



Portland General Electric

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August 11, 2023

Via Electronic Filing

Public Utility Commission of Oregon
Attention: Filing Center
PO Box 1088
Salem, OR 97308-1088

Re: Docket No. UM 2033, PGE Transportation Electrification Plan

Filing Center:

Portland General Electric (PGE or the Company) filed its draft Transportation Electrification Plan (TEP or Plan) in UM 2033 on June 1, 2023 for review by the Public Utility Commission of Oregon (Commission or OPUC) Staff and stakeholders as required by Commission Order No. 23-034 and OAR 860-087-0020(2)(b). The Company appreciates the constructive engagement and thoughtful comments of Staff and stakeholders in this proceeding.

In addition to Staff, a total of ten stakeholders or groups of stakeholders filed comments on the draft TEP: Cascade Policy Institute, ChargePoint, Citizens' Utility Board, Electric Vehicle Charging Association, EV.Energy, EVgo, Green Energy Institute, NW Energy Coalition, SWTCH, and WeaveGrid. In addition, PGE held two "open office" events to respond to questions from Staff and stakeholders, and met separately with Staff, ChargePoint, CUB, EVgo, GEI, NWEAC and WeaveGrid to discuss aspects of the draft Plan and Staff and stakeholder concerns and recommendations.

We look forward to filing our final Plan on or before August 25, per the docket schedule established by Staff, and intend to provide a detailed summary of specific comments provided by Staff and stakeholders together with notations of our responses as part of the final Plan document. In particular, where Staff or stakeholders recommended that PGE provide additional data as part of the Plan, we will either include that data in the final Plan document or provide an explanation for why the data will not be included.

PGE interprets the comments offered by Staff and stakeholders to suggest relatively modest revisions or additions to the draft Plan. Several stakeholders offered support for the Plan overall and no parties stated that they oppose the Plan or generally our strategy to plan, serve, and manage the growth in transportation electrification-related load expected on our system over the coming years. Likewise, no parties argued for major expansion or reduction of the proposed budget, although some parties argued for reallocation of certain funds or expansion of certain programs, and many offered recommendations for adjustments or inclusion of additional data.

With this general context in mind, we will not attempt within these reply comments to provide specific responses to each recommendation offered by Staff and stakeholders. Those specific responses will be provided in the final Plan. Instead, in this document we will address certain key areas that emerged across multiple sets of comments. These areas of concern or recommendations are described below:

Multi-Family Charging

Several stakeholders offered comments and recommendations or expressed concerns with regards to PGE's Business and Multi-Family Make Ready proposal, including CUB, NWEAC, GEI, SWTCH, and ChargePoint. Not all

of the recommendations and concerns expressed appear readily reconcilable. PGE is, however, currently considering revisions to its multi-family make ready proposal based on the comments received and concerns expressed and expects to present a modified program as part of the final TEP filing on August 25. As it develops a revised proposal for the final Plan, the Company offers the following considerations:

Generally speaking, equity advocates expressed concerns that PGE's proposal to provide incentives for installation of EVSE without utility ownership at multi-family dwelling units may leave residents vulnerable to higher and unregulated charging costs. This action could exacerbate inequities relative to the costs experienced by electric vehicle (EV) owners who live in single-family dwellings and are able to charge at residential rates. CUB and NWECA, in particular, have asked PGE to revise its multi-family program structure so the Commission retains rate-setting authority over the price-to-charge at program-enabled multi-family sites.

Charging industry representatives, on the other hand, express support for PGE's Business and Multi-Family Make Ready proposal and urge the company to: 1) provide greater incentives for third-party installations at multi-family facilities as well as public DCFC facilities, 2) mirror market rates at its utility-owned public charging facilities, and 3) accelerate PGE's planned transition of its utility-owned public charging facilities to third-party ownership to allay concerns about perceived anti-competitive influences in the emerging EV charging market.

PGE's Business and Multi-Family Make Ready proposal is designed to help develop charging infrastructure for low-income multi-family properties by covering make-ready costs and providing incentives to the property owner for the purchase, installation, and maintenance of Level 2 chargers. This approach aims to help meet the charging needs of low-income customers living in these facilities by increasing access to, awareness of, and visibility of EV charging in underserved communities, thus promoting increased adoption and utilization of EVs among low-income customers. The program approach also attempts to create investment interest among multi-family property owners by removing barriers to this investment and helping bridge the funding gap while momentum in this market is building. The program is designed to capture insights into investment barriers as well as EVSE adoption and utilization at income qualified multi-family sites. This is a new activity that requires harvesting data and information, which then can be used by PGE, stakeholders, market actors and government to better tailor future approaches to this segment of the EVSE market. This program is also structured to create opportunity for collaboration between the property owner, PGE, and EVSE providers. PGE strongly believes that private market investment is necessary at all levels of the EVSE market and is concerned that private market EVSE providers will not enter the low-income multi-family market without strategic investment or thoughtful program structures. Thus, PGE's Business and Multi-Family Make Ready proposal is meant to attract private market EVSE providers to the low-income multi-family space and create the opportunity for them to learn how to serve this market.

CUB has identified a potential gap in this approach: equity of fueling costs. CUB points out that multi-family property owners may look to recoup their investment and perhaps seek a profit thereon by charging customers rates well above Schedule 50. PGE shares this concern, but we also note that CUB's position rests, however plausible, on an assumption that property owners are likely to exploit their opportunity by charging unreasonable prices. PGE provides energy pricing schedules for Level 2 charging at commercial facilities such as multi-family properties that are comparable to residential energy prices. In fact, Level 2 charging at a commercial property (Schedule 32) has slightly lower energy prices at 11.513 cents/kWh than residential customers (Schedule 7) at 12.674 cents/kWh, though the commercial fixed monthly fee is greater. If multi-family property owners install multiple chargers, which are all utilized, we believe they can offer EV charging prices similar to residential home energy prices.

While PGE does not dispute the potential for the scenario CUB raises, it raises a series of complex problems, many of which PGE does not possess the tools to address without governmental action, market participant agreements, or enforcement mechanisms. Examples include:

1. What is PGE's proper TE market role with regard to low-income customers?
2. How might PGE require an EVSE owner to offer equitable charging rates, comparable to Schedule 50, while still recouping their costs?
3. Should, and if so can, PGE enforce an agreement between PGE and the EVSE owner to charge an equitable rate?
4. Alternatively, is there a way for PGE to provide a discount to the customer after they have taken service from a third-party-owned charger, in order to provide a net cost-to-charge comparable to residential rates? And would administering such an aftermarket price correction be an appropriate role for an electric utility?
5. If equity of charging costs is the primary driver or issue which PGE must address for low-income customers, is utility ownership of all chargers serving low-income neighborhoods and customers, with regulated prices, the only solution?
 - a. If so, does this mean PGE will always own, operate, and maintain chargers in low-income communities and charge a rate lower than other competitors in the market? What are the long term effects on third-party investment in these communities if PGE is expected to be a permanent, below-market competitor there?
 - b. If so, how does PGE assure that only low-income customers use these chargers so as to not distort the private EVSE market in other areas?

PGE raised many of these questions in meetings with CUB in July. CUB championed PGE charger ownership at low-income multi-family sites, or perhaps moving dollars from the Business and Multi-Family Make Ready to the Municipal Collaboration program and placing some of these chargers in close proximity to low-income multi-family sites. PGE responded that utility ownership at a multi-family property would be a difficult model for PGE to support and scale, and that the Company believes PGE charger ownership in low-income communities should not be the only viable approach or approach explored, especially at this early stage of the market and of low-income EV adoption.

CUB noted that multi-family charger ownership is being explored by PacifiCorp. Under PGE's Draft 2023 TE Plan, PGE would own chargers as part of our Municipal Collaboration program. Ownership at low-income multi-family sites as well would mean PGE might control a near complete portion of the low-income multi-family EVSE market and would continue to be responsible for servicing this market. The decision to encircle this market with utility ownership and investment would rest on an assumption without empirical evidence that private market EVSE owners would overcharge customers for their service.

While PGE is equally concerned about charging equity, the issue of equitable pricing at multi-family chargers is not limited to the service area of any one utility. PGE does not regulate markets or market actors: This is an inherent market issue as charging infrastructure expands to support the transition to electric transportation, making it a state and federal public policy issue. This issue should be addressed consistently rather than in a patchwork of programs run by certain regulated utilities, so we suggest that stakeholders and public agencies work together to design public policy that will help address this problem, perhaps through a focused work group to address equitable multifamily charger pricing statewide.

We anticipate between 4-6 income qualified multifamily properties will participate in our proposed multi-family program offering. This is a very limited sample size but may provide some insights and lessons learned for the next TEP in 2025 without formalizing a permanent program structure or disrupting the market.

PGE has noted in stakeholder conversations and the draft Plan that while the Company's strategy in support of TE currently incorporates a variety of ownership models, the Company does not envision continued utility

ownership of public EVSE in the long term. PGE intends that initiatives such as the Municipal Collaborations program and Business and Multi-Family Make Ready program will promote equitable EV charging opportunities with a focus on underserved communities and reflect the fact that these communities are less likely to attract commercial charging facilities while the EV market is still underdeveloped. Thus, PGE proposes both to own EVSE in these communities in the near term and to provide incentives for commercial entities and property owners to serve them as well.

Schedule 50

Schedule 50 is the tariff that governs prices customers pay to charge their EV at public EVSE owned and operated by PGE. Most parties, including Staff, offered comment or recommendations regarding Schedule 50. Indeed, PGE sees general agreement in those comments that Schedule 50 should be revised given its current flat-rate structure, something which was appropriate to the early-adopter charging facilities available when the tariff was approved but no longer reflects the charging expectations or behavior of current EV drivers.

PGE has already stated that it intends to propose revisions to Schedule 50 and expects to move to a volumetric rate, retaining a focus on equity considerations, while also adopting mechanisms to encourage customers to vacate charging sites once their charging needs are met. Equity advocates generally want to see Schedule 50 provide charging costs comparable to those experienced by EV owners with access to charging at home. Industry representatives argue for market-based pricing with room for commercial enterprises to recover their capital and maintenance costs while earning a profit, relying on competition to keep costs reasonable for customers. Here again the comments received from stakeholders will be difficult to harmonize in a manner that resolves all concerns.

This significant disagreement in how to price public charging reinforces PGE's view that revisions to Schedule 50 should be addressed through a separate public process, with Staff and stakeholder input, after the final PGE TEP has been considered and accepted by the Commission. The Company believes this must be initiated promptly once the Commission takes action on the TEP. In our view, attempting to incorporate Schedule 50 revisions into the TEP itself could needlessly complicate and potentially delay Plan acceptance and implementation.

Technical Standards

Several stakeholders, including ChargePoint, EVgo, EVCA and NWECA offered comments and recommendations regarding technical standards and especially payment standards for public EVSE facilities, with parties arguing that PGE should either adopt National Electric Vehicle Infrastructure (NEVI) standards or exceed them. This topic has been raised frequently during discussions over the course of dockets UM 2165, AR 654 and UM 2033 and in the multiple stakeholder workshops PGE held as it developed its TEP.

PGE remains convinced these standards must appropriately be addressed consistently across utility service areas and public jurisdictions. Standards provide a predictable customer experience and facilitate effective installation, operation and maintenance practices (and thus promote EVSE reliability). Therefore, PGE expects to adopt standards consistent with those of other jurisdictions and utilities in Oregon, Washington and California and will reflect that intention in its final TEP.

Data

As noted above, many parties and especially Staff offered recommendations for additional data to be provided as part of the final TEP. In some cases, the data requested may not be available or is not yet available. Data in the latter category might be more appropriately addressed in PGE's 2024 TEP Report, as provided for in OAR 860-087-0030. However, where available, reasonable and appropriate to the TEP (rather than other utility proceedings such as the Distribution System Plan), PGE will include the requested data in the final TEP filed

August 25. In any case, PGE will explain its approach as part of the response to Staff and stakeholder comments in the final document. Given the substantial amount of additional data recommended in Staff's comments and in some cases echoed by stakeholders, PGE is currently still evaluating what can be compiled and included appropriately in the final TEP. For transparency, we are including with today's comments an attachment with a preliminary summary of our responses developed to date for certain Staff recommendations.

Conclusion

PGE thanks Staff and stakeholders for the opportunity to offer reply comments and looks forward to continued constructive dialogue as we finalize the TEP and move to implementation during the remainder of the 2023-2025 TEP cycle. Please do not hesitate to contact me if you have questions or need clarification of the above.

Thank you,

/s/ Riley Peck

Riley Peck
Senior Manager, Regulatory Strategy and Engagement

ATTACHMENT

UM 2033 PGE Reply Comments_Attachment_8.11.23

Comments received from Commission Staff and stakeholders in UM 2033, regarding Portland General Electric's (PGE's) draft 2023-25 Transportation Electrification Plan (TEP), included multiple recommendations for additional data and in some cases analyses. As required by OAR 860-087-0020(2)(d), PGE is evaluating these recommendations and will note our responses and where appropriate provide the additional data in the final TEP the Company expects to file on or before August 25, 2023. Because that evaluation process is ongoing, the Company is not prepared to address every recommendation with the reply comments due August 11. However, where preliminary responses or responsive data is available for certain specific recommendations, we provide it below to share progress with Staff and stakeholders:

- **Identify what AdopDER now assumes the average federal EV subsidy will be.**

In our April 2023 AdopDER model update, our reference case assumes availability of an average federal subsidy (based on the Federal Tax Credit or FTC) of \$3,750. We assumed a 50 percent FTC due to the inherent uncertainty in the updated FTC regulation on car and battery components and their manufacturing. To reflect this uncertainty, we assume \$0 of federal subsidy available in the low scenario, while the high scenario assumes the full \$7,500 will be available.

- **Put forth a modeling change to better reflect the economics of heavy-duty vehicle fleet operators.**

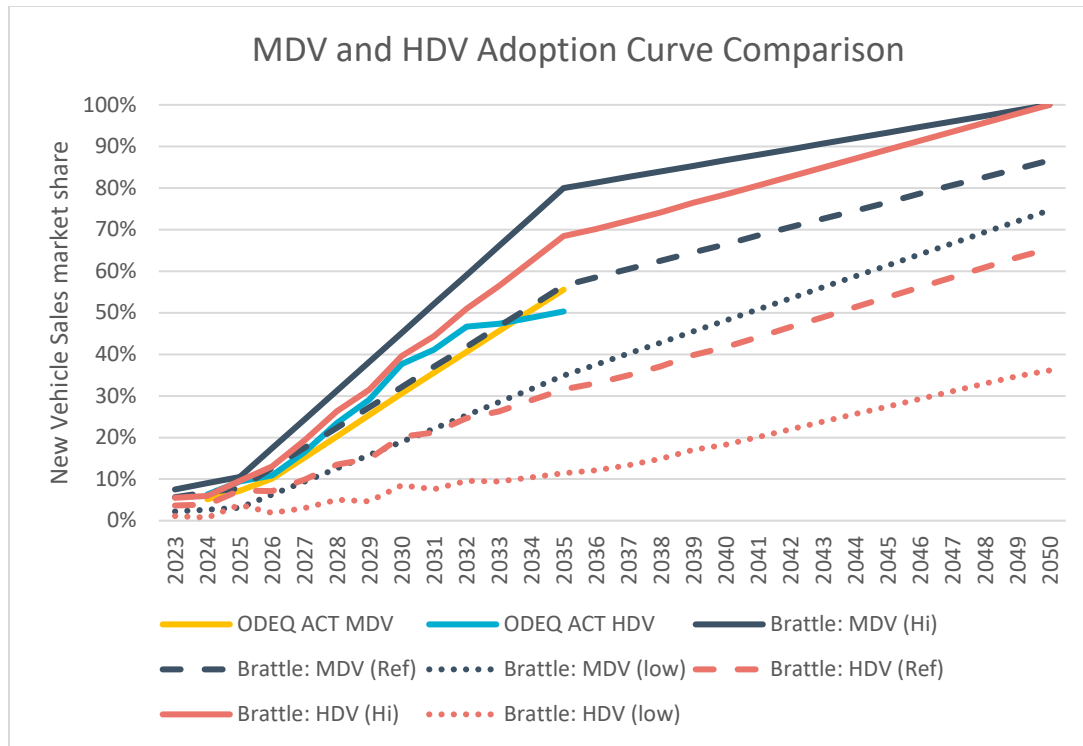
PGE clarifies that we do not solely rely on the Advanced Clean Trucks (ACT) rule-based market percentage requirements for new MDHDV vehicle sales, given that AdopDER is a hybrid model. We also include a bottom-up analysis to identify likely fleet conversions, developed with information from our Customer teams, Key Account managers, and TE outreach leads.

These bottom-up estimates are used to inform the short-term forecast (since ACT requirements do not kick in until 2024). We also supplement the long-term forecast of electric HDV based on market panel survey data because the current ACT rule that Oregon has adopted reaches max market share of 40 percent for Class 7-8 tractors in 2035. We have compared our previous methodology for estimating MDHDV market share described in Appendix G of PGE's DSP Part I filing¹ with the currently approved Oregon ACT rules. The results demonstrate close alignment of the forecasts and underscore the uncertainty facing this market. Figure 1 below shows a comparison of these two methods to highlight the fact that the ACT rule market share requirements falls well within the established boundaries identified by our market research efforts.²

¹ See Appendix A to the study for a description of previous MDHDV methodology. Available at: [2021-09-17-pge-der-flex-load-potential-phase1.pdf \(ctfassets.net\)](https://www.ctfassets.net/2021-09-17-pge-der-flex-load-potential-phase1.pdf)

² Note the MDV and HDV market shares from ODEQ ACT shown below have been weighted across the different vehicle sub-types for purposes of comparison.

Figure 1. Comparison of annual EV sales percentages for MDHDV from Oregon’s ACT rule and PGE’s market research



PGE continues to monitor this market closely and participates in a number of external industry activities aimed at better clarifying the pace and scope of MDHDV electrification trends. For example, PGE is one of 16 founding electric company members of the recently launched EVs2Scale2030 project, led by the Electric Power Research Institute.³ We will update our methods surrounding HDV economics and forecasting accordingly as new information matures and better data becomes available.

With regard to Staff's interpretation of the recent CARB agreement, wherein Staff states a concern that Oregon "may devolve into a hub for secondary used Diesel trucks," PGE sees the agreement language between CARB and the different Parties to the new Clean Truck Partnership as underscoring the commitment on the part of engine and vehicle manufacturers to meeting the standards. Importantly, the agreement specifically states the joint commitment to meet not just the Advanced Clean Trucks rule as it existed on March 15, 2021 (the version which corresponds to Oregon’s current adopted rules) but also California’s recent 100 percent ZEV sales requirement adopted April 28, 2023.⁴ Therefore, PGE disagrees that any new special analysis is required to anticipate a potential shortfall of the HDV forecast in our AdopDER model, because our low forecast scenario already anticipates a potential lower compliance rate than ACT specifies, and there is likewise significant upside to the forecast high case given that California has implemented the percent ZEV sales requirement for MDHDV on April 28, 2023.

³ See <https://www.epri.com/about/media-resources/press-release/7D9bQbqC8e9MldOQ8R5ChO>

⁴ See Appendix B pg. ii of the recent Agreement, available at: https://ww2.arb.ca.gov/sites/default/files/2023-07/Final%20Agreement%20between%20CARB%20and%20EMA%202023_06_27.pdf

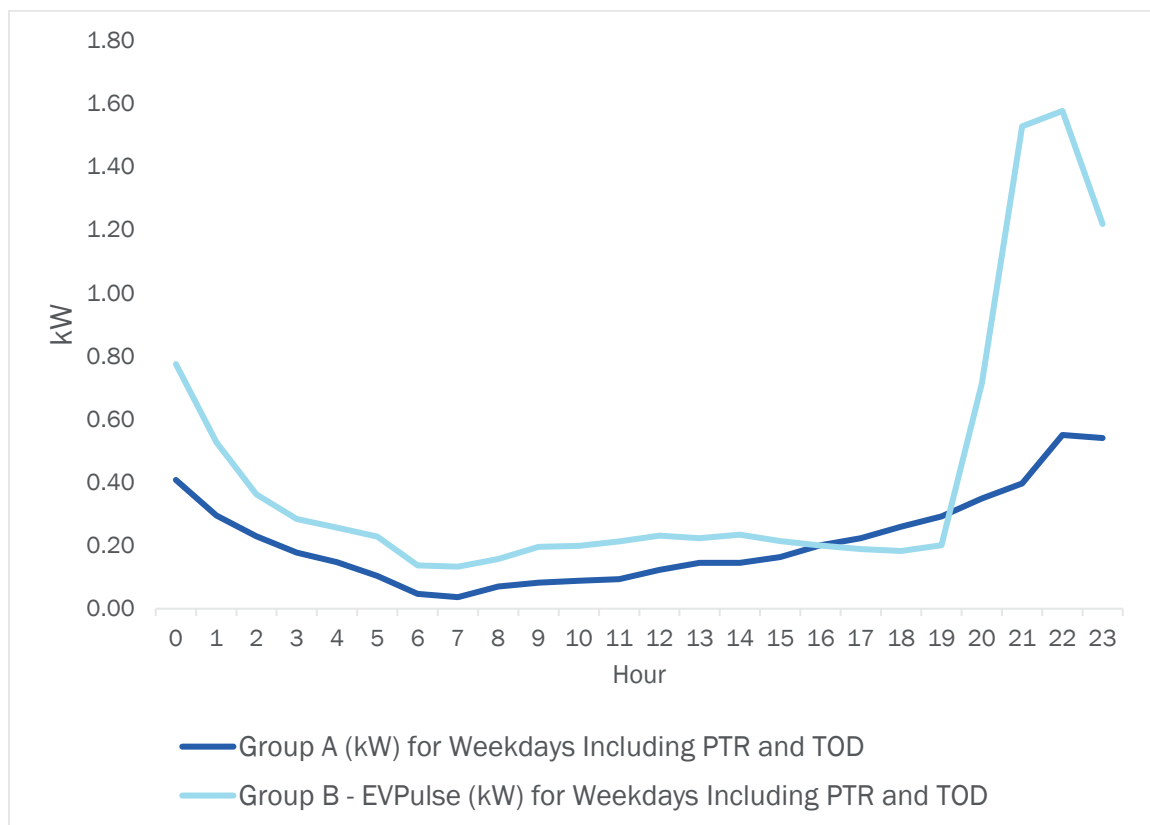
PGE anticipates that with more adoption experience in the HDV market segment, the forecast accuracy will improve similar to the observed convergence Staff identifies have occurred with respect to the LDV forecast share.

- **Present the average observed load shape of residential charging in 2022 from the Company's vehicle-based data and residential EVSE data.**

PGE appreciates Staff's discussion about the importance of EVSE data from PGE's pilot programs. At the time of filing the Draft TE Plan, our residential smart charging pilot evaluation was just getting underway and therefore we did not include any findings from this ongoing effort, including consolidated load shape data. PGE plans to leverage pilot evaluation findings in future model updates and will share the evaluation memo with Staff and stakeholders following the associated pilot evaluation timeline.

Notwithstanding that, certain draft data have been made available since filing the Draft TE Plan. Figure1 below shows the average observed load shape from our residential Smart Charging pilot evaluation for both EVSE (Group A) and vehicle-based data (Group B).

Figure 2. Average Weekday Load Profile - Summer 2022 - draft results from residential Smart Charging pilot evaluation analysis



PGE did not include more discussion and presentation of load shape data and analysis in the 2023 Draft TE Plan in part because many of these activities are included in previous pilot evaluations and have been presented elsewhere. PGE will include more direct discussion and analysis of past load shapes from EV charging use cases in the final TE Plan.

- **Use vehicle-based data to provide the average observed percentage of charging that occurred at home in 2022.**

According to our analysis of vehicle-based data from the EVPulse enrolled customers, those customers met 82 percent of their charging needs with home charging and 18 percent away from home.

- **Identify which hours were selected as peak hours in response to OPUC IR 32.**

The methodology to derive MW peak impacts from AdopDER described in response to OPUC IR 32 identifies 2-4 hour time windows (including hour of day, day of week, month of year) where the loss of load probability is high. Our MW summaries indicate the EV load impact during these events. Table1 below shows the peak hours identified using this method for 2026.

Table 1. Peak hours identified in response to IR 032.

Month	Date time
January	2026-01-02 07:00:00-08:00
January	2026-01-02 16:00:00-08:00
January	2026-01-07 16:00:00-08:00
January	2026-01-08 16:00:00-08:00
January	2026-01-09 16:00:00-08:00
January	2026-01-21 07:00:00-08:00
January	2026-01-21 16:00:00-08:00
January	2026-01-22 16:00:00-08:00
January	2026-01-23 07:00:00-08:00
January	2026-01-23 16:00:00-08:00
July	2026-07-21 17:00:00-07:00
August	2026-08-05 17:00:00-07:00
August	2026-08-10 17:00:00-07:00
August	2026-08-12 17:00:00-07:00
August	2026-08-26 17:00:00-07:00
December	2026-12-31 16:00:00-08:00

- **Confirm whether noncoincident peak is a metric the Company uses in distribution system planning.**

In our draft TE Plan, PGE shared the residential charging load shape, aggregated to the overall system level depicting the hourly average aggregate demand across the service area. PGE does not assume that the non-coincident peak and coincident peak of EV charging are the same. Rather, our AdopDER model utilizes average charging shapes for a variety of use cases (e.g., residential, public, fleet, and workplace) and then associates the load impacts depending on where the EV adoption and EVSE adoption occur. Our DSP Part II describes the EV MW output at the Distribution Substation level (See Section 3.5 and Appendix M). Therefore, the EV load shape will differ based on the relative mix of vehicle and charging types on a given distribution feeder.

PGE also responds that distribution system planning does incorporate consideration of non-coincident peak, in the sense that each individual feeder and substation transformer is planned to the expected peak, which may or may not coincide with the overall system peak at the bulk power system level.

- **Identify what drives the differences between the Company's use of TEINA and AdopDER in forecasted infrastructure need and why AdopDER's forecast of workplace charging begins to converge with TEINA in 2030.**

Both TEINA and AdopDER are relatively complex analytical tools aimed at understanding potential charging requirements to support TE growth, and we do not here present an analysis of what might be driving the differences in forecasted infrastructure need.

For purposes of the 2023 TE Plan, PGE's proposed spending is significantly less than the identified charging infrastructure need estimated using both AdopDER and following the TEINA methodology. As per the Guidance adopted under OPUC Order No. 22-314, utilities are to leverage TEINA methodology to act as an upper guardrail on TE investment.

- **Identify what settings the Company used in TEINA's Inputs sheet.**
PGE used the default input settings from ODOT's publicly-available Excel user interface tool.