BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Evergy Metro, Inc. d/b/a Evergy Missouri Metro And Evergy Missuri West, Inc. d/b/a Evergy Missouri West for Approval of a Transportation Electrification Portfolio	)))))	**File No. ET-2021-0151**

INITIAL POST-HEARING BRIEF OF SIERRA CLUB & NATURAL RESOURCES DEFENSE COUNCIL

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I. Introduction

In this case, Evergy Missouri Metro and Every Missouri West (collectively, "Evergy" or the "Company") request approval of tariff sheets and creation of accounting authority for a Transportation Electrification Portfolio ("TEP").[1] Evergy's $12.8M TEP includes three pilot programs, two new electricity rate designs, and funding for customer education and program administration.[2] The TEP also proposes an expansion of the Clean Charge Network.[3] Sierra Club and Natural Resources Defense Council ("NRDC") strongly support the TEP and urge the Commission to approve it subject to minor modifications.[4]

Evergy's TEP is well-designed to accelerate transportation electrification and the realization of its associated electricity grid, economic, and societal benefits. Those benefits will accrue to all Evergy customers, whether they drive an electric vehicle ("EV") or not. Evergy prepared a thorough assessment of costs and benefits of widespread transportation electrification in its service territory and found that benefits total $42.5 over the next ten years.[5] This estimate far exceeds the cost of the TEP. Moreover, because the TEP is designed to accelerate the pace of EV adoption, it can act to "pull forward" those benefits so that Evergy customers realize them sooner.

With respect to grid benefits in particular, Sierra Club and NRDC witness Mr. Baumhefner explained in testimony that EVs are a flexible load that can charged at times that "tak[e] advantage of spare capacity in the electric grid and bring[] in new revenue in excess of costs," in turn exerting "significant downward pressure on rates if charging is properly managed."[6] Evergy forecasts

[1] Exhibit 1, Updated Evergy Transportation Electrification Portfolio Filing Report (filed May 7, 2021) [hereinafter "Evergy TEP"]. The Evergy TEP is supported by the testimony of Charles A. Caisley (Exhibits 2 & 3), Darren Ives (Exhibit 4), Brad Lutz (Exhibit 5) Timothy Nelson (Exhibit 6), and Nick Voris (Exhibit 7).
[2] Evergy TEP at 22-34.
[3] *Id.* at 34-36.
[4] *See* Exhibit 700, Surrebuttal Testimony of Max Baumhefner.
[5] Evergy TEP at 15-21.
[6] Exhibit 700, Surrebuttal Testimony of Max Baumhefner at 11.

substantial electricity grid benefits on a per customer basis,[7] projections that should be given credence because they track other, similar forward-looking analysis and are corroborated by real world data observed by Synapse Energy Economics in a study that examined the two utility service territories with the highest number of EVs of any in the U.S.: Pacific Gas & Electric and Southern California Edison."[8]

The Synapse study "compar[ed] the new revenue the utilities collected from EV drivers to the cost of the energy required to charge those vehicles, plus the costs of any associated upgrades to the distribution and transmission gird and the costs of utility EV infrastructure programs (programs with budgets that significantly exceed Evergy's TEP budget)" and found that "EV drivers contributed an estimated $806 million more than the associated costs" over the study period.[9] Mr. Baumhefner explained that while the absolute figures would be smaller in Evergy's territory given there are fewer EVs, there is no reason to expect the results would be any different because "cars are cars, and people are people" and "people drive their EVs and charge them in a similar manner, regardless of where they live."[10]

Sierra Club and NRDC also submit that the TEP is well-designed designed to help meet the needs of current and would-be EV drivers in Evergy's service territory. Evergy proposes to deploy charging stations where they are needed most— at home, at work, in public, and along highway corridors. Availability of charging is essential to support EV adoption "by providing consumer confidence against range anxiety," and "this availability means that infrastructure must naturally precede the adoption of [electric vehicles]."[11] This Commission made a similar finding in ET-2018-0132, stating "[t]o spur EV adoption growth in the most efficient manner, a 'holistic

[7] Evergy TEP at 20.
[8] Exhibit 700, Surrebuttal Testimony of Max Baumhefner at 10.
[9] *Id.*
[10] *Id.* at 10-11.
[11] *Id.* at 4.

charging ecosystem' (the ability to charge at home, at work, and public, including highway corridors) is needed."[12] As Mr. Baumhefner explained with reference to work by the National Academies of Sciences, "electric utilities are well-situated to facilitate the public charging network needed to enable widespread EV adoption."[13] This view is substantiated by the results of Missouri's real-world experience with Evergy's Clean Charge Network.[14]

Now, with significant growth and increased investment in the market for electric vehicles, as well as aggressive national policy goals, the pace of infrastructure deployment needs to significantly accelerate to meet the needs of a growing EV market.[15] Research demonstrates that, to support EV growth through 2030, public and workplace chargers will need to increase at least 27% annually, and the projected charging infrastructure gap is greater in the Midwest and South, where areas with more limited growth would need annual rates of charger growth exceeding 50%.[16] In Kansas City, the number of non-home chargers will need to increase from 1,458 in 2020, to 10,314 in 2030 to support anticipated EV market growth.[17] Evergy's TEP is modestly sized considering the level of need, but the TEP is nevertheless critical to help close a growing charging infrastructure gap that federal programs and independent investments will be unable to address alone.

For these reasons, Sierra Club and NRDC urge the Commission to approve the TEP subject to the minor modifications described below and summarized here:

- Customers receiving rebates in the Residential Customer EV Outlet Rebate program should agree to take service on time-of-use rates as a term of participation;
- The Residential Customer EV Outlet Rebate should be able to be used to cover the costs of wiring or the purchase of a Level 2 charging station;

[12] Exhibit 14, ET-2018-0132 Report and Order at 15.
[13] Exhibit 700, Surrebuttal Testimony of Max Baumhefner at 4.
[14] Exhibit 14, ET-2018-0132 Report and Order (finding that "The KCP&L and GMO Clean Charge Network has been effective in spurring growth in the EV adoption rate in the Kansas City area.").
[15] Exhibit 700, Surrebuttal Testimony of Max Baumhefner at 4-8.
[16] *Id.* at 7.
[17] *Id.*

- At least 20 percent of rebates issued in the Commercial EV Charger Rebate Program should be reserved for multi-family locations;

- Customers participating in the Commercial EV Charger Rebate Program should be required to report data on key, specified metrics; and

- The demand response program requirement in the Commercial EV Charger Rebate program should be clarified.

II. Argument on Issues Presented

In the sections below, Sierra Club and NRDC address Issues 1-7 from the Joint List of Issues. Sierra Club and NRDC reserve the right to take additional positions in our reply brief on these seven issues and any other issue identified in the Joint List.

a. The Residential Customer EV Outlet Rebate program should be approved subject to modifications to improve grid integration of EV charging load and program flexibility (Issues 1a-b).

The Residential Customer EV Outlet Rebate program would support the installation of Level 2 charging stations in the location where charging access is most critical for EV drivers: the home. In its comprehensive report on EV adoption, the National Academies of Sciences characterizes home charging as a "virtual necessity" for EV adoption.[18] The home is the location where cars are most often parked, making it "the most convenient place to charge, especially overnight when people are sleeping and there is plenty of spare capacity in the grid."[19] Level 2 charging stations support greater charging efficiency, and better flexibility and control over charging sessions. Sierra Club and NRDC support approval of this TEP pilot program subject to two modifications that will facilitate grid integration of EV charging and program participation.

i. Customers receiving rebates should be required to take service on a time-of-use rate.

[18] Exhibit 700, Surrebuttal Testimony of Max Baumhefner at 14 (citing National Research Council of the National Academies of Sciences*, Overcoming Barriers to the Deployment of Plug-in Electric Vehicles*, THE NATIONAL ACADEMIES PRESS (2015), at 83.).
[19] *Id.*

To support fuel cost savings for EV drivers and system-wide grid benefits, rebate recipients should be required to take service on time-of-use rates. With respect to system-wide benefits, Mr. Baumhefner explained

> Offering attractive time-variant rates and ensuring as many EV drivers as possible take service on those rates is also key to managing EV charging to support the operation of the grid. This is not a theoretical proposition, but a phenomenon that has been documented in states across the nation. For example, in Michigan, Consumers Energy's PowerMIDrive pilot showed that participating customers, who are required to take service on a TOU rate, conducted 86 percent of their weekday charging during off-peak hours.[20]

The inverse is also true. Real-world data reveals that customers "who are not on TOU rates charge immediately upon returning home in the evening, generally exacerbating peak system-wide electricity demand, whereas EV customers on well-designed TOU rates charge almost exclusively during off-peak hours."[21]

In addition, residential rate design and enrollment "have a direct impact on the fuel cost savings that motivate EV purchase decisions." By encouraging EV drivers to charge in off-peak times when energy production costs are lower, well-designed time-variant rates maximize fuel cost savings, which a survey of nearly 20,000 EV drivers reveals are the single biggest motivator of EV purchase decisions.[22] The Commission should direct Evergy to include this reasonable term as a condition for receipt of rebates under the Residential EV Outlet Rebate program.

ii. *The rebate should be available for wiring and charging equipment.*

ChargePoint recommends three modifications to the Company's proposed Residential Customer EV Outlet Rebate: first, that the $500 rebate be available for use "toward both the

[20] Exhibit 700, Surrebuttal Testimony of Max Baumhefner at 16.
[21] *Id.* (citing to Schey, *et al*, *A First Look at the Impact of Electric Vehicle Charging on the Electric Grid*, The EV Project at EVS26).
[22] *Id.* at 15. (citing to the California Clean Vehicle Rebate Project, EV Consumer Survey Dashboard, available at https://cleanvehiclerebate.org/eng/survey-dashboard/ev, last checked June 21, 2021).

charger and installation costs;" second, to allow customers to choose to hardwire their Level 2 charging station or to install a NEMA outlet, rather than require installation of a NEMA outlet; and third, to develop a list of qualifying EV charging stations for the Residential Rebate program.[23] Sierra Club and NRDC support ChargePoint's recommendations and submit they will improve program participation by giving customers flexibility to use the rebate in a manner that reflects their specific needs.

b. The Residential Developer EV Rebate program should be approved (Issue 2).

Like the Residential Customer EV Outlet Rebate, this program would support charging deployment in the critical home charging market segment. With this program, Evergy proposes to make homes EV-ready at the time it is most cost-effective and convenient to do so: at the time of construction. This is a modest, common-sense program that will help prepare housing stock in the Evergy service territory for the future.

c. The Commercial EV Charger Rebate Program should be approved subject to a goal to deploy 20 percent of stations at multi-unit dwelling locations (Issues 3a-c).

The Commercial EV Charger Rebate program aims to deploy Level 2 charging stations at multi-unit dwellings, workplaces, and public locations, and targets deployment of fast charging stations along highway corridors.[24] Access to charging at each of these locations is critical to enable EV adoption and comprehensively meet the needs of EV drivers. As Mr. Baumhefner explains in testimony, it is important for would-be drivers to have access to infrastructure in places where cars are naturally parked for long periods of time, and to have access to DCFC in locations that enable distance travel (*e.g.*, highway corridors).[25] Because Evergy plans to deploy critical infrastructure in locations where it is most needed, it is reasonable to conclude that these stations

[23] Exhibit 900, Rebuttal Testimony of Justin Wilson at 7-9.
[24] Evergy TEP at 24-27.
[25] *Id.* at 23-27.

will be used, useful and enable new EV adoption. This conclusion is even more reasonable considering the growth in the EV market, national policy goals, and the identified infrastructure gap in Missouri.[26]

i. Deployment at multi-family dwellings is critical for EV adoption because access to home charging is a "virtual necessity."

The Commission should require the Company to dedicate 20 percent of the rebates available under the Commercial EV Charger Rebate program to multi-family dwellings. Access to charging at the home is a "virtual necessity" for EV adoption.[27] OPC noted in testimony that the home is the location where more than 80 percent of charging occurs. [28] But "less than half of U.S. vehicles have reliable access to a dedicated off-street parking space at an owned residence where charging infrastructure could be installed."[29] The National Academies of Science has observed that "lack of access to charging infrastructure at home will constitute a significant barrier to PEV deployment for households without a dedicated parking spot or for whom the parking location is far from access to electricity."[30]

Even with the availability of support from a program like the Commercial EV Charger Rebate, experience has shown that uptake in the multi-family segment requires dedicated attention.[31] Program participation requires a building manager to engage in considerable learning and transactions, and to address funding, accounting, billing, and other administrative challenges on behalf of tenants who may hold only short-term leases. Those tenants may want an EV but are unable to do so without charging access at home, and a building manager is unlikely to possess

[26] Exhibit 700, Surrebuttal Testimony of Max Baumhefner at 7.
[27] *Id.* at 14 (citing National Research Council of the National Academies of Sciences*, Overcoming Barriers to the Deployment of Plug-in Electric Vehicles*, THE NATIONAL ACADEMIES PRESS (2015), at 83.).
[28] Exhibit 200, Rebuttal Testimony of Dr. Geoff Marke at 8.
[29] Exhibit 700, Surrebuttal Testimony of Max Baumhefner at 18.
[30] *Id.* (citing National Research Council of the National Academies of Sciences*, Overcoming Barriers to the Deployment of Plug-in Electric Vehicles*, THE NATIONAL ACADEMIES PRESS, p. 116 (2015)).
[31] *Id.*

such information. The combined effect of these challenges can result in low uptake of incentives in this critical market segment, an unfortunate outcome that is consistent with Evergy's experience to date, as just "8% of CCN EV chargers have been installed at multi-family locations."[32] For these reasons, at least 20 percent of Commercial EV Charger Rebates should be reserved for multi-family locations.

ii. Placing a cap on rebate levels will harm participation and is unnecessary because participants will already have skin in the game.

OPC argues that rebate amounts should be capped at 20 percent of the total costs of the charging station to be installed.[33] This recommendation fails to appreciate that, even with incentives at the levels proposed, customers receiving rebates will be required to make significant investments given "the additional costs associated with the charging infrastructure and the costs of the vehicles themselves." For this reason, the TEP will already select for committed site hosts as designed. In addition, Sierra Club and NRDC witness Mr. Baumhefner observed that Dr. Marke's proposed 20 percent cost cap would result in rebate levels "below industry best practices and result in inadequate customer participation, especially in hard-to-reach segments like multi-family housing."[34] OPC's recommendation should be rejected.

iii. Robust data collection and reporting is essential to meet program goals, to inform policy, and to ensure ratepayer protection.

ChargePoint asks the Commission to "remove the proposed requirement that site hosts provide Evergy with access to charger utilization data," arguing that the proposed requirement is too broad and not needed for customers taking service on one of the proposed EV rates given those customers will be separately metered. [35] But not all EV charging stations deployed under this

[32] Evergy TEP, Appendix E, section E.1, "Clean Charge Network."
[33] Exhibit 200, Rebuttal Testimony of Dr. Geoff Marke at 18-19.
[34] Exhibit 700, Surrebuttal Testimony of Max Baumhefner at 19.
[35] Exhibit 900, Rebuttal Testimony of Justin Wilson Rebuttal at 11-14.

program will be separately metered and, even if that were the case, there are essential reporting metrics that cannot be gathered at the meter. ChargePoint's recommendation would dramatically reduce transparency for the Commission, stakeholders, and Evergy ratepayers. It is also at odds with the reporting requirements applied in similar utility programs, where such reporting is the norm and is routinely approved as a reasonable condition for participation in a voluntary, customer-funded program.

Rather than accept ChargePoint's request to eliminate data reporting, the Commission should clarify what information that must be collected and reported. The Commission should direct Evergy to collect and report on the following data from site hosts receiving rebates under the Commercial EV Charger Rebate Program: "charger utilization and load profiles by segment (public, workplace, multi-family, etc.) and by rate choice (e.g., 'Electric Transit Service,' 'Business EV Charging Service,' or other rate)" and "prices paid by drivers at locations where fees are collected from drivers."[36] Collection of this data will promote critical learnings, support intelligent future program and policy design, and help protect customers' investments.

iv. As the Company acknowledges, participating customers should be required to participate in future demand response programs but not every demand response event.

The Company's TEP specifies that customers receiving Commercial EV Charger Rebates must "agree to participate in potential future demand response (DR) events."[37] At hearing, ChargePoint and Sierra Club/NRDC sought to clarify this requirement because while it is reasonable to require participation in a future demand response *program*, it is not reasonable to ask customers to agree to participate in every demand response *event* called pursuant to that program. In response to questions, the Company clarified that it expects rebate recipients to agree

[36] Exhibit 700, Surrebuttal Testimony of Max Baumhefner at 19-20.
[37] Evergy TEP at 26.

to participate in a future demand response program, but "would give customers the ability to exclude themselves from a given event."[38] The Commission's Report and Order should reflect this clarification.

d. The Electric Transit Service Rate and the Business EV Charging Service Rate should be approved (Issues 4a-c and 5a-c).

Sierra Club and NRDC support approval of the new electricity rate designs proposed as part of the TEP. The Electric Transit Service ("ETS") Rate is designed to support grid-integrated charging of battery electric buses through a time-of-use rate that removes the demand charge.[39] By removing demand charges, this rate will support the fuel cost savings that allow for transit fleets to begin to transition to electric buses. Those lower lifetime costs can start virtuous economic cycle, whereby agencies can re-invest savings to continue to electrify their bus fleet and further drive down their operational costs as electric buses replace the entire fleet. Similarly, the Business EV Charging Service ("BEVCS") rate removes demand charges and uses a time-variant rate structure to encourage workplace and fleet charging during off-peak hours when system costs and utilization are lower, again supporting fuel cost savings for EV drivers as well as grid benefits.[40]

Sierra Club and NRDC commend the Company for developing a comprehensive TEP that includes electricity rate designs together with infrastructure and education programs. Mr. Baumhefner explained that acting on these rates in this case is sensible from a "practical, program implementation perspective" and provides "greater market certainty" to market actors than breaking the TEP apart and considering the rates separately.[41] In addition, Mr. Baumhefner noted

[38] Tr. Vol. 1, p. 175, lines 7-9. *see also* Tr. Vol. 1, p. 175, lines 13-17 (When asked "So you do not expect customers receiving commercial rebates to agree to participate in every demand response event that may be called pursuant that your forthcoming demand response program; is that right?" Company witness Mr. Voris responded ""Right. That is correct. We do not."); Tr. Vol 2., p. 293, lines 3-13 (Mr. Ives confirming during cross examination that he shares the same understanding of the Company's position as Mr. Voris).
[39] Evergy TEP at 27-28.
[40] Evergy TEP at 29.
[41] Exhibit 700, Surrebuttal Testimony of Max Baumhefner at 22.

that reviewing Evergy's TEP as a unified whole would be "consistent with the regulatory best practice of many other states in which commissions have often simultaneously approved utility EV programs and new rates designed for EVs that support program implementation and that also support customer adoption of EVs outside the context of specific infrastructure programs."[42]

e. The Clean Charge Network Expansion should be approved in full (Issue 6a-e).

Evergy proposes a targeted budget of $2.8M for infrastructure buildout along underserved highway corridors, a DOE streetlight grant in the city of Kansas City, and deployment of fast charging stations to serve drivers of electrified ride-hailing vehicles. This modest proposed expansion is likely to result in significant learnings by serving a new and emerging market in ride-hailing and testing a novel streetlight project. In deploying highway charging along yet unserved highway stretches, the expansion also represents a small, but important, step toward meeting the infrastructure needs in the state. The Clean Charge Network Expansion should be approved.

f. The Customer Education and Program Administration proposal should be approved (Issue 7).

Customer education and program administration is a necessary component of the TEP and is critical to its success. Customer education is vital for a program that seeks to incentivize uptake of new technology and modification of customer behavior. And customers need to first be apprised of the TEP programs if they are to take advantage of them at all. Targeted education efforts and dedicated staff time is required to address the widely varying needs of a transit bus operator evaluating the ETS rate, commercial customers interested in hosting charging stations, and residential customers considering EV adoption and the required infrastructure upgrades and electricity rate options. For these reasons, the Commission should approve the customer education and program administration components of Evergy's proposed TEP.

[42] *Id.*

III. Conclusion

For the reasons stated above, Sierra Club and NRDC respectfully request that the Commission approve the tariff sheets proposed by Evergy and establish the accounting authority that will permit implementation of the TEP, together with the minor program modifications described herein.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct PDF version of the foregoing was filed on EFIS and electronically mailed to all counsel of record on this 19th day of November, 2021.

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