



July 28, 2023

Oregon Public Utility Commission
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RE: Reply Comments on UM 2033 - Portland General Electric’s Transportation Electrification Plan

The Green Energy Institute at Lewis & Clark Law School (GEI) is a nonprofit energy and climate law and policy institute within Lewis & Clark Law School’s top-ranked environmental, natural resources, and energy law program. GEI is grateful for the opportunity to provide these comments on Portland General Electric Company’s (PGE or company) 2023 – 2025 Transportation Electrification Plan (TEP) filed on June 1, 2023. GEI met with PGE before submitting these comments and appreciates the company’s time and effort to answer questions and address our concerns.

GEI reserves the right to provide additional comments throughout the UM 2033 docket. GEI generally supports transportation electrification and many aspects of PGE’s TEP. In these reply comments, we reflect on the information provided by Public Utility Commission Staff and stakeholders and discuss the following matters:

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A. EV Load and PGE's data on EV Charging

PGE states, “the EV is now and is expected to continue to be the largest load in a customer’s home.”¹ Data suggests otherwise. According to the U.S. Department of Energy, EVs are not the most significant load in a residential home; instead, electric furnaces draw more power than an EV, and EV load is comparable to water heaters.²

GEI recognizes that this data may need to be updated and that changes in charging capabilities and the efficiency of electric heat pumps and water heaters should be considered. At the same time, it is important to recognize that EV drivers only need a partial charge most days. According to the U.S. Department of Transportation, Federal Highway Administration, Portland, Oregon, residents drive approximately 20.51 miles daily, which is hardly a full charge for a vehicle that can drive 100-300 miles.³ This means the EV battery is only being recharged a small amount most days. Understanding EV load is important because it determines environmental benefits, including GHG emissions impacts, and assists with distribution system planning. Overestimation of EV load will result in overestimating GHG emission reductions and incorrect assumptions for distribution system planning purposes.

Based on Staff’s Comments, PGE has accumulated real-world charging data from EV drivers for the past decade.⁴ This data can likely reflect the actual EV load in a residential household compared to other electric appliances and equipment. Given that the TEP states numerous times that the company designed its described programs to gather information and data to inform future actions, PGE should leverage and utilize its existing data more effectively.⁵

As such, in addition to supporting Staff’s recommendations regarding this data set,⁶ GEI requests that the company present the average observed load from EV charging compared to the total load from other electric household appliances and equipment based on its real-world charging data.⁷ Likewise, GEI supports Staff’s recommendations for PGE to provide load-shape data for its utility-owned infrastructure.⁸

¹ Docket No. UM 2033, Portland General Electric, 2023 Transportation Electrification Plan 13 (June 1, 2023), <https://edocs.puc.state.or.us/efdocs/HAH/um2033hah151814.pdf> [hereinafter PGE 2023 TEP]

² Fact #995, September 18, 2017: Electric Vehicle Charging at Home Typically Draws Less Than Half the Power of an Electric Furnace (Sept. 18, 2017), <https://www.energy.gov/eere/vehicles/articles/fact-995-september-18-2017-electric-vehicle-charging-home-typically-draws>.

³ Urbanized Areas – 2019 Selected Characteristics (Sept. 30, 2020), <https://www.fhwa.dot.gov/policyinformation/statistics/2019/pdf/hm72.pdf> (divided Total Roadway Miles for Portland, Or by the number of days in a year: 7487/365 =20.51miles).

⁴ Docket No. 2033, In the Matter of Portland General Electric, 2023 Transportation Electrification Plan, Staff Comments 7 (July 13, 2023), <https://edocs.puc.state.or.us/efdocs/HAC/um2033hac172547.pdf>.

⁵ *Id.* at 11, 20.

⁶ *Id.* at 8 (Staff recommends PGE present the average observed load shape of residential charging in 2022 from the Company’s vehicle-based data and residential EVSE data. Staff also recommends that PGE use the vehicle-based data to provide the average observed percentage of charging that occurred at home in 2022).

⁷ Comparing individual household appliances to EV load would be ideal (i.e., comparing EV load to load from a dishwasher, laundry, electric furnace, air conditioning, electric water heater heat pump, etc.). To the extent PGE can leverage data on individual appliance load, i.e., water heaters, we request it do so. However, GEI recognizes that PGE likely does not have this type data for all appliances, but a comparison between total electric household load and EV charging load will still be helpful.

⁸ *Id.* at 8.

B. Energy Efficiency

Energy Efficiency is also a key component to addressing future EV load. Section 3.8.2 discusses PGE's partnerships that support energy efficiency. **GEI supports NWECC's request for an additional narrative on how energy efficiency actions can complement TE investments.**⁹

C. Charging Station Availability, Reliability, and Usage

PGE describes that its experienced performance and reliability issues at six electric avenues in its territory that resulted in falling below PGE's uptime targets in 2020 and 2021. PGE notes that although it took proactive actions to address this issue, it will "need to replace the chargers with updated technology that meets customer's needs."¹⁰ PGE further notes that it is exploring whether chargers can be replaced as part of the Clean Fuels Public Charging Infrastructure project.¹¹ **GEI supports this action as it is important for centrally located public charging stations, limited as they are, to produce positive charging experiences for EV drivers.**

D. Micro-mobility

PGE plans to "work to better understand the micromobility market" and plans to fund this work through the Oregon Clean Fuel funds. Specifically, the company intends to evaluate customer needs and barriers to adoption in addition to the role a utility has in the micro-mobility market." It will establish a strategy based on this work.¹²

Due to recent tragedies involving e-bike lithium battery fires, GEI is aware of the need for public safety protections for entities that could receive e-bike or e-scooter funding.¹³ To be sure, there are safe e-bikes and e-scooters on the market, and cities have adopted regulations relating to the sale, lease, and rental of e-bikes, scooters, etc., to protect citizens.¹⁴ GEI seeks to ensure Oregon Clean Fuel funds go towards micromobility products with battery certifications. **GEI requests more information on how PGE plans to ensure that Oregon Clean Fuel funds support safe micromobility products.**

⁹ Docket No. UM 2033, In the Matter of Portland General Electric, 2023 Transportation Electrification Plan, Comments by NW Energy Coalition 2 (July 13, 2023), <https://edocs.puc.state.or.us/efdocs/HAC/um2033hac164658.pdf>.

¹⁰ PGE 2023 TEP, *supra* note 1 at 73.

¹¹ *Id.*

¹² *Id.* at 113.

¹³ Winnie Hu, *How E-bike Battery Fires Became a Deadly Crisis in New York City*, New York Times (June 21 2023), <https://www.nytimes.com/2023/06/21/nyregion/e-bike-lithium-battery-fires-nyc.html>

¹⁴ *See e.g.*, Sale, lease, and rental of powered bicycles, powered mobility devices and storage batteries, Int 0663-2022, New York City (March 20, 2023), <https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=5839354&GUID=D0854615-5297-460B-BCBC-646D24A75B2E>.

E. Uptime Formula

PGE has committed to a target uptime of 97% for PGE-owned and customer-owned chargers, consistent with the NEVI standard.¹⁵ GEI supports this target. **GEI would like more detail as to how the company intends to enforce the 97% uptime requirement on customer-owned chargers, i.e., will this requirement be in the terms and conditions of PGE’s contractual agreements with customers who own their chargers?**

PGE does not provide uptime for utility-owned and supported ports by use case as required by OAR 860-087-0020(3)(c)(A). **Therefore, GEI supports Staff’s recommendation for the company to provide uptime during 2022.** Based on conversations with the company, GEI understands that uptime at company-owned charging stations may be low due to its current uptime formula and because much of its public infrastructure is older and/or more vulnerable to downtime. If so, a narrative explaining the current situation would be helpful. GEI looks forward to supporting reasonable methods and funding to assist the company in improving its uptime for its public charging infrastructure.

With regard to the uptime formula, PGE states: “To adopt common formulas for calculating uptime, PGE will look to industry standards developed by NEVI and other rulemaking processes, industry experts such as EPRI, or multi-stakeholder standards such as the EV Charging Use Data Specification.”¹⁶ As shared during PacifiCorp’s TEP Public Utility Commission meeting on July 11, 2023, GEI recommends that the Commission establish a uniform uptime standard across the State of Oregon. PGE appears open to this concept as it acknowledges the relevance of adopting “common formulas for calculating uptime” and will look to “other rulemaking processes,” presumably including UM 2056.

However, as GEI stated in its UM 2056 comments on PacifiCorp’s final TEP,¹⁷ should PGE and PacifiCorp seek divergent paths on establishing an uptime standard, GEI requests that the Commission address this issue in a narrow policy docket, where utilities and stakeholders can come to a consensus on an appropriate uptime formula to apply across the state.

Moreover, as PGE gains more information during this TEP cycle that can contribute to a more detailed formula, the uptime standard may need to be reevaluated. To support this assessment, PGE should be transparent about any subcategories it creates in its TE annual report so that PUC staff and stakeholders can assess and replicate the formula, if necessary.

F. Community Engagement

GEI supports PGE’s work to “integrate underserved communities’ needs and wants into the implementation and future planning of TE programs.”¹⁸ The approach PGE has taken, to create

¹⁵ 87 FR 3762-37280 (June 22, 2022) (to be codified at 23 CFR § 680.116(b)),

<https://www.federalregister.gov/documents/2022/06/22/2022-12704/national-electric-vehicle-infrastructure-formula-program>.

¹⁶ PGE 2023 TEP, *supra* note 1, at 134.

¹⁷ Docket No. UM 2056, GEI & NW Energy Coalition, Comments on UM 2056 – PacifiCorp’s Transportation Electrification Plan 5 (June 16, 2023). <https://edocs.puc.state.or.us/efdocs/HAC/um2056hac16308.pdf>.

¹⁸ PGE 2023 TEP, *supra* note 1, at 124.

“multiple avenues for stakeholder feedback” will likely lead to the best results in reaching underserved communities.¹⁹

PGE has created service territory maps of underserved communities utilizing HB 2165 definitions for underserved populations (“criteria”) and a composite scoring of underserved communities where residents met multiple criteria.²⁰ The mapping effort appears to have provided a helpful representation of concentrations of underserved populations in the company’s service territory.²¹ However, it is likely that census blocks, a subdivision of a census tract, would provide greater insights, especially since a vast amount of the company’s territory meets one or more criteria. Further, in our meeting with the PGE TEP team, they shared information and considerations used in the mapping process that would benefit all stakeholders. **GEI requests that PGE provide additional details on mapping and, if appropriate, provide the service territory maps of underserved communities and composite maps at the census block level.**

G. Multi-family Make-ready Solutions program

In Appendix C of the TEP, PGE describes the Business and Multi-family Make-ready program’s purpose as supporting EV ownership and charging access for business and multi-family properties by putting in 200 level 2 charging ports by the end of 2025.²² GEI supports the company’s initiative to invest in behind-the-meter infrastructure but requires additional information before it can make any recommendations.

Specifically, GEI understands that PGE plans to work with its multi-family make-ready customers and convey to its customers that setting the cost-to-charge too high could result in its residents charging elsewhere. GEI also understands CUB’s concerns about multi-family residents being semi-captive customers, who could be subject to higher prices than residential customers because **PGE’s** customer (the multi-family complex project manager) can set the cost-to-charge without regulatory oversight. GEI shares this concern. GEI also recognizes that the cost-to-charge at a multi-family make-ready site will need to include maintenance fees so that the chargers are reliable and downtime is limited. This will likely result in a cost-to-charge that is above the rate that single-family residential EV owners pay to charge unless it is subsidized in some way.

However, before amending the proposed program, GEI seeks to understand the real-world price-to-charge data set by PGE’s current customers. As relayed by Staff, PGE must provide the “price (\$kWh) to charge at program-enabled ports by use case.”²³ Although the company provides this at company-owned sites, as Staff points out, PGE does not provide this information at its customer’s program-enabled ports by use case. **GEI supports Staff’s recommendation that PGE provides the price (\$kWh) to charge at program-enabled ports by use case.**

¹⁹ *Id.*

²⁰ *Id.* at 129.

²¹ *Id.* at 130 (Figure 17); *Id.* at 131 (Figure 18).

²² *Id.* at 245.

²³ Docket No. UM 2033, In the Matter of Portland General Electric, 2023 Transportation Electrification Plan, Staff Comments 13 (July 13, 2023), <https://edocs.puc.state.or.us/efdocs/HAC/um2033hac172547.pdf>.

The price-to-charge data will be extremely helpful in understanding the pricing landscape of PGE's customers and whether unreasonable prices are likely to be a concern. As required, PGE will continue to report the \$/kWh in its annual TE reports, allowing the Commission, PGE, and stakeholders to monitor the price-to-charge landscape consistently, especially if the program remains as is, and address pricing if necessary. As such, it may be advantageous for the Commission and PGE to consider what terms and conditions it includes in PGE's ten-year contract²⁴ so that if the Commission sought to intercede in rates, the ten-year contract would not be a barrier to such change.

H. Response to EV Charging Coalition Comments

The EV Charging Coalition comments recommend, among other things, that Schedule 50 be brought into alignment with competitive market pricing for EV charging services. The Coalition recommends that the "Commission direct PGE to perform an analysis of competitive market pricing for fast charging services in its service area and use this analysis to update its time-of-use pricing schedule."²⁵

The Coalition's comments mistake the purpose of public-utility-owned infrastructure. As GEI and NWECA stated in the comments we filed in UM 2056, Oregon's electric utilities and the Commission play an essential role in transportation electrification. It is critically important that utility investments be in the public interest and that programs result in an equitable distribution of benefits.²⁶ Moreover, based on GEI's review of the TEP, PGE owns 22 DCFC ports²⁷ and does not plan to provide any new DCFC infrastructure.²⁸ Given that ODOT's TEINA study suggests that the state will need 4,411 public DCFC ports, GEI is not concerned with the potentially below-market rates of 22 DCFC ports located across seven sites in the company's territory.

GEI appreciates the opportunity to comment on PGE's 2023 TEP and looks forward to future engagement in this docket.

Respectfully submitted,

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²⁴ GEI questions whether a ten-year contract is appropriate. The EV landscape is rapidly changing and both PGE and the customer may benefit from a shorter contract period or the ability to renegotiate terms if certain conditions arise.

²⁵ Docket No. UM 2033, In the Matter of Portland General Electric, 2023 Transportation Electrification Plan, EV Charging Coalition, Re: Portland General Electric should align its payment method requirements with California's EV Charging Station Open Access Regulation 3-4 (July 13, 2023), <https://edocs.puc.state.or.us/efdocs/HAC/um2033hac16132.pdf>.

²⁶ Docket No. UM 2056, GEI & NW Energy Coalition, Comments on UM 2056 – PacifiCorp's Transportation Electrification Plan 5 (June 16, 2023). <https://edocs.puc.state.or.us/efdocs/HAC/um2056hac16308.pdf>.

²⁷ PGE 2023 TEP, *supra* note 1, at 71.

²⁸ *Id.* at 25.