REPORT TO THE VERMONT STATE LEGISLATURE

Act 55: 2025 Report on Electric Rates for Electric Vehicles

Submitted by the Vermont Public Utility Commission to the Senate Committees on Finance, on Natural Resources & Energy, and on Transportation, and to the House Committees on Energy & Digital Infrastructure and on Transportation

January 15, 2025

VERMONT

PUBLIC UTILITY COMMISSION

I. Introduction and Statutory Basis

On June 3, 2021, Act 55 was signed into law.[1] Act 55 directs the Vermont Public Utility Commission ("Commission") to file a report to the Legislature annually for four years regarding progress on rates related to electric vehicles ("EVs")[2] and electric vehicle supply equipment ("EVSE"). This is the fourth and final report required by Act 55.

Section 33 of Act 55 directed electric distribution utilities to develop rates that manage loads for greater cost containment, encourage customer participation, and promote the adoption of electric vehicles. Utilities were required to offer EV rates to their customers by June 30, 2024, unless provided an extension.

As of the filing of this report, the Commission has approved tariffs, exemptions, or extensions for all Vermont distribution utilities.

In preparing the 2025 report, the Commission held one workshop and requested two rounds of stakeholder comments and has integrated the information received into this report. This year's report describes the Commission's determinations on the various distribution utilities' filings and provides an overview of the distribution utilities' service upgrade practices as directed by the Legislature in Act 148 of 2024.[3]

The Commission thanks the distribution utilities and all participants in these proceedings over the past four years for their time and effort, and for their continued work as the EV landscape in Vermont and across the country continues to evolve and develop.

II. Summary of Utility Act 55 Filings

In this section, we summarize the Commission's decisions regarding the distribution utilities' EV-rate-related filings.

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[1] Public Act No. 55 (2021 Vt., Bien. Sess.) ("Act 55").

[2] Section 1(b)(4) of Act 55 states that "'Plug-in electric vehicle (PEV),' 'plug-in hybrid electric vehicle (PHEV),' and 'battery electric vehicle (BEV)' have the same meanings as in 23 V.S.A. § 4(85)." 23 V.S.A. § 4(85) explains that "[a] 'plug-in electric vehicle' includes both a 'battery electric vehicle' and a 'plug-in hybrid electric vehicle'" and provides definitions. We use the term "EV" in this report to refer to PEVs and BEVs as those terms are used in Act 55.

[3] Section 27, Public Act No. 148 (2024 Vt., Adj. Sess.)("Act 148").

1. City of Burlington Electric Department ("BED")

BED received an exemption under Section 33(d) of Act 55 based on its pre-existing EV Rate, EV Charging Station Rate, and primary service tariff.[4]

BED began offering residential EV charging rates in 2018. In 2021, BED expanded its EV rate offering to include all non-time-of-use rate classes, including its small general and large general classes.[5]

Customers have three options under BED's EV rate, each of which provides customers with a per-kWh bill credit for EV charging. The "Fixed EV charging" option restricts EV charging to designated charging times (10 PM - 12 PM (next day)). Under the "flexible load" option, BED controls EV charging according to market and load conditions but provides advance notice of the event. The "flexible real-time load" option is similar to the "flexible load" option, but allows BED to control charging levels without advance notice. Under all three options, customers lose their charging credits for the billing cycle if they charge outside the designated charging times (for fixed EV charging) or override BED's charging controls (for the flexible load and flexible real-time load options).

For larger customers that do not qualify for BED's EV rate, BED has offered a mandatory time-of-use rate (BED's primary service rate) since 2015 for customers taking service at 13.8 kV. BED also has a tariff, which has been in effect since 2015, for public EV charging stations that are owned or maintained by BED.

2. Green Mountain Power Corporation ("GMP")

GMP received an exemption under Section 33(d) of Act 55 for its Off-Peak Electric Vehicle Residential Rate 72 ("Rate 72"), its Time-of-Use Electric Vehicle Residential Service Rate 74 ("Rate 74"), and the EV Charging Equipment Exemption in Rate 6 for commercial public EVSE applications.[6]

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[4] *Burlington Electric Department's request for exemption from Section 33(d) of Act 55*, Case No. 23-3611-PET, Order of 6/28/24.

[5] The Commission approved the eligibility expansion of BED's EV rate to include small general and large general rate classes in addition to BED's residential rate class on July 1, 2021, in Case Nos. 21-1832-TF, 21-1833-TF, and 21-1834-TF.

[6] *Petition of Green Mountain Power requesting confirmation that its existing electric vehicle tariff programs satisfy the requirement for "plug-in electric vehicle" rates pursuant to Section 33(b) & (d) of Act 55*, Case No. 23-3612-PET.

Rate 72 was approved by the Commission on July 20, 2020,[7] and is available to all GMP residential customers who take non-EV-related electric service under GMP's residential Rate 1. Rate 72 customers must enroll their EVSE in GMP's energy management platform, which provides GMP the ability to control EV charging, including disabling the customer's EVSE during times of peak demand ("Peak Events"). Customers are notified of Peak Events anywhere from 4 to 24 hours in advance and may override the Peak Event and continue charging at a higher Peak Event rate. Customers receive a lower rate if they avoid charging during Peak Events.

GMP's Rate 74 was also approved by the Commission on July 20, 2020,[8] and is available to all GMP residential customers taking non-EV-related electric service under residential Rate 1. Rate 74 also requires customers to enroll their EVSE in GMP's Energy Management Platform, which allows GMP to monitor electricity usage. Rate 74 sets specific Peak and Off-Peak hours and provides reduced charging rates during Off-Peak periods.

GMP's General Service Rate Schedule 6 is available to GMP's commercial and industrial customers and includes a daily customer charge and a flat per-kWh rate. For accounts restricted to public EVSE, Rate 6 includes an exemption that waives the 200-kW demand and 7,600 kWh/month consumption service limitations.[9] The Rate 6 exemption allows public EVSE to remain on Rate 6 rather than moving to GMP's Commercial and Industrial Time-of-Use Rate Schedule 63/65, which includes demand charges.

GMP also offers additional EV-related special programs that are not contained in tariffs, including its EV Bus Special Contract and its Flexible Load Management 3.0 Pilot. The Commission has determined that the programs are not eligible for an exemption under Section 33(d) of Act 55 because these programs are not "rates" that have been "filed for review and approval by the Public Utility Commission" pursuant to 30 V.S.A. § 225, as required by Section 33(b), and were not offered before July 1, 2021. The Commission granted GMP an extension of time until December 31, 2025, to file a tariff covering this rate class to allow GMP time to develop its EV rates for non-EVSE commercial customers and complete its commercial EV-rate offerings.

[7] *Tariff filing of Green Mountain Power Corporation for approval to implement two new electric vehicle charging rates*, Case No. 19-3586-TF.
[8] *Id.*
[9] The Commission approved the Rate 6 Exemption on January 29, 2021, in Case No. 20-3832-TF.

3. GF Power LLC ("GF Power")

On October 21, 2022, GF Power received a certificate of public good ("CPG") in Case No. 21-1107-PET to form and operate as a public service company. GF Power requested a declaratory ruling that it is not subject to the requirements of Section 33(b) of Act 55. Under the terms of GF Power's CPG, GF Power may have only one pass-through tariff and may only provide service to its parent corporation, GlobalFoundries U.S. 2 LLC, at GlobalFoundries' Essex facility. GF Power is not permitted to offer additional tariffs or provide service to anyone other than its parent company.

The Commission granted GF Power's request on June 27, 2024.[10] The Commission concluded that GF Power is not subject to the requirements of Act 55 because GF Power is not a "State electric distribution utility" as that term is used in Act 55 as a result of the terms of GF Power's limited CPG, which specifies a single pass-through tariff, prohibits GF Power from serving any customer other than GlobalFoundries, and exempts GF Power from the requirements of 30 V.S.A. § 225. The Commission also noted that GF Power's sole tariff, as a pass-through rate, already provides incentives to efficiently manage loads, including EV loads.

4. Village of Hyde Park Electric Department ("Hyde Park Electric")

The Commission granted Hyde Park Electric an extension of time to implement EV rates until June 30, 2026, pursuant to Section 33(e) of Act 55.[11] Hyde Park Electric based its extension request on its technical inability to implement EV rates without first upgrading its current analog metering and software system capabilities. Without upgrading its metering infrastructure, Hyde Park Electric cannot identify separate loads related to EVs or EVSE and cannot properly bill customers for EV-related usage.

Hyde Park Electric has identified a metering and data monitoring system that will provide the capability to implement EV rates but has found that the cost of the system is currently prohibitive. Hyde Park Electric is continuing its conversations with community members and customers regarding EV rates as it seeks funding to assist with updating its metering system.

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[10] *Petition of GF Power LLC for declaratory ruling on rates for electric vehicles under Act 55*, Case No. 23-4193-TF.

[11] *Petition of Village of Hyde Park Electric Department requesting an extension of time for extension of PEV filing and implementation deadlines pursuant to Section 33(e) of Act 55*, Case No. 23-3582-PET, Order of 5/14/24.

Accordingly, Hyde Park Electric does not currently offer any EV rates. EV charging that occurs in Hyde Park Electric's service territory occurs under the established tariff rates in place for the relevant customer class.

As a condition of granting the extension request, the Commission required Hyde Park Electric to file six-month progress reports.[12]

5. Town of Stowe Electric Department ("Stowe Electric")

The Commission granted Stowe Electric an extension of time to implement EV rates until January 31, 2025, pursuant to Section 33(e) of Act 55.[13] Stowe Electric based its extension request on its technical inability to implement rates while it upgraded its enterprise software platform, which required significant staff support. Once upgraded, Stowe Electric's software platform will provide additional functionality that can support more EV-rate design options. Stowe Electric completed the integration of its new software system in the first quarter of 2024 and has engaged a rate-design consultant to review its existing tariffs and provide recommendations, including recommendations on an EV rate pursuant to Act 55. Stowe Electric expects to complete work on its EV rate design by January 31, 2025.

Stowe Electric does not currently offer a residential EV charging rate but does have an EVSE rate, Rate 35, for public charging stations that are managed by Stowe Electric.

6. Vermont Electric Cooperative, Inc. ("VEC")

The Commission approved a new tariff filed by VEC that incorporated its non-tariffed Flexible Load Home Charging Program for residential members.[14] The Flexible Load Home Charging Program tariff is available to VEC members using Level 2 EVSE and provides an enrollment incentive that includes either a free home Level 2 charger or a bill credit, and a monthly credit of $8. To participate in the tariff, VEC customers must enroll their charger or vehicle in VEC's communications platform, which enables VEC to control charging during periods of peak demand. VEC had 98 chargers enrolled in the Flexible Load Home Charging Program using VEC's communications platform at the time it filed its tariff, with another 50 charger applications pending.

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[12] Hyde Park Electric filed its most recent progress report in December 2024.

[13] *Petition of Town of Stowe Electric Department for extension of PEV filing and implementation deadlines pursuant to Section 33(e) of Act 55*, Case No. 23-3615-PET Order of 5/2/24.

[14] *Tariff filing of Vermont Electric Cooperative Inc. for Flexible Load Home Charging Program for residential members to be effective June 30, 2024*, Case No. 23-4175-TF.

VEC also requested an exemption under Section 33(d) of Act 55 based on its commercial and industrial time-of-use rates, Service Classifications 2.2 and 2.3.[15] Service Classifications 2.2 and 2.3 were approved by the Commission as pilot tariffs and are open to any VEC customer that participates in an energy transformation project under the Renewable Energy Standard.[16]

The Commission conditioned its approval of Service Classifications 2.2 and 2.3 on a future, comprehensive review of the effectiveness of the pilot tariffs. The Commission deferred ruling on VEC's exemption request because the review has not yet occurred, and instead granted VEC an extension of time to file a new tariff case to conduct the comprehensive review of Service Classifications 2.2 and 2.3 under 30 V.S.A. § 225. After the review is complete, the Commission will evaluate whether the requirements for an exemption under Section 33(d) of Act 55 are satisfied.

The Commission required VEC to file its new tariff case by April 16, 2025. Service Classifications 2.2 and 2.3 will remain available for EV use until the Commission's review of the pilot tariffs is complete.

7. Vermont Public Power Supply Authority ("VPPSA") Utilities[17]

VPPSA member utilities filed proposed tariff riders for Small Commercial and Residential EV rates on December 16, 2024.[18] The utilities are seeking approval to initially implement the tariff riders as pilot programs, with a six-month duration and limited participation, to provide a controlled environment for the utilities to identify

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[15] *Petition of Vermont Electric Cooperative, Inc. requesting limited exemption from PEV tariff requirements of Act 55*, Case No. 23-4176-PET.

[16] *Tariff filing of Vermont Electric Cooperative, Inc.*, Case No. Tariff-8624, Order of 12/23/16; *Petition of Vermont Electric Cooperative, Inc. for approval to implement the expansion of its existing pilot time-of-use rates to larger commercial customers*, Case No. 17-3991-TF, Order of 9/21/17.

[17] VPPSA utilities include: Barton Village, Inc., Electric Department; Village of Enosburg Falls Electric Department ("Enosburg Falls Electric"); Town of Hardwick Electric Department; Jacksonville Electric Company; Village of Johnson Water & Light Department; Village of Ludlow Electric Light Department; Town of Lyndon Electric Department; Village of Morrisville Water & Light Department; Town of Northfield Electric Department ("Northfield Electric"); Village of Orleans Electric Department ("Orleans Electric"); and Village of Swanton, Inc., Electric Department ("Swanton Electric").

[18] *See* Case Nos. 24-3662-TF, 24-3663-TF, 24-3664-TF, 24-3666-TF, 24-3667-TF, 24-3668-TF, 24-3670-TF, 24-3671-TF, 24-3672-TF, 24-3673-TF, and 24-3674-TF. VPPSA filed a draft tariff with the Commission for preliminary review on October 16, 2023. *See Petition of Vermont Public Power Supply Authority for approval of a proposed EV/EVSE tariff rider program for its member utilities*, Case No. 23-3604-PET. In that case, the Commission granted an extension of time for VPPSA's member utilities to prepare and file their EV rates. Order of 6/28/24.

and resolve any issues or problems that surface before offering the tariff riders to all customers.

The proposed EV rates are structured as riders to each VPPSA utility's base customer rate. The VPPSA utility applies market-informed incremental rates to EV loads along with an on-peak or off-peak adder.[19] The price per kWh for EV charging is the sum of the hourly market energy price and the applicable on- or off-peak adder. The VPPSA utilities described the riders as providing a strong, market-driven price signal that will encourage participants in the EV rates to avoid or minimize EV charging during periods when power is more expensive.

Customers choosing one of the EV rates will receive information on the hourly EV pricing for the following day by 4:00 PM, allowing customers to plan EV charging in advance and at the most advantageous prices. Current and historical pricing information will also be available to customers. For billing purposes, the monthly incremental EV kWh energy usage and total amount due for that usage will be identified separately on the customer's utility bill.

The Commission is currently reviewing the proposed tariff riders pursuant to 30 V.S.A. § 225.

8. Washington Electric Cooperative, Inc. ("WEC")

The Commission granted WEC an extension of time to implement EV rates until December 30, 2027, pursuant to Section 33(e) of Act 55.[20] WEC based its extension request on its current technical inability to implement a time-of-use rate, which it plans to use for an EV rate. WEC's existing meters can only record a maximum of four time intervals in any 24-hour period, and are not capable of capturing hourly data. WEC explained that its current advanced metering infrastructure ("AMI") is inadequate and needs to be replaced.

Over a four-year period, WEC plans to upgrade its AMI to allow it to implement an EV rate. WEC will file a proposed EV tariff by March 14, 2025, which, if approved, will be available to members in locations where WEC has completed upgrades to its AMI. WEC expects to fully implement EV rates in its service territory by December 30, 2027.

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[19] The on-peak period is from 3:00-9:00 PM (hour 16-21) on weekdays and the off-peak period encompasses all other hours.

[20] *Petition of Washington Electric Cooperative, Inc. for extension of plug-in electric vehicle rates filing and implementation deadlines pursuant to Section 33(e) of Act 55*, Case No. 23-3607-PET, Order of 5/31/24.

WEC has an archived time-of-use rate with no current members enrolled. WEC also offers participants in its Powershift program a virtual and voluntary time-of-use rate to charge EVs. The Powershift program allows charging between 10:00 P.M. and 3:00 P.M. the next day, with no charging between 3:00 P.M. and 10:00 P.M.

The Commission required WEC to file six-month progress reports on the status of AMI upgrade implementation as a condition of granting the extension request.[21]

III. Challenges and Barriers

In this section, we outline several persistent challenges and barriers to EV rate design that have come to light during the rate review process.

The Department noted that although the Commission's Act 55 efforts have largely been completed, some challenges and barriers to EV rate design identified throughout the Act 55 process persist, including:

- Demand charges, especially for public fast chargers and commercial fleets;
- Charging at multifamily residences at lower-cost rates; and
- Consumer understanding and participation in whole-premises time-of-use rates.[22]

The Department also noted that customer participation in managed EV-specific rates fell from 31% in 2022 and 2023 to 29% in 2024, although the Department does not know the cause of the decline.

Several utilities cited technology challenges associated with upgrading software platforms as impediments to implementing advanced EV rate designs.[23] VPPSA has been working with a consultant to implement software that will allow for day-ahead market pricing for its EV rate. Stowe Electric implemented a new software system and is currently performing a comprehensive rate review to evaluate rate options that leverage the capabilities of its new software platform. Hyde Park Electric described the prohibitive cost of software in its recent progress report.[24] The utility comments are consistent in noting that updating software platforms to provide the capabilities for

[21] WEC filed its most recent progress report in July 2024.
[22] Department 10/30/24 Comments at 1-2. Issues related to whole-premises time-of-use rates will be discussed in the Commission's upcoming evaluation of VEC's whole-premises time-of-use rates as directed in Case No. 23-4176-PET.
[23] VPPSA 10/29/24 Comments at 6-7; Stowe Electric 10/30/24 Comments.
[24] Case No. 23-3582-PET, December 2024 Case Status Update (12/16/24).

sophisticated rate design is a challenge and consumes significant resources. VPPSA also noted the additional challenges that come with extending EV rates into the rural areas served by its member utilities that are made up of lower customer densities and aging housing stock.[25]

The Commission also received public comments from the Charge Ahead Partnership ("CAP"), a trade organization comprised of businesses, organizations, and individuals focused on expanding EV-charging networks.[26] CAP identified the lack of rates specifically developed for direct-current fast chargers and the negative impact of demand charges as potential challenges in Vermont. CAP applauded those utilities that offer EVSE rates without demand charges, but urged consistency across all Vermont distribution utilities. CAP also warned against potential competitive disadvantages that can result when public EVSE operated by third parties incur demand charges while utility-owned public EVSE do not. To encourage third-party development of public EVSE and private investment, CAP maintains that third-party EVSE providers should have access to the same rates as utility-owned EVSE, and that Vermont should encourage a "make-ready model," in which utilities focus on utility infrastructure while unregulated third parties are free to compete on price and quality of service.[27]

IV. Act 148 Reporting of Distribution Utility Service Upgrade Practices

In 2024, the Legislature directed the Commission to:

> include a reporting of service upgrade practices related to the installation of electric vehicle supply equipment across all electric distribution utilities, including a comparison of EVSE-related service upgrade practices, a description of the frequency and typical costs of EVSE-related service upgrades, and rate-payer impact.[28]

A reporting of the information provided by the distribution utilities is below.[29]

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[25] VPPSA 10/29/24 Comments at 7-8.

[26] CAP 10/31/24 Public Comment.

[27] CAP references actions taken in Colorado, California, and Maryland to ensure that the EVSE marketplace remains competitive. *Id.* at 4-7.

[28] Act 148, § 27.

[29] The distribution utilities discussed their service upgrade practices in detail during the workshop held on December 18, 2024. *See* Case No. 24-3023-INV, Transcript ("Tr. 12/18/24"). The distribution utilities also provided written comments after the workshop. *See* Hyde Park Electric 12/18/24 Comments; VPPSA

1. Service Upgrade Policies

Most Vermont distribution utilities — including most of the VPPSA-member utilities, BED, Stowe Electric, and Hyde Park Electric — follow traditional cost-causation principles when responding to service-upgrade requests, and do not distinguish between EVSE-related upgrades and upgrades for other purposes. Under cost-causation principles, the customer requesting the service upgrade is responsible for the cost of the upgrade, including equipment and labor, and there is typically no cost-sharing mechanism if subsequent customers request service upgrades that benefit from previously upgraded equipment as occurs under most line-extension tariffs.[30] Utilities following a cost-causation approach report that they do so based on their internal policies, terms and conditions, and the Vermont Utilities Electric Service Requirements Manual, where adopted.

Several utilities that generally apply cost-causation principles for service upgrades deviate from those principles in circumstances that may apply to EV-related upgrades.

BED explained that the utility pays for the cost of any transformer upgrades, with the customer only responsible for line and labor costs.[31] BED's policy applies to all service-upgrade requests, including those that are EV-related.

Among the VPPSA-member utilities, Enosburg Falls Electric does not apply cost-causation principles unless the upgrade requires a replacement transformer larger than 37.5 kVA, although it also states that EV-related upgrades typically exceed the 37.5 kVA limit.[32] Northfield Electric and Orleans Electric do not follow cost-causation principles if the reason for the upgrade is a result of increased load rather than generation, which would include incremental EV loads.[33]

In 2020, VEC amended its line-extension tariff to create an exception to the general application of cost causation to EV-related service upgrades. VEC's line-extension tariff states:

12/24/25 Comments; GMP 1/3/25 Comments; Stowe Electric 1/3/25 Comments; WEC 1/3/25 Comments; BED 1/6/25 Comments; VEC 1/6/25 Comments.

[30] Hyde Park Electric follows its line-extension policy and states that subsequent cost sharing would apply although it has not received any EV-related service upgrade requests to date. Hyde Park Electric 12/18/24 Comments at 2.

[31] Tr. 12/18/24 at 17 (Widmayer).

[32] *Id.* at 9-10 (Nolan); VPPSA 12/24/25 Comments, Note 1.

[33] Tr. 12/18/24 at 9 (Nolan); VPPSA 12/24/25 Comments, Notes 4, 6.

> VEC may recognize net revenues from a category of sales or contributions to utility obligations as contributions to costs which otherwise would be borne by the customer, to the extent that such a contribution would result in a net economic benefit to VEC and its membership within a six-year period and/or contribute to least-cost delivery of distribution network service over time.[34]

VEC states that its analysis under the tariff exception has always found a net economic benefit when applied to EV-related service upgrades.[35]

In 2023, GMP also implemented an exception in its line-extension tariff to its general rule of cost causation for line upgrades. Pursuant to the tariff:

> If the Customer-initiated line upgrade is to support flexible electrical devices necessary for the Customer's participation in Company energy transformation programs, the cost of said upgrade, no greater than the material benefit, will be absorbed by the Company, with the Company to report annually to the Commission on these amounts and, to the extent related to Tier III measures, include them as administrative program costs of the Tier III program. The Company will determine material benefit of the upgrade by considering the cost associated with the upgrade request relative to the benefits that will accrue to the Company from the customer's participation in the energy transformation program, over the life of that project.[36]

GMP explains that its consideration of material benefits includes decreased maintenance, increased reliability, worker and public safety, and the benefits of flexible electrical devices, including EVSE, and that it has not denied any EVSE-related service upgrade credits under the terms of its line-extension tariff.[37]

Finally, as of 2024 WEC no longer charges its customers for EV-related upgrades, including transformer costs, based on revisions to its internal procedures.[38] WEC explained that many of its existing transformers are undersized due to past regulatory guidance related to increasing system efficiency and that most of its members' EV-

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[34] VEC Tariff No. 15 (Line Extension Policy), § 17 ("Actual Cost Billing").
[35] Tr. 12/18/24 at 43, 45 (Morris).
[36] GMP Tariff No. 10 ("Electric Line Extensions, Relocations, and Upgrades"), § 9 ("Relocations and Upgrades").
[37] Tr. 12/18/24 at 49 (Humphrey); GMP 1/3/25 Comments at 2.
[38] WEC clarified that if the transformer exceeds 37.5 kVA, it reserves the discretion to evaluate a customer contribution under cost-causation principles. Tr. 12/18/24 at 35 (Vandette).

related service inquiries require transformer upgrades. WEC states that its 2024 policy was influenced in part by VEC's approach when considering ways to address the increasing frequency of transformer replacements it was experiencing. WEC ultimately concluded that the benefits to its membership that resulted from increased EV-usage revenues exceeded EV-related upgrade costs, justifying a departure from its previous cost-causation approach.[39]

2. Service-Upgrade Costs

Typical costs incurred by customers related to service upgrades were between $1,500 and $4,000, with variations above and below this range depending on the details of the upgrade.[40] BED described one recent project in which the cost of the transformer replacement was over $7,000, and installation and labor costs were approximately $4,000, although BED paid for the transformer costs pursuant to its upgrade policy.[41] WEC reports that the average cost of an upgrade in 2023 was $1,658, which included the differential between the existing and replacement transformer and labor.[42] GMP reports that its upgrade costs do not typically exceed $1,800.[43] VPPSA-member utilities reported costs as low as $300 to $400 dollars for upgrading service lines only, with costs increasing in the range depending on whether the upgrade requires only a transformer or both a transformer and line replacement.[44]

3. Service-Upgrade Frequency

Unsurprisingly, the utilities reported wide variation in the frequency of EV-related service upgrades in their territories. Among the VPPSA-member utilities, upgrade frequency ranged from no upgrades yet to one or two a month.[45] VPPSA explained that EV-related upgrades were less frequent for member utilities with service territories farther from the Lake Champlain valley and closer to the Northeast Kingdom areas of

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[39] *Id.* at 39-40 (Vandette).
[40] Most utilities that provided data on service-upgrade costs did not distinguish between residential and commercial service upgrades. One utility, Swanton Electric, stated that it has only received service-upgrade requests from commercial customers, and explained that commercial service upgrades are typically higher than residential costs, ranging from $8,000 to $25,000, or even higher. VPPSA 12/24/25 Comments at note 10.
[41] *Id.* at 19 (Widmayer); BED 1/6/25 Comments at 1.
[42] *Id.* at 38 (Vandette); WEC 1/3/25 Comments at 2.
[43] GMP 1/3/25 Comments at 2.
[44] VPPSA 12/24/25 Comments at 1.
[45] *Id.*; Tr. 12/18/24 at 12 (Nolan).

Vermont.[46] Hyde Park Electric reported no EV-related upgrades.[47] WEC reported two EV-related upgrades in 2023 and 46 EV-related upgrades in 2024.[48] VEC reported that it addresses approximately 10 to 20 EV-related upgrades per year.[49] GMP reported that, as of October 2024, it provided 51 credits for EV-related service upgrades under its line-extension tariff, which was implemented in August 2023.[50]

Several utilities reported that they are not aware of the reasons for a customer's service upgrade request and were unable to provide data specific to EV-related upgrades. BED, for example, explained that it does not know when customers are requesting upgrades for an EV-related purpose.[51] Stowe Electric also stated that most Level 2 EVSE has been associated with new residential properties rather than upgrades, and that it does not have information on the frequency of customer-initiated upgrades for EV purposes.[52]

4. Ratepayer Impacts Due to Service Upgrade Policies

Although the distribution utilities were able to identify individual service-upgrade costs, they were not able to quantify the broader impact of service upgrades on a rate class. As a general rule, service upgrades for those utilities applying traditional cost-causation principles would not have a class-wide rate impact because any costs are borne by the customer requesting the service. The utilities that have implemented exceptions to the cost-causation approach for EV-related service upgrades have found that the benefits of service upgrades that accrue to ratepayers as a whole due to increased EV charging outweigh the individual costs of the upgrades. No utility conveyed to the Commission that their service-upgrade policies increased rates within a rate class or for ratepayers as a whole.

V. Other Issues Discussed

The Department provided information on state and federal funds that are available for public-serving EVSE programs. These funds include: $5 million annually for five years to support fast charging along major highway corridors administered by the Agency of

[46] Tr. 12/18/24 at 13 (Nolan).
[47] *Id.*
[48] *Id.* at 37-38 (Vandette); WEC 1/3/25 Comments at 2. Notably, WEC's policy of covering transformer upgrade costs began in 2024. Tr. 12/18/24 at 36, 38-39 (Vandette).
[49] Tr. 12/18/24 at 45 (Morris); VEC 1/6/25 Comments at 2.
[50] GMP 10/30/24 Comments at 5.
[51] Tr. 12/18/24 at 20 (Widmayer).
[52] *Id.* at 22 (Lazorchak); Stowe Electric 10/30/24 Comment at 3.

Transportation under the National Electric Vehicle Infrastructure program; $1.7 million for workplace and multifamily residence charging authorized by the 2024 transportation bill and administered by the Vermont Agency of Commerce and Community Development ("ACCD"); and the revenue from EV registration fees that will also support the ACCD's workplace and multifamily EVSE programs beginning in 2025.[53]

Finally, ConnectDER, a manufacturer of meter socket adapters ("MSA"), submitted comments describing its technology, some of which will be used by Vermont distribution utilities. ConnectDER discussed the potential benefits of MSAs, which can help avoid the need for service upgrades by managing new loads, including EV-charging demand, as needed to take advantage of unused panel or service capacity.[54] GMP stated in its comments that it has recently approved the use of ConnectDER devices to avoid overloading existing service panels that would otherwise require an upgrade and continues to take advantage of load-management technologies to avoid unnecessary service upgrades.[55]

VI. Conclusion

This final report completes the Commission's reporting requirements under Acts 55 and 148. Although the reporting requirements are complete, the Commission's work is not. Several distribution utilities received extensions of time under Act 55 and will be filing proposed EV rates in the coming years. The Commission will follow the guidance of Act 55 in these cases and will continue to monitor developments related to EV rates and encourage the utilities to propose updates to their EV and EVSE rates that promote the goals and requirements of Act 55 as opportunities arise.

[53] Department 10/30/24 Comments at 2-3. The Department also notes that the Vermont Agency of Transportation will provide recommendations for additional funding sources in its legislative report on meeting the goals of the Comprehensive Energy and Climate Action Plans.
[54] ConnectDER 10/31/24 Public Comment.
[55] GMP 10/30/24 Comment at 5.