July 13, 2023

Eric Shierman
Public Utility Commission of Oregon
Attn: Filing Center
201 High Street SE, Suite 100
Salem, OR 97301-3398

RE: UM 2033 – ChargePoint Comments on PGE 2023-2025 Transportation Electrification Plan

Dear Mr. Shierman,

On June 1, 2023, Portland General Electric (PGE or the Company) filed its draft 2023-2025 Transportation Electrification Plan (TEP) for acceptance by the Public Utility Commission of Oregon (Commission). ChargePoint appreciates the opportunity to file these comments for consideration by PGE and Commission Staff.

The 2023-2025 TEP provides an overview of PGE's efforts to support the market for transportation electrification in its service territory. The TEP proposes an expansion to PGE's Fleet Partner Program and Municipal Charging Collaboration Pilot Program, as well as establishes a new Business and Multi-family Make Ready Solutions Program.

In summary, ChargePoint finds:

- The Fleet Partner Program is successfully supporting the market, and PGE should begin to consider strategies to avoid bottlenecks with charger energization.
- The Business and Multi-family Make Ready Solutions Program is well-positioned to support the development of a competitive charging market and should be sized to align with growing customer demand.
- PGE should find market partner(s) to assume ownership of PGE-owned chargers and revise Schedule 50 without undercutting the private market, among other actions, to ensure the Municipal Charging Collaboration Pilot does not impede the competitive market for charging services.
- PGE should align payment standards for public chargers with federal guidelines for the National Electric Vehicle Infrastructure Program (NEVI) and not require EMV chip readers.

I. The Fleet Partner Program is successfully supporting the market, and PGE should begin to consider strategies to avoid bottlenecks with charger energization.

ChargePoint applauds PGE's successful implementation of the Fleet Partner program and strongly supports PGE's request for an incremental $9.5M to meet customer demand for the program. According to the TEP, the Company has received 90 site applications from 59 customers

supporting 1,268 ports and 1,280 fleet vehicles.[1] ChargePoint agrees with PGE's observation that fleet electrification will continue to be a high-growth opportunity over the next ten years for the Company to support transportation electrification more broadly.

Though utility-side capacity may not be presenting project slowdowns or customer constraints yet, states with more mature EV markets, such as New York and California, are experiencing long timelines and delays for line extensions and service upgrades, particularly for fleet customers interested in large site upgrades. Sites with high power demands, such as large "behind the fence" fleet depots and public light-duty DCFC hubs, may take 18+ months for energization. In alignment with PGE's intent to establish its long-term supportive role in transportation electrification, PGE should begin to consider strategies to avoid bottlenecks in the charger energization process for fleet customers that may be planning for large-scale electrification in the next decade and will draw multi-megawatt loads quickly. Such strategies may include providing the following information to potential program participants online to improve program applications and the process of applying for a line extension, service upgrade, and make-ready installation:

- Contact information for a single point of contact at PGE for EVSE projects (with EVSE expertise);
- Checklist of all items that must be submitted as part of an initial "desktop review," or a preliminary review that confirms a project is feasible before a full application is submitted;
- Checklist of all items that must be submitted as part of full application;
- Detailed make-ready program requirements, information on eligible costs, and application instructions; and
- Average charger energization timelines, as measured from submission of full application to site energization.

II. The Business and Multi-family Make Ready Solutions Program is well-positioned to support the development of a competitive charging market, so long as it is sized to align with customer demand.

With the Business and Multi-family Make Ready Solutions Program, PGE proposes to design, install, own, and maintain electrical infrastructure behind the customer meter to support 200 customer-owned L2 EV chargers at approximately 35 different locations.[2] ChargePoint supports the design of this program and is pleased to see that PGE recognizes the many benefits of supporting customer-owned stations. By proposing to design, install, own, and maintain electrical infrastructure and leaving the site host to manage charging services offered on their property, PGE will play to its strengths as a utility and will serve an important role to support the competitive EV charging market.

[1] TEP at 109.
[2] *Id.* at 117.

A similar utility investment model offered by Xcel Energy has been successful in Colorado, where the utility pays for and owns "EV supply infrastructure" including the dedicated EV meter, power cabinet, panel, and conduit conductor.[3] Though PGE intends to end this program offering after 2025, ChargePoint encourages PGE to develop a successive effort to defray the costs of make-ready electrical infrastructure for site hosts in a similar manner beyond 2025. Some level of continued make-ready support will likely remain needed past 2025 across most, if not all, segments supported by the Business and Multi-family Make Ready Solutions Program.

A. The Business and Multi-family Make Ready Solutions Program supports competition, innovation, and customer choice.

An important element in the design of the Business and Multi-family Make Ready Solutions Program is that PGE's customers, or site hosts, will be able to select the EV charging equipment and services that they will offer on their property.[4] In the competitive marketplace for EV charging services, site hosts select the technologies they prefer through the open market, invest their own capital, seek any incentives available through public agencies or utilities, and, in the case of commercial stations, offer competitive charging services to attract drivers and recoup necessary expenses.

For their part, charging hardware, software, and service providers innovate new hardware, software, and service offerings to enable site hosts to choose the products and services that will best meet their needs. These providers compete to offer site hosts the best products to meet their needs at reasonable cost. In competitive markets, utilities and government agencies can support site hosts and charging hardware, software, and service providers by developing programs that make it less costly and easier for site hosts to install charging equipment and provide charging services. Because charging companies compete for the business of site hosts that want to offer EV charging services on their property, they are highly incentivized to continue to innovate to deliver better services at lower cost. By contrast, single-procurement events, such as RFP processes that select a single provider across an entire utility program, do not allow for customer choice.

Preserving customers' ability to select their charging provider eliminates the possibility of "one size fits all" procurement and supports competition and innovation in the nascent market for EV charging services. ChargePoint strongly supports the element of customer choice integrated into PGE's Business and Multi-family Make Ready Solutions Program. ChargePoint notes that the structure of this program is consistent with ORS Section 757.357(7), which requires PGE to "allow for customer choice in the selection of the type of electric vehicle charging station to be installed" when undertaking any infrastructure measure that involves installing EV chargers, such as the Business and Multi-family Make Ready Solutions Program.

[3] https://www.xcelenergy.com/staticfiles/xe-responsive/Marketing/CO-PublicCharging-summary-table.pdf

[4] "Site host" refers to the owner or lessee of the property on which an EV charging station is located. Site hosts include residential customers; owners of multifamily housing units (MFH); commercial customers that offer charging to the public, their customers, and/or their employees; fleet owners; and government entities.

B. The Business and Multi-family Make Ready Solutions Program should be sized to meet growing customer demand.

The TEP downsizes the port deployment goal from over 1,000 ports to 200 ports based on data showing that demand in the underserved and low-to-medium income multifamily market is still developing.[5] ChargePoint supports PGE's efforts to size its make ready programs appropriately to keep on pace with demand. Incentives move the market forward in two distinct ways: first, by encouraging early-movers where demand is nascent, and second, by hastening market development where demand is high but costs present a barrier to deployment. ChargePoint encourages PGE to size the Make Ready Program not only to meet customers where they are today, but to avoid gaps in funding for multi-family, public, and workplace L2 segments through 2025.

Past precedent is not a solid foundation on which to predict future demand in a fast-moving market, as site hosts will express more interest in charger deployment in the next few years as new EV models become available, new federal incentive programs take effect, and EV adoption increases. Nonetheless, cost will likely remain a barrier, even as the market matures. In addition, economic factors over the last year, including high interest rates and inflation, may be contributing to latent demand for public, workplace, and multi-family chargers as site hosts delay discretionary spending in hopes of improved economic conditions before investing in EV chargers. For these reasons, PGE should prepare a strategy to support customers if demand for this program significantly exceeds the 200 ports budgeted for in this TEP, especially if specific segments (workplace, public, or multi-family) are oversubscribed quickly. Continued incentive support will accelerate private investment and ensure that Oregon has the number of chargers needed to support its EV adoption goals.

C. PGE should recognize the value and benefit of public and workplace ports by increasing the port deployment goal for these segments to 140 ports each and expanding support to DCFC.

As proposed, PGE forecasts that the Business and Multi-family Make Ready Solutions Program will install the majority of ports (140) at multi-family dwellings and 60 ports split between workplace and public sites.[6] By assigning a greater number of ports to the multi-family segment, PGE establishes the multi-family segment as a priority for this program. ChargePoint agrees that greater residential charging access is an effective tool to encourage EV adoption for residents at a particular multi-family residence. Even so, workplace and public charging sites remain a valuable part of the charging ecosystem, especially for EV drivers who do not live in single-family homes.

[5] TEP at 26.
[6] *Id*.

EV drivers are best-served when they have options to charge – at home, work, and around town. For this reason, the lack of incentive support for public DCFC in this TEP is a significant omission. As a recent report by the National Renewable Energy Laboratory (NREL) modeling national charging needs by 2030 observes: "While fast charging is estimated to be a relatively small part of the national network in terms of number of total ports, it requires significant investment and is vital to enabling future growth by assuring drivers they will be able to charge quickly whenever they need or want."[7]

Increasing incentive support across the workplace and public segments will ensure that more drivers see direct benefits from PGE's TEP. For example, a public L2 or DCFC charger improves charger accessibility for EV drivers in an entire neighborhood, rather than just residents of one opportune building. ChargePoint encourages PGE to increase the number of public and workplace ports supported by the Business and Multi-family Make Ready Solutions Program to 140 ports each, bringing the overall total number of ports to 420. PGE should also add the option to install DCFC within ChargePoint's proposed public port target of 140.

III. The impact of the Municipal Charging Collaboration Pilot on innovation and competition is contingent on PGE's execution of its commitments to support the competitive market.

The TEP requests an incremental $6.3 million for the Municipal Charging Collaboration Pilot to install 80 additional pole-mounted or curbside Level 2 chargers in underserved communities.[8] These chargers will bring the total number of stations owned and operated by PGE to 240, or 12% of the anticipated 2025 need according to TEINA.[9]

ChargePoint has presented the many concerns regarding utility ownership of public charging infrastructure in the context of Pacific Power's TEP.[10] In short, by virtue of their status as monopolies, utilities have several unearned advantages as competitors in the market for EV charging services that are unavailable to other charging operators, such as the ability to recover losses from captive ratepayers. If unchecked, the monopoly utility's participation in the competitive market for charging services inevitably leads to outcomes such as below-market pricing facilitated by the captive ratebase, which crowds out competitors and enables the extension of the utility's regulated service into the competitive EV charging market. Any perceived benefits of price regulation are cancelled out by higher customer electric rates, as the utility must eventually recover the costs of operating its charging network from ratepayers. For these reasons, a recent report finds that it is generally not in the interest of ratepayers or EV drivers for utilities to own and operate chargers.[11]

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[7] NREL, "The 2030 National Charging Network: Estimating U.S. Light-Duty Demand for Electric Vehicle Charging Infrastructure," available at: https://driveelectric.gov/files/2030-charging-network.pdf

[8] TEP at 31.

[9] *Id.* at 25.

[10] OPUC Docket No. UM 2055, ChargePoint Initial Comments on PacifiCorp 2023-2025 TEP.

[11] Grid Strategies and Electric Advisors Consulting, "Serving Customers Best: The Benefits of Electric Vehicle Charging Stations," available at: https://gridstrategiesllc.com/wp-content/uploads/2023/05/GS_EV-Paper.pdf

Although these concerns apply to PGE's proposal to own and operate L2 pole-mounted chargers, ChargePoint acknowledges that PGE's plan makes several good-faith efforts to mitigate the anti-competitive impacts of the Municipal Charging Collaboration Pilot Program, including:

- PGE states its intention is to "refocus from broader ownership of L2 infrastructure to helping provide infrastructure in underserved communities."[12]
- PGE has "learned the value of partnership with the private market to operate chargers" and does not plan to deploy any more utility-owned DCFC ports.[13]
- PGE proposes to offer a Business and Multi-family Make Ready Solutions Program to support customers' ability to own and operate charging services on their properties and "demonstrate that the private market can meet [underserved] communities' needs." [14]
- PGE will "attempt to find a market partner" to take ownership of or assist in the development of the pedestal public charging ports owned by PGE.[15]
- PGE will "use data gathered during the administration of this program to inform possible updates to Schedule 50."[16]

ChargePoint supports PGE's intention to shift to a supportive role for the private market, rather than one in which PGE is the owner/operator of charging services. Executing all the above actions is critical to support innovation, competition, and customer choice. The Commission should take sufficient action to ensure PGE follows through on the above commitments by:

- Requiring PGE to find a market partner (or other entities, such as municipalities) to take ownership of all 240 PGE-owned chargers no later than 2025. Although PGE states it is exploring partnerships to shift ownership and maintenance for *pedestal chargers,* all pole-mounted chargers should be transferred to another entity or entities by 2025 as well.[17] [18]
- Requiring any updates to Schedule 50 pricing to consider the market average rate for charging services; and
- Ensuring the Business and Multi-family Make Ready Solutions Program is sized adequately to address customer need.

All that said, ChargePoint's primary concern with the Municipal Charging Collaboration Pilot Program is that the pole-mounted chargers are not expected to comply with the payment

[12] TEP at 25.
[13] *Id.* at 13.
[14] *Id.* at 12.
[15] *Id.* at 116.
[16] *Id.* at 84.
[17] ChargePoint notes that PGE's proposed TEP does not address the potential situation in which it is unable to find a market partner to assume ownership and operation of the chargers. The Commission should address this possibility when considering whether to approve PGE's request for additional utility-owned chargers.
[18] The first-ever deployment of pole-mounted chargers by an investor-owned utility in the US (National Grid in Massachusetts) was conducted in partnership with the City of Melrose, which owns the stations. *See* https://www.nationalgridus.com/News/National-Grid-Deploys-Innovative-EV-Chargers-in-Melrose,-MA/

standards required of customer-owned public chargers to receive utility funds. The next section elaborates on this concern.

IV. PGE should align payment standards for public chargers with federal guidelines for the National Electric Vehicle Infrastructure Program (NEVI).

A. PGE's proposal discriminately exempts itself from payment standard requirements for EMV chips.

The TEP proposes that PGE- and customer-owned public chargers comply with payment standard regulations recently adopted by Washington State Department of Agriculture (WSDA).[19] The WSDA regulations establish a mandate for new charging stations to accept specific payment methods, including credit card reader devices for Europay, Mastercard, and Visa (EMV) chips.[20] Due to a recent change to the law in California, Washington is the only state in the country to require EMV chip readers on public EV chargers.[21]

However, the TEP later clarifies that PGE intends to grant an exception to the chip reader requirement for its own pole-mounted chargers. According to PGE, pole-mounted chargers installed through the Municipal Charging Collaboration Pilot Program will continue to process payment through a charging vendor app because EMV chip readers pose National Electric Code (NEC) and National Electric Safety Code (NESC) violations around climbing space.[22] Therefore, all the new pole-mounted chargers PGE proposes to install in this TEP, and presumably all previously authorized utility-owned pole-mounted chargers, will not comply with Washington State's regulations. PGE has not proposed to grant exemptions to the chip reader requirement to any customer-owned public chargers.

PGE's selective application of Washington State's payment regulations creates a tilted playing field to the disadvantage of customer-owned public chargers, which would be required to comply with PGE's rules to receive utility funding. Among other issues, EMV chip readers may add $1,000 to the lifetime costs of L2 charging stations. PGE's plan to exempt itself from this requirement would allow PGE and only PGE to avoid these costs.

B. PGE's pole-mounted charger program relies on smartphone access, which means many other payment options are accessible to EV drivers in PGE's service territory.

Pole-mounted chargers installed within the Municipal Charging Collaboration Pilot are intended to serve EV drivers in underserved communities.[23] Appendix B of the TEP clarifies that EV drivers

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[19] TEP at 263.
[20] *Id.* at 135-136.
[21] On July 10, 2023, Governor Newsom signed AB 123, which requires public charging stations to, at a minimum, accept contactless credit/debit card payment and toll-free number/SMS-based payment. See https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202320240AB123
[22] TEP at 263.
[23] *Id.* at 7.

using pole-mounted chargers must scan a QR code to unlock them, a process which requires a smartphone.[24] PGE therefore assumes that EV drivers in underserved communities will have access to a smartphone, an assumption that aligns with ChargePoint's experience as a network operator. Though app-based payment represents how most charging sessions on the ChargePoint network are initiated today, EV drivers may use a variety of phone-based methods (smart wallets such as Google Pay or Apple Pay, toll-free numbers, and payment through non-ChargePoint charging network) and non-phone-based methods (contactless RFID cards and contactless credit/debit cards) to pay for charging services.

However, based on stakeholder comments in the TEP, the purported justification to adopt Washington State's payment regulations for PGE's programs is that EMV chip readers will increase payment accessibility for drivers without smartphones.[25] But in the context of PGE's pole-mounted charger proposal, drivers must use a smartphone to unlock PGE's pole-mounted chargers via QR code, so they must have a smartphone capable of several payment options at customer-owned public chargers. It is therefore unclear how EMV chip readers increase payment accessibility if PGE is operating its pole-mounted chargers under the assumption that all drivers in underserved communities using their network have a smartphone.

C. Operators of customer-owned stations should not be required to accept EMV chip-based payment due to additional cost, reliability concerns, and fraud concerns of EMV readers.

Operators of public chargers in PGE's service territory should not be required to accept contact-based payment (such as EMV chips) for a variety of compelling reasons, including but not limited to:

- ***Reliability:*** A charging station is only as reliable as its least reliable component. External payment terminals such as EMV chip readers are a common point of failure for devices on which they are mounted, especially when they are exposed to the elements (rain, snow, wind, and sand). On the other hand, contactless payment terminals are housed within the station and protected from vandalism and weather.
- ***Fraud risk and security:*** Gas pumps are notoriously vulnerable to "skimming" and "shimming" scams, where fraudsters attach illegal card readers to external payment terminals to steal card data.[26] EV charging stations with external payment terminals are likely to become high-value targets for fraudsters because unlike gas pumps, they are often unmonitored by attendants.[27] By contrast, contactless payment terminals lower the risk of fraud at fuel stations by eliminating fraudsters' gateway to card information: the physical contact between the payment terminal and card.

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[24] TEP at 226.

[25] *Id.* at 263.

[26] Federal Trade Commission Consumer Alert, "Watch out for card skimming at the gas pump," available at: https://consumer.ftc.gov/consumer-alerts/2018/08/watch-out-card-skimming-gas-pump

[27] Digital Citizens Alliance, "How EV Drivers Could Become Cyber Criminals' New Target," available at: https://www.digitalcitizensalliance.org/clientuploads/pdf/Charging_in_the_Crosshairs.pdf

- ***Costs:*** Site hosts of public charging stations are sensitive to cost. As mentioned earlier, an external payment reader may add as much as $1,000 in lifetime costs to charging station hardware.[28] The mandate to offer EMV chip readers will push costs up and work against PGE's proposed incentives to support charger deployment for customer-owned sites.
- ***Obsolescence:*** The payment industry is rapidly shifting away from EMV chip readers for processing card-based payments. According to Visa, "Tapping to pay will soon become the default way that U.S. consumers choose to pay with cards in the physical world."[29] The mandate to accept EMV chip-based payment is overly prescriptive, locks EV charging stations into a soon-to-be obsolete payment technology, and diminishes the industry's ability to respond to improvements in payment technology and changes in consumer preferences.

D. Oregon drivers will have more consistent EV charging experience if payment standards are aligned with the NEVI Program.

ChargePoint agrees with PGE that it is important that all customers be able to pay for EV charging using a variety of payment methods.[30] Minimum standards should apply non-discriminately to all public chargers supported by the TEP, including utility-owned and customer-owned chargers, and require multiple payment options.

PGE may feel it is appropriate to align payment standards with Washington State for the purposes of consistency in driver experience. However, Washington State is not the only entity to have proposed and adopted minimum payment standards. The federal National Electric Vehicle Infrastructure (NEVI) Program will invest $52 million in Oregon's DCFC network to enable long-distance travel in an EV.[31] Guidelines issued by the Federal Highway Administration (FHWA) require charging station operators to accept at least three methods of payment, which at a minimum, must include a contactless payment method that accepts major debit and credit cards, and either an automated toll-free phone number or a short message/messaging system (SMS) that provides the EV charging customer with the option to initiate a charging session and submit payment.[32]

Further, the Oregon Department of Transportation's (ODOT) NEVI Plan, as approved by FHWA on September 14, 2022, establishes a minimum standard to accept credit or debit card payment either by contactless card or EMV chip:

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[28] Rocky Mountain Institute, Reducing EV Charging Infrastructure Costs, available at: https://rmi.org/wp-content/uploads/2020/01/RMI-EV-Charging-Infrastructure-Costs.pdf

[29] Visa, "Contactless in the U.S.: Tapping into the future of payments," available at: https://navigate.visa.com/na/spending-insights/tapping-into-the-future-of-payments/#:~:text=The%20rise%20of%20mobile%20payments,factors%20at%20traditional%20POS%20devices.

[30] TEP at 135.

[31] *Id.* at 20.

[32] NEVI Standards and Requirements, Final Rule § 680.106(f)

At a minimum, all EV charging equipment (or separate, adjacent payment kiosk) at [West Coast Electric Highway] EV charging stations must support the following pay-per-use options: (i) Payment by use of a Credit card (either Tap-and-Go, Euro MasterCard Visa (EMV) chip, or both) and Debit card, without incurring excessive fees, inconvenience or delays compared to other payment methods.[33]

As noted above, California recently revised its own statewide minimum payment standards to mirror the NEVI Program and no longer requires EMV chip-based payment at public EV chargers. Washington is now the only state in the nation that requires EMV chip readers on public chargers. Therefore, if PGE would like to ensure a consistent EV driver experience, it would be more successful in doing so by aligning with the federal standard established for the NEVI Program and ODOT's minimum standards, rather than the overly prescriptive Washington State specifications.

V. Conclusion.

ChargePoint appreciates the opportunity to provide these comments. We look forward to continuing to work with PGE, the Commission, Staff, and other stakeholders to accelerate EV charger access in PGE's service territory. Please do not hesitate to reach out with any questions about ChargePoint's comments herein.

Sincerely,

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[33] Oregon National Electric Vehicle Infrastructure Plan, July 2022. See Attachment A at 4, available at: https://www.oregon.gov/odot/climate/Documents/Oregon%20NEVI%20EV%20State%20Plan.pdf