

September 22, 2023

Holly R. Anderson, Clerk  
Vermont Public Utility Commission  
112 State Street  
Montpelier, VT 05620-2701

Re: 23-1364 INV

Dear Ms. Anderson,

Vermont Electric Cooperative (VEC) offers the following response to the Public Utility Commission's (Commission's) Order dated 8/23/23 regarding electric vehicle rates. VEC intends to file a Residential Flexible Load tariff to comply with the requirements of Act 55. This program is described below. We also intend to file for an exemption for commercial and industrial rate classes based on our existing Service Classification 2.2 and 2.3, described below.

### **Flexible Load Management for Home Charging**

Through our current Tier 3 incentives, VEC offers a load management program for residential members that have L2 chargers. Starting in 2019, VEC began enrolling L2 chargers in a platform to communicate with the chargers and request that they not charge during peak times. Only certain brands of L2 charger are compatible with this platform. Therefore, we also offered a program where the member could set a schedule to avoid charging from 5-9pm Mon-Fri. Members with enrolled chargers received a \$300 incentive upfront and \$8/month provided that they did not opt out of any events. Members who set a static schedule received a \$250 incentive.

In 2023, VEC began offering free home chargers to residential members who own or lease an electric vehicle. The participant is responsible for the installation and must enroll the charger in VEC's communications platform so that VEC can ask the charger not to charge during peak events (5-6 events per month, up to 3-4 hours each event). Participants receive \$8/month provided that they do not opt out of any events. This program enables VEC to ensure that charging is not occurring during peak events, provides discounted charging to members, and is simple to administer.

Between the original managed charging program that began in 2019 and the 2023 enhancement that provides a free charger, we currently have 98 chargers enrolled on the platform and another 50 where enrollment is pending. We also have 107 chargers that have set a schedule to avoid charging from 5-9pm. Counting both direct management and the set schedule, the total participation rate is 46 percent (255 out of 550), and VEC has a goal of increasing participation to 75 percent.

VEC is currently working with a telematics provider to communicate directly with electric vehicles to call peak events. This platform could replace the previous program that communicates with L2 chargers and enable VEC to manage charging for many electric vehicle drivers who have a different brand of L2 charger or who rely on an L1 charger. We will offer a signup incentive and a monthly bill credit for participation.

We intend to file a draft tariff for a Flexible Load Management for Home Charging Program.

### **Commercial Energy Transformation Rate**

VEC also offers Service Classification 2.2 for Small Commercial members and 2.3 for Large Commercial members that participate in Energy Transformation projects. These are non-demand, time of use rates that can be used for level II (L2) and level III (L3) public and workplace chargers. The TOU rate has three time periods—on peak (5:01pm-9pm), mid peak (7:01am-5pm) and off peak (9:01pm to 7am weekdays, and all-day weekends and holidays).

These rates are:

#### ENERGY USAGE CHARGES

Off-Peak Rate	\$0.13587	Per kWh
Mid-Peak Rate	\$0.18813	Per kWh
On-Peak Rate	\$0.33763	Per kWh

Currently, no commercial or industrial members that host L2 or L3 chargers participate in these rates. However, there are fewer than twenty commercial or industrial accounts that VEC is aware of in our service territory that host L2 or L3 chargers. The ones that do have maintained the rate that they were previously on. Two L3 charger-only accounts that were developed as part of the ACCD grant program currently have low enough usage that they qualify for the small

commercial rate. They may opt for the TOU rate once the usage is high enough to trigger a rate with a demand charge.

We intend to file an exemption for further commercial and industrial EV rates based on Service Classification 2.2 and 2.3.

### **Residential Energy Transformation Rate**

VEC offers Service Classification 1.2, a time of use rate that members who participate in the Energy Transformation Program can opt into. Electric vehicle incentives are part of the Energy Transformation Program. The TOU rate helps incentivize load management for all EV drivers, regardless of how they charge at home, allowing load management programs and incentives to apply equitably among all EV drivers.

The TOU rate has three time periods—on peak (5:01pm-9pm), mid peak (7:01am-5pm) and off peak (9:01pm to 7am weekdays, and all-day weekends and holidays). The rate for the off-peak period is \$.13444 compared to the default residential rate of \$.20076. This whole house rate provides an incentive for customers to shift their electric usage away from high-cost hours and does not require submetering. Eleven residential members who own electric vehicles participate in this rate out of approximately 550 known EV drivers.

### **Other Electric Vehicle Offerings**

In addition to the charging rates and programs described above, VEC offers an electric vehicle bill credit through our Tier 3 program for members who purchase or lease a new or used vehicle. We also offer a free transformer upgrade for members who do not have adequate transformer capacity at their property to accommodate the additional demand of an electric vehicle. VEC views this as a significant barrier to EV adoption, and one that takes many EV drivers by surprise. We did not want our members to feel that we had encouraged EV adoption through our programs and incentives, and then surprised them with a \$2000 bill to upgrade the transformer. Based on our financial analysis, these upgrades, when necessary, are still covered by the additional revenue that is generated by more EVs coming online in VEC's service territory. Therefore, it is beneficial to the individual participant as well as the overall co-op membership.



### **Demand Charges**

VEC does not have a demand charge for either the standard or TOU residential rate. Demand charges for commercial accounts begin when the account's usage exceeds 15,000 kWh for two consecutive months. Separately metered EV chargers could remain on the small commercial, non-demand rate until their usage exceeds 15,000 kWh and then switch to Service Classification 2.3 provided that usage does not exceed 130,000 kWh. The absence of a demand charge was factored into the rate design when this rate was originally formulated in 2016.

### **Multi-unit Residences**

VEC is aware of only one multi-unit residence with L2 charging. That is a networked L2 charger that is not separately metered. We do not believe that load control programs work as well at multi-family locations because the potential demand for these chargers is higher. Having a charger go offline for up to four hours on a regular basis would be problematic when it is expected to fuel multiple vehicles. At this time, the potential load impacts to VEC are minimal.

### **Effectiveness and design of whole premises time-of-use rates**

VEC believes that whole premise time of use rates can be effective in shifting not only electric vehicle charging but also the use of major appliances such as electric dryers, clothes washers and dishwashers to less expensive, off-peak times. Since 2016, we have offered an opt-in TOU rate to participants in our Energy Transformation Program (Tier 3 incentives) since 2016. To date, the participation rate is about four percent.

### **Other experiences and lessons learned**

While we agree that EV programs and rates are important to avoid increasing peak costs and overloading existing infrastructure, we believe that electric rates do not currently present a barrier to EV adoption. Even at VEC's highest residential rate, which is currently \$.20076/kWh, an electric vehicle is cheaper to fuel than an internal combustion engine vehicle that gets 40 miles per gallon (12,000 annual VMT divided by 40 times \$3.60/gallon = \$1,077 vs 12,000 annual VMT times .33 kWh/mile times \$.20076 = \$795).

The 2023 Global Automotive Consumer Study found that vehicle cost, driving range, and charging time were the top concerns preventing American consumers from adopting EVs.<sup>1</sup>

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<sup>1</sup> [https://www.greencarreports.com/news/1138338\\_study-ev-adoption-faces-critical-cost-barriers](https://www.greencarreports.com/news/1138338_study-ev-adoption-faces-critical-cost-barriers)



VEC's member survey data from 2023 found that these were also the top three concerns of VEC members hesitant to drive electric.<sup>2</sup> On the other hand, in a February 2022 study by Plug-in America, lower operating costs were one of the reasons that Americans were making the transition to electric vehicles.<sup>3</sup>

Because up to 90 percent of electric vehicle charging occurs at home<sup>4</sup>, we have targeted our load control programs to residential members. As the availability of workplace, multi-family, and public charging grows, we may develop additional programs to meet the needs of these members. Programs for commercial members may become more relevant as fleets electrify and vehicle-to-grid technology matures. At this time, we see demand charges as the main concern and potential barrier in this space, particularly with L3 charging. We believe that Service Classification 2.3 addresses this issue.

#### **October 16 Deadline**

VEC can file a preliminary draft tariff for the Flexible Load for Home Charging Program by October 16, 2023. However, some of the detailed testimony and analysis supporting this filing may take additional time and will be available in early 2024 at the latest.

We look forward to further engagement on this topic. Please contact us with any questions.

Sincerely,



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<sup>2</sup> [https://vermontelectric.coop/client\\_media/files/For\\_posting\\_on\\_web\\_2023\\_member\\_survey.pdf](https://vermontelectric.coop/client_media/files/For_posting_on_web_2023_member_survey.pdf)

<sup>3</sup> <https://pluginamerica.org/wp-content/uploads/2022/03/2022-PIA-Survey-Report.pdf>

<sup>4</sup> <https://www.pwc.com/us/en/industries/industrial-products/library/electric-vehicles-charging-infrastructure.html>

