October 30, 2024

Holly Anderson, Clerk
Public Service Commission
116 State St
Montpelier, VT 05620
Re: 24-3023-INV – PUC 2024 Investigation into Rates Related to Electric Vehicles

Dear Ms. Anderson,

Vermont Electric Cooperative (VEC) appreciates the opportunity to submit comments to inform the Public Utility Commission's (PUC's) investigation into electric vehicle (EV) rates. Below are responses to the PUC's specific questions.

Background

Pursuant to Act 55, Vermont Electric Cooperative (VEC) filed a residential Flexible Load Home Charging tariff on 12/6/23 in case number 23-4175-TF. This tariff was approved by the Commission on 5/31/24 and went into effect on 6/30/24.

VEC also requested an exemption for the commercial and industrial rate classes, based on Service Classification 2.2 and 2.3, VEC's preexisting commercial and industrial time of use (TOU) rates, which are available to any member who participates in VEC's Energy Transformation Program. Electric vehicle chargers are part of this program. Demand charges have been identified by EVSE providers as a barrier to the development of EVSE. Service Classification 2.2 and 2.3 do not include demand charges, thereby removing this barrier to greater deployment of EVSE in VEC's service territory.

In 23-4176-PET, the Commission hearing officer recommended that VEC receive this exemption to the commercial and industrial aspect of the Act 55 requirements on 6/25/24.

Exemptions

For utilities that received exemptions:

a. *Please provide data about historical and current customer participation levels in the exempt EV rates.*

   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 chargers maintained the rate that they were on prior to installing the charger. 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, non-demand rate. They may opt for the TOU rate once the usage is high enough to trigger a rate with a demand charge.

b. *Please describe any outreach efforts or promotion of the EV rates to utility customers since receiving your exemption, including any EV-rate participation incentives or coordination with dealers offering EVs.*

   This exemption is specific to commercial and industrial accounts. We inform the relevant account holders of the opportunity to participate in this rate when they install the charger.

c. *If the Commission required you to implement additional rates, please provide an update on your progress toward filing the additional EV rates for Commission approval.*

   Our residential flexible load home charging tariff is described in the next section.

New Tariffs

VEC filed a residential Flexible Load Home Charging tariff on 12/6/23 in case number 23-4175-TF. This tariff was approved by the Commission on 5/31/24 and went into effect on 6/30/24.

For utilities that filed new tariffs that were approved by the Commission:

a. *Please provide data about customer participation levels in the EV rate since implementation.*

   56 residential members have enrolled in the program since 6/30/24. 162 total members are currently enrolled in the program.

b. *Please describe the performance of the EV rates in meeting the goals of subsections (c)(1)(A) – (F) of Act 55, Section 33 since implementation.*

   The program meets the Act 55 criteria as follows:

   (A) *support greater adoption of PEVs;*

   As part of this program, VEC provides a free Level 2 charger, or a $50 enrollment credit for members who already have a non-compatible Level 2 charger and enroll in telematics. The free charger removes an initial barrier to EV adoption by bringing down the cost of this installation. Once the charger has been installed, the participant receives an ongoing $8/month bill credit for participating in peak events.

   (B) *adequately compensate PEV operators and owners of EVSE available to the public for the value of grid-related services, including costs avoided through peak management;*

The monthly incentive of $8 per month is based on an economic analysis that VEC has done on the value of shifting usage away from peak times. About 55 percent of this value is given to the individual participant and 45 percent is retained for the co-op membership as a whole.

(C) adequately compensate the electric distribution utility and its customers for the additional costs that are directly attributable to the delivery of electricity through a PEV rate;

As stated above, about 45 percent of the value of peak-shifting is retained for the larger co-op membership.

(D) include a reasonable contribution to historic or embedded costs required to meet the overall cost of service;

Participants in the Flexible Load Home Charging Program are charged the standard residential rate, which covers the cost of service, then credited back $8 per month to compensate them for the benefit of avoiding charging during peak times.

(E) do not discourage EVSE available to the public; and

Since this is strictly a residential program, it has no bearing on public charging.

(F) do not have an adverse impact to ratepayers not utilizing the PEV rate.

Please see the response to (C) above.

c. *Please describe any outreach efforts or promotion of the EV rates to utility customers since approval, including any EV-rate participation incentives or coordination with dealers offering EVs.*

We have promoted this program on our website, through emails to members, on the Drive Electric Vermont website, and through in person events such as VEC's Annual Meeting, farmers' markets, and an electric vehicle meetup.

d. *If the Commission required you to implement additional rates, please provide an update on your progress toward filing the additional EV rates for Commission approval.*

VEC is not required to file additional tariffs at this time.

More Information

For all utilities:

a. *Please identify and discuss any continuing barriers to your progress toward meeting the goals of subsections (a) and (b) of Act 55.*

VEC has worked to remove the barriers to EVSE adoption in our service territory through the commercial TOU rate and the Flexible Load Home Charging Program. For some members, a barrier has been the cost of installing a L2 charger. We recently started offering a L2 charger

with integrated load management to enable members to install a charger without needing to upgrade their electric panel.

We will continue to expand and improve these programs as new use cases emerge and as the technology matures.

b. *Please describe your service upgrade practices related to the installation of EVSE across all electric distribution utilities, including a description of the frequency and typical costs of EVSE-related service upgrades and ratepayer impact.*

Service Upgrade Practice

The vast majority of EVSE installations occur behind the meter on residential member accounts. VEC is typically notified about an EVSE through Tier 3 incentives. However, the charging speed that ultimately determines the utility impact is not listed.

There are two categories of service upgrades VEC bears the responsibility for- distribution transformer and service wire. VEC is not involved with the costs and upgrades required behind the meter.

For distribution transformers, VEC uses software provided by Camus Energy to identify overloaded transformers and unknown EV chargers through AMI analytics. If an overloaded transformer is identified, VEC will contact the member and schedule a transformer upgrade.

While most service wire (from the transformer to the meter) is owned by the member, some are owned by VEC. VEC would only know about this upgrade if requested by an electrician/member or if discovered by also needing a transformer upgrade. In the event of an upgrade, the majority of the work is completed by the member, but VEC would need to hang a new service loop at the pole.

Developers or businesses installing level 2 or level 3 EVSE installations will typically contact VEC in advance and submit a new service or change in service application. These are reviewed by VEC Utility Designers for impacts and to provide a cost estimate for any required upgrades.

To address impacts moving forward, VEC increased its standard service transformer size in 2020 to the following:

- Two or fewer meters on a transformer – from 10 kVA to 15 kVA
- Three or greater meters on a transformer – from 15 kVA to 25 kVA or larger, case by case basis

Frequency and Costs of EVSE Related Upgrades

To date VEC has upgraded almost 50 transformers due to EV overloads and is upgrading between 10-20 transformers annually for EV's. Costs vary based on the size of the transformer. The most common upgrade is a 10kVA to 15 kVA which costs around $3,000 with labor and materials.

There have been only a handful of service wire upgrades performed by VEC. These are generally a hang loop fee, which is about $1500. The member needs to have an electrician and excavator complete all work to the pole.

Ratepayer Impact

There are two categories of EVSE impacts – local and system.
On a local level the ratepayer impact comes from costs associated with upgrading a distribution transformer. In June 2020, VEC began offering free transformer upgrades for EV's through an addition to section 17 of VEC's Line Extension Tariff (20-1528-TF). The ROI varies based on the size of the transformer and kilowatt-hour sales from charging. To meet the tariff requirements, VEC needs to demonstrate a net economic benefit within a 6-year period.

On a system level, VEC has not yet needed to upgrade primary lines, substation transformers, or transmission assets because of EV growth. However, as adoption levels continue to increase, VEC is forecasting significant investment on the distribution grid in the range of $50-$100 million dollars of investment before 2040.

Thank you for the opportunity to comment on this matter. We look forward to ongoing engagement. Please contact us with any questions.

Sincerely,

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