

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Case No. 23-36-04-PET

Petition of Vermont Public Power Supply)
Authority for approval of a proposed EV/EVSE)
tariff rider program for its member utilities)

**SUPPLEMENTAL TESTIMONY OF
SARAH E. BRAESE
ON BEHALF OF
VERMONT PUBLIC POWER SUPPLY AUTHORITY**

Ms. Braese's testimony answers the Public Utility Commission's questions in its Request for Information filed January 25, 2024 related to VPPSA's proposed EV/EVSE Tariff Rider program for residential and commercial customers of its members and explains the features of the specific EVSE rates.

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Case No. 23-3604-PET

Petition of Vermont Public Power Supply)
Authority for approval of a proposed EV/EVSE)
Tariff Rider program for its member utilities)

**SUPPLEMENTAL TESTIMONY OF AND RESPONSE TO
PUBLIC UTILITY COMMISSION
REQUEST FOR INFORMATION BY**

SARAH E. BRAESE

**ON BEHALF OF
VERMONT PUBLIC POWER SUPPLY AUTHORITY**

1 **Q1. Please state your name, position, and business address.**

2 A1. My name is Sarah Elise Braese. I am the Assistant General Manager at the Vermont Public
3 Power Supply Authority (“VPPSA”), 5195 Waterbury-Stowe Road, Waterbury Center,
4 Vermont 05677.

5
6 **Q2. Are you the same Sarah Braese that filed direct testimony in this matter on October 6,**
7 **2023?**

8 A2. Yes, I am the same Sarah Elise Braese who submitted direct testimony in Case No. 23-3604-
9 PET dated October 6, 2023.

10
11 **Q3. What is the purpose of your supplemental testimony?**

12 A3. The purpose of this supplemental testimony is to provide responses to the Public Utility
13 Commission’s (“PUC’s”) Request for Information dated January 25 ,2024 in this matter.

14 **Q4. Will VPPSA have a grace period for customers to understand the bill impact of charging**
15 **during periods of higher rates?**

16
17 **A4.** As part of its initial Scope of Work Agreement with its PaaS provider, VPPSA will be supplied
18 customer outreach content that describes how the program works and how to engage with the tariff
19 rider. In addition to the consultant provided materials, VPPSA is exploring a comprehensive
20 communications and engagement strategy that would establish core messaging and materials, but also
21 encourage local community members and utility staff to promote the Program as well.

22 VPPSA fully expects to develop informational materials that illustrate potential bill impacts

1 and implement appropriate mechanisms to communicate potential spikes in energy market prices.

2

3 **Q5. At the January 11, 2024, workshop, Mr. Farman stated that Green Mountain Power**
4 **Corporation’s (“GMP”) EV rate options have a “much narrower on-peak window” than**
5 **VPPSA is proposing. Does VPPSA view this as a benefit to its customers? Does VPPSA believe**
6 **that there are other benefits of its proposal over GMP’s rate options? If yes, please explain.**

7 **A5.** Depending on whether VPPSA’s proposed tariff structure is compared to GMP’s Rate 72 or
8 Rate 74, you might say GMP’s EV rate has a narrower or broader on-peak window. Below is a
9 summary of GMP Rate 72, GMP Rate 74 and VPPSA’s Proposed rate structure that illustrates
10 differences and similarities.

11 Rate 72 features “called” Peak Events, 2-6 hours in duration, 5-10 times a month, during
12 which the charger is disabled by GMP unless the customer actively chooses to opt-out. A
13 customer who opts out and charges during the event will pay for that usage at the much higher
14 Peak Event EV energy rate. Rate 72 focuses on estimating a range of hours, during a few key
15 days a month, attempting to capture the anticipated monthly peak. In comparison VPPSA’s
16 proposed rate structure relies on a more predictable, fixed, 6 hour on-peak period for all
17 weekdays throughout the month that does not include disabling the charger for any time periods.
18 The dynamic pricing incorporated in the VPPSA proposal potentially requires customers to pay
19 attention and make choices; the same can be said for Rate 72 as customers must actively react to
20 (or choose not to react to) multiple called events at unexpected times during a month.

21 Rate 74 appears to be more similar to the proposed VPPSA structure. The Rate 74 on-
22 peak period is 8 hours long, compared to the VPPSA proposal of 6 hours, does not feature called

1 events, and utilizes stated on and off-peak prices rather than the dynamic pricing approach
2 proposed by VPPSA. It appears the on-off peak price differential may be sharper, as proposed
3 by VPPSA, and may reward customers more generously for managing their EV charging usage
4 away from peak hours.

5 VPPSA settled on its proposed structure in part because the consistent on-peak period is
6 expected to simplify customer decisions, partially offsetting the dynamic pricing complexity, and
7 when coupled with strong, market-based price signals will encourage off-peak charging. The fact
8 that the proposed VPPSA rate structure is different from GMP's EV rate structure is interesting
9 and may reflect different approaches to providing incentives for rapid EV adoption while still
10 managing EV peak load.

11 A comparison of the GMP rates and VPPSA's proposed rate is set forth on the chart on
12 the following page.

13

Summary of VPPSA Proposed and GMP EV Rates		
Rate 72	Off Peak Electric Vehicle Service	
	GMP Manages Charger	
	5-10 Peak Events per month	
	minimum notice 4 hours	
	GMP Eligible charger required	
	Only applicable to Rate 01 (residential)	
	EV charging usage subtracted from base (home) rate	
	ON PEAK HOURS - PER CALLED EVENT	
	OFF PEAK HOURS - ALL OTHER	ALL OTHER
	Opt-Out Rate \$/kWh (customer action required)	\$ 0.77270
	Off Peak Rate \$/kWh	\$ 0.15029
Rate 74	Residential TOU Electric Vehicle Service	
	Charger is not Managed	
	NO Called Peak Events per month	
	No notices	
	GMP Eligible charger required	
	Only applicable to Rate 01 (residential)	
	EV charging usage subtracted from base (home) rate	
	ON PEAK HOURS	1:00-9:00 pm M-F
	OFF PEAK HOURS - ALL OTHER	ALL OTHER
	ON Peak Rate \$/kWh 1:00 - 9:00 PM (hour 14-21)	\$ 0.18989
	OFF Peak Rate \$/kWh	\$ 0.14452
	VPPSA Proposed Incremental Rate:	
	Charger is not Managed	
	NO Called Peak Events per month	
	Daily Price notice	
	Eligible charger - ADR compliant	
	applicable to multiple rate classes	
	EV charging usage subtracted from base (home) rate	
	ON PEAK HOURS	3:00-9:00 pm M-F
	OFF PEAK HOURS - ALL OTHER	ALL OTHER
	ON Peak Rate \$/kWh 3:00 - 9:00 PM (hour 16-21)	variable/Day Ahead Energy + fixed adder \$0.25/kwh (illustrative)
	OFF Peak Rate \$/kWh	variable/Day Ahead Energy + fixed adder \$0.04/kwh (illustrative)

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1 **Q6. At the January 11, 2024, workshop Ms. Braese stated that “the vision for [the VPPSA**
2 **program] was the New Hampshire Electric Co-op who has the transactive energy rate.” Does**
3 **the New Hampshire Electric Co-op use the same technology as VPPSA is proposing to use to**
4 **implement the tariff? Please explain how the New Hampshire program has guided the**
5 **development of VPPSA’s program. Please explain VPPSA’s understanding of the New**
6 **Hampshire program’s success such as customer participation numbers.**

7
8 **A6.** VPPSA explored several potential platform providers and/or software solutions as a framework
9 to meet Act 55’s EV/EVSE tariff requirements. Each technology solution presented specific
10 challenges or restrictions to implementing a solution which treats the device as an effective sub-meter.
11 Ultimately, VPPSA executed an agreement with Bellawatt. The New Hampshire Electric Cooperative
12 (“NHEC”) model was a source of inspiration as it relates to structure, however the cost component
13 and peak adder formula(s) of VPPSA’s proposed tariff rider program is less complex, to support the
14 agile deployment envisioned for this initiative.

15
16 **Q7. Please provide a few examples of possible service or platform providers (e.g., a customer’s**
17 **OpenADR-Compliant Authorized Representative). Will this representative serve as a**
18 **customer’s aggregator? Will there be a default aggregator?**

19
20 **A7.** Please refer to VPPSA’s response to the Department of Public Service Department’s first round
21 of Discovery, under Q.DPS.VPPSA.1-10 (excerpt below)¹:

¹ See [VPPSA Response to First Set of Discovery](#), filed January 31, 2024 in Case No. 23-3604-PET

1 *There are a number of both devices/device manufacturers and Virtual Top- or End-Node*
2 *providers that utilize and promote the OpenADR communication protocols to enable open*
3 *accessibility². Additional information about OpenADR and the OpenADR Alliance*
4 *members and supporters can be found on the About Us page at www.openadr.org*

5 VPPSA does not envision establishing a default aggregator, as that would conceivably restrict
6 customer participation rates and/or availability to engage in the Program.

7
8 **Q8. How will VPPSA market the new tariff offering to customers?**

9 **A8.** Once the Tariff Rider Program is available, VPPSA envisions direct outreach to all previous
10 recipients of the electric vehicle incentives, as well as direct outreach and engagement strategies yet
11 to be developed to support robust participation. Part of VPPSA’s Scope of Work agreement includes
12 delivery of customer-facing presentation materials to describe and promote the Program.

13 VPPSA has had growing success with customer participation in the PowerShift Pilot Program,
14 however, there have been several barriers to entry that limit successful customer participation. See
15 Figure 1: VPPSA PowerShift Program Participation & Enrollment (as of February 6, 2024).
16 Currently, VPPSA includes a checkbox on its EV incentives rebate form to express interest in an
17 EV/EVSE Charger and the PowerShift Program. The Program is also included and posted on
18 www.vppsa.com and co-marketed with its pilot program partner, Efficiency Vermont.

19

² For a list of OpenADR Compliant Products, visit <https://products.openadr.org>

1 Figure 1: VPPSA PowerShift Program Participation & Enrollment (as of February 6, 2024)

Utility	Enrollment Status	Count of Utility
Barton	Removed from Pipeline	2
	Pending	1
Barton Total		3
Enosburg	Removed from Pipeline	3
	Enrollment Complete	1
Enosburg Total		4
Hardwick	Pending	9
	Removed from Pipeline	4
	Enrollment Complete	2
Hardwick Total		15
Ludlow	Pending	3
	Removed from Pipeline	1
	Enrollment Complete	1
Ludlow Total		5
Lyndon	Enrollment Complete	4
	Pending	4
	Removed from Pipeline	3
Lyndon Total		11
Morrisville	Pending	8
	Removed from Pipeline	4
	Enrollment Complete	4
Morrisville Total		16
Northfield	Pending	9
	Removed from Pipeline	5
	Enrollment Complete	3
Northfield Total		17
Swanton	Pending	4
	Enrollment Complete	2
	Removed from Pipeline	1
Swanton Total		7
Grand Total		78

2

3

4

5 **Q9. How will VPPSA use its existing PowerShift program to incentivize customers to**
 6 **participate in the tariff?**

7 **A9.** See Response to Questions 8 above.

8

9 **Q10. Please provide information on current customer participation numbers for the PowerShift**
 10 **program. How does VPPSA currently market the PowerShift program to customers? Will**
 11 **VPPSA expand outreach after the tariff is implemented?**

1 **A10.** See Response to Questions 8 above.

2

3 **Q11. At the January 11, 2024, workshop, when asked whether internet was required to**
4 **communicate with the device, Ms. Braese responded that “it depends on the device” and that**
5 **the technology uses radio and cell phone towers. How common is it for EVs to have this**
6 **capability? How will customers ensure that their EV has this capability in order to participate**
7 **in the tariff? Are retrofit options readily available for customers that have EVs without this**
8 **capability?**

9 **Q11.** VPPSA is aware of at least three OEM and device manufacturers that utilize alternative
10 mechanisms (e.g. radio and or cell tower frequencies) to communicate and/or transmit data. At this
11 time VPPSA does not have data to illustrate how common it is for electric vehicles to be equipped
12 with this capability, but it is our understanding most modern vehicles are utilizing this technology
13 exclusively (e.g. those with built-in navigation systems). Retrofit options are available and can be
14 referenced under the same product list provided in response to Question 7.

15

16 **Q12. The Commission is reviewing VPPSA’s petition for approval of its Advanced Metering**
17 **Infrastructure (“AMI”) Plan in Case No. 23-2861-PET. Is VPPSA proposing to use this tariff**
18 **program as a bridge for customers to have access to EV/EVSE tariff options until AMI is**
19 **deployed? Will the technology needed to implement this EV tariff be relevant and used when**
20 **AMI is rolled out? If not, how will VPPSA address the potential sunk costs related to its**
21 **investment?**

22 **A12.** No, VPPSA does not view this as a technology bridge until AMI is installed. For the past
23 several years VPPSA has been establishing an overall technology path for its municipal utility

1 members. This path involves AMI as the central means for gathering load and operational
2 information about both customers and the distribution network.

3 In addition, VPPSA has invested significant resources to establish Geographic Information
4 System (GIS) capability that will both provide visualization of the collected AMI data and a more
5 robust real-time tracking of the distribution network, ultimately enhancing preventative
6 maintenance and engineering capabilities.

7 VPPSA is now leading an effort among its members to evaluate and implement new utility
8 financial and billing software that provides more flexibility and easier integration with new
9 technologies.

10 In addition, VPPSA recently hired Lemmerhirt Consulting to lead a comprehensive review
11 of existing member technologies, evaluate the overall technology suite that will be required to
12 meet the various NERC, FERC, and PUC directives, and recommend a comprehensive technology
13 roadmap of additional investments VPPSA will need to implement over the next 5-years.

14 Throughout these efforts VPPSA has simultaneously worked with various vendors to develop an
15 economically viable flexible load management approach premised on direct customer control of
16 devices but has been unable to do so. Whether it was controlling heating devices through Virtual
17 Peaker, the EV control pilot VPPSA did with EVT, or discussions through EVT and directly with
18 manufacturers around EV telematics, it has become clear that the software and hardware OEM's,
19 and load aggregators, have structured their pricing to allow access to data/communications such
20 that the utility sees very little real benefit from the load reductions. In most instances the utility
21 sees an added cost, in our experience.

22 While a decade ago AMI was viewed as the way for utilities to directly control customer
23 loads, that aspect of AMI has not been realized. Instead load control depends upon access to

1 customer devices that manufacturers control (and charge for). Individual appliance usage data is
2 viewed as a revenue stream by device manufacturers and, again, guarded closely absent a utility
3 paying for access to the information. AMI will not provide a means to bypass those OEMs absent
4 installation of costly and often invasive sub-metering.

5 For that reason, VPPSA has chosen to proceed with the proposed customer choice approach
6 whereby any cost or savings from customer actions will be passed directly on to those customers
7 taking the action, and the utility remains neutral. The customer can choose to work through their
8 OEM, through an aggregator, or directly with their utility. This customer-controlled approach fits
9 best with the municipal non-profit business model.

10 From that viewpoint, VPPSA sees the tariffs being developed, and associated technology
11 investments, to be complementary to the other aspects of the municipal technology refresh
12 underway. AMI will provide important data to assist with the development/refinement of these
13 programs, but it will not replace the OpenADR communications system being proposed.

14

15 **Q13. Please provide a best estimate of program costs including upfront and ongoing costs and**
16 **how those costs will be allocated. In addition, please provide a best estimate of the program**
17 **costs charge for the EV/EVSE tariff customers.**

18 **A10.** At this time, VPPSA does not have a best estimate of program costs, however, it has executed
19 its initial agreement and Scope of Work to better identify the risks and/or challenges that may drive
20 costs in the final design, development and deployment of a centralized PaaS to send and receive the
21 necessary usage data. The initial Scope of Work is expected to be completed over the next 6-8 weeks
22 and after that time VPPSA should have a more comprehensive understanding of the anticipated costs.

23

1 **Q14. Please provide proposed reporting metrics and a schedule to update the Commission on**
2 **customer participation and other relevant information after the tariff is implemented.**

3 **A14.** VPPSA suggests an initial schedule for reporting on customer participation at 6-month
4 intervals on January 31 and July 31; each report would include data for the immediately preceding
5 January to June and July to December periods, respectively. VPPSA is examining the potential for
6 including the following information in these reports:

- 7 • Total number of customers in each rate class for which the EV rate is offered
- 8 • Estimated number of EV's in member territory
- 9 • Total number of EV's enrolled in member territory
- 10 • Ratio of enrolled EV's to estimated number of EVs
- 11 • Total EV usage

12
13 **Q15. Does this conclude your testimony?**

14 **A15.** Yes, this concludes my supplemental testimony.

