29 filing, however, does not reflect that the RH Pilot will be required to maintain an even mix of systems installed by GMP and third-party providers; nor does the filing clearly state that GMP will limit installations of Powerwall systems to 250 customers under the pilot. This ambiguity is concerning to the Department because the non-participating ratepayer benefits differ depending on the mix of systems included in the pilot. Based on the Department's review of the RH Pilot filing, the net overall ratepayer benefit decreases when the ratio skews towards customer participation with Powerwalls purchased through GMP versus third-party devices installed subject to the requirements of the BYOD program. While this is an issue that is better suited for a conclusive resolution in a rate setting proceeding, a full tariff

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<sup>2</sup> Letter from Josh Castonguay to Judith C. Whitney, Clerk of the Commission, dated April 15, 2019, at 7.

review of the Powerwall costs and benefits could presumably mitigate this concern at the outset and ensure better protections for both non-participating customers and those who would prefer to pursue an alternate battery storage technology.

## **2. Level of Participation**

The RH Pilot notice states that “[i]nitially, there will be an opportunity for up to 500 customers to enroll in the pilot . . . .”<sup>3</sup> However, the notice further states that “mindful of the tremendous interest GMP has experienced in past home energy storage offerings and the promotion we are coordinating regarding the BYOD Pilot, we will enroll up to double the number of customers initially targeted if we once again experience such demand within the first six months of the Pilot.”<sup>4</sup>

As noted above, the general purpose of the innovative pilots is to explore potential innovative offerings before broadly implementing such services subject to tariffed terms and conditions. The primary objectives of the RH Pilot, as expressed by GMP, include researching whether Powerwall (or other storage device) inverters are an effective substitute for existing meters, gauging the efficacy of fixed-price billing, and assessing value of working with home developers. GMP represents that customer demand would be the justification for doubling the scope of the RH Pilot from 500 to 1,000 participants. Customer demand by itself is not an appropriate justification for expanding the scope of an innovative pilot. The strategic goals and objective of the innovative pilot, not customer interest, should drive the appropriate number of participants in the pilot. If 500 participants (250 of which are expected to acquire a Powerwall system through GMP) will provide sufficient data to assess the objectives of the RH Pilot, then the program should be capped at 500 participants.

Additionally, due to differences in customer charges and credits under GMP’s Powerwall program compared to BYOD program, the Department anticipates that most customer selection will gravitate toward the full GMP delivered Powerwall battery system. As discussed above, this discrepancy would likely reduce the expected non-participating ratepayer benefits of the pilot. The Department therefore contends that it would be appropriate to firmly cap the RH pilot at 500 customers, of which only 250 may participate by acquiring a Powerwall system through GMP. This requirement would help to limit any potential imbalance between Powerwalls installed by GMP and third-party storage systems and thereby improve the likelihood of achieving net ratepayer benefit from the pilot.

## **3. Consumer Protection Issues**

The RH Pilot also raises potential consumer concerns. First, the RH Pilot will rely on use of a customer’s in-home Wi-Fi. GMP does not, however, detail the extent of data usage and/or how the RH Pilot could affect customers whose internet access is subject to data caps. The Department expects that the data consumption demands on customers will be comparatively small. Nevertheless, customers should be made aware of these demands. That information should be clearly and unambiguously provided to customers. Also, paragraph 20(e) of the “Lease &

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<sup>3</sup> GMP Notice at 1.

<sup>4</sup> GMP Notice at 1.

Pilot Program Agreement” that GMP provided with its notice includes a provision that requires that customers acknowledge that their “monthly bill will be based on data coming from the Powerwall System, which does not meet the same accuracy specifications as an AMI ‘smart meter.’” The Department believes that the notice regarding potential inaccuracy of the Powerwalls should be more prominently included within the customer contract and be included in any advertising or promotional material that GMP produces for the RH Pilot.

#### **4. Notice period and GMP’s publication of the pilot**

The Department has additional concerns as to how GMP is meeting its notice obligations for innovative tariffs. As noted above, GMP’s alternative regulation plan makes clear that GMP “shall file 15 days advance notice with the Department and the Commission, with a copy to Efficiency Vermont, *before* commencing pilot programs to provide the products or services referenced above.”<sup>5</sup> The Department understands that GMP publicized the RH Pilot the day after the notice was filed with the Commission. GMP also began taking enrollment information from customers through its website prior to the completion of the 15 day notice period. The notice period is of critical importance for regulators to review GMP’s proposed pilots to identify potential issues or concerns regarding rate payer impact. Advertising the program, including terms and conditions of service, before such regulatory review period has been completed is problematic and may lead to customer confusion if the Commission requires revisions to pilot.

#### **5. Additional Issues**

Finally, there are several other important issues that should be investigated by the Commission prior to commencement of the RH Pilot including, but not limited to, the following:

- Ability of third-parties in the residential storage marketplace to effectively participate. Third-parties should be afforded an ability to successfully participate and compete with GMP’s battery storage options. A well-formed pilot should be structured to test not only the success of new technological pathways, but also evaluate how to best foster new partnerships or third-party participation to increase the likelihood of achieving the pilot’s underlying objectives;
- System reliability and cybersecurity in light of an increasing fleet of internet-connected, inverter-based distributed energy resources providing grid services;
- If the RH Pilot shows promising results regarding the functionality of advanced inverter metering from Powerwalls, whether there is a clearly defined pathway for (a) enabling existing Powerwall-equipped customers to transition to inverter-based metering, and (b) enabling metering functionality and data integration from inverters paired with other types of distributed energy resources (e.g. solar photovoltaics);
- The value and durability of benefits both to participants (in terms of outage availability and duration) and non-participants (in terms of risks to changes in market conditions that could diminish the value of the fleet of Powerwall resources);
- The advisability of eliminating AMI meter installations in new homes before the results of the pilot are known;

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<sup>5</sup> Case No. 17-3232-PET, Order of 11/29/17, at Attachment I (emphasis added).

- Whether there are any similar pilots or completed studies in existence that would serve to answer the primary question the pilot is supposed to answer (all or in part).

## 6. Proposed Process

GMP's current alternative regulation plan is ambiguous as to process for Commission review of innovative pilots beyond the requirement that GMP file notice 15 days in advance of offering the pilot to customers. However, the Commission has plenary jurisdiction under 30 V.S.A. §§ 218, 218d, and 229 to review services offered by GMP and ensure that their terms and conditions are just and reasonable. Accordingly, the Department requests that the Commission invoke such jurisdiction to suspend implementation of the RH Pilot until either an expedited investigation can be completed to review the issues identified by the Department or GMP revises the RH Pilot to address and remedy these issues. The Department recommends the following process for such review:

1. PUC holds a status conference to set schedule;
2. The schedule for review be expedited to the extent feasible, but allow the opportunity for, at a minimum, intervention, discovery, and written filings recommending disposition of the contested issues.

If the Commission determines that an investigation is not necessary, then, in the alternative, the Department recommends that the Commission issue an order requiring that:

1. The RH Pilot be limited to a total of 500 participating customers, of which no more than 250 may participate by purchasing a Tesla Powerwall system through GMP;
2. GMP be required to file a proposed tariff for battery storage systems (including Tesla Powerwalls) within 60 days or suspend the RH Pilot;
3. Any GMP customer that enrolls in the RH Pilot after the Commission has approved a tariff for Tesla Powerwalls shall receive the Tesla Powerwall system subject to the terms and conditions included in such tariff;
4. That GMP revise the RH Pilot and/or its BYOD program to ensure a more competitive marketplace between GMP and third-party providers of battery storage systems that maintains net benefits for non-participating customers.

Sincerely,

/s/ Daniel C. Burke

Daniel C. Burke  
Special Counsel

cc: Melissa Stevens, Esq., Green Mountain Power (by ePUC)  
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