BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of Puget Sound Energy Transportation Electrification Plan **DOCKET UE-210191**

COMMISSION STAFF COMMENTS REGARDING
PUGET SOUND ENERGY TRANSPORTATION ELECTRIFICATION PLAN –
2021 THROUGH 2026
VOLUNTARILY PURSUANT TO RCW 80-28-365(1)

JULY 30, 2021

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Introduction

Puget Sound Energy (PSE or Company) provides electric and natural gas service to more than 1.1 million customers in 10 Washington counties. PSE filed its 2021 transportation electrification plan with the Washington Utilities and Transportation Commission (Commission) on March 19, 2021. After discussions with Commission Staff (Staff), the Company filed an addendum to the original plan on July 14, 2021. Collectively, the original filing and the addendum are referred to as "TEP" or "plan" hereafter. The Commission has until September 19, 2021, to acknowledge the plan. This document provides an overview of the enabling legislation, followed by Staff's review of the findings and forecasts in the plan, Staff's suggestions for the Company as it implements its 2021 TEP, and a summary of public comments from other stakeholders involved throughout the TEP development process.

Background and Regulatory Compliance

Companies are empowered to file a TEP as outlined in RCW 80.28.365, which was signed into law in April 2019.³ The statute allows but does not require electric utilities to submit an "electrification of transportation plan".⁴ The purpose of the plan is to lay out how the utility intends to deploy electric vehicle supply equipment (EVSE) or other "programs, services, or incentives to support electrification of transportation."⁵ The plan may also include programs the utility intends to run; anticipated benefits of transportation electrification; and the costs of any programs the utility chooses to run.⁶ As required by statute, if the utility elects to submit a plan, the Commission must issue an acknowledgement of the plan within six months of its submission.⁷

The 2021 PSE TEP is the first TEP that the Company has submitted under RCW 80.28.365. The statute does not specify a process that the Commission should follow when acknowledging a TEP. As such, the Commission elected to offer a public comment period and require the Company to make an open meeting presentation prior to the Commission issuing an acknowledgement.⁸

¹ Docket UE-200304, "2021 PSE Integrated Resource Plan", at i-1 (filed April 1, 2021).

² RCW 80.28.365(3).

³ Laws of 2019, Chapter 109.

⁴ RCW 80.28.365(1): "An electric utility...may submit to the commission an electrification of transportation plan...".

 $^{^{\}frac{2}{5}}$ Ibid.

⁶ Ibid.

⁷ RCW 80.28.365(3).

⁸ The presentation is scheduled for August 12, 2021.

Analysis

In this section, Staff describes the key findings and planned activities that make up the PSE TEP. The TEP covers the years 2021-2026, after which the Company tentatively plans to submit a new TEP.

PSE Transportation Electrification Vision

As part of its transportation electrification (TE) vision, PSE lays out six principles guiding its TE program. Those are:

- Advancing clean mobility
- Focusing on the customer
- Social equity and environmental justice
- Creating a resilient and modern grid
- Contributing to statewide carbon goals
- Collaboration and partnership

These principles establish a framework with which PSE plans to approach its TE efforts. Within this framework, PSE strives to attain four specific objectives¹⁰:

- Supporting and enabling market transformation
- Addressing charging infrastructure gaps
- Planning for and managing electric loads
- Furthering energy equity and inclusion

PSE hopes to achieve these goals by addressing three overarching barriers to EV adoption¹¹: consumer education about the evolving EV market; EV ownership; and charging infrastructure availability.

Finally, the TEP identifies eight customer segments that the Company intends to run programs for. Those customer segments are ¹²:

- All customers
- Low-income and disadvantaged communities
- Single-family residential customers
- Residential multi-family customers
- Public charging

⁹ Docket UE-210191, "Transportation Electrification Plan" (Plan), at 14-16.

¹⁰ *Id.* at 32.

¹¹ Within these barrier categories, the TEP identifies 15 specific barriers to transportation electrification that the Company intends to address. *Id.* at 35-38.

¹² *Id*. at 40.

- Workplace charging
- Commercial fleets
- Transit, government, and community agencies

Staff analysis: At a high level, the vision and approach to TE that PSE has presented in its plan are very good. PSE has created a sound framework with which to address the problems, challenges, and opportunities that TE presents. Staff is impressed with this general approach and looks forward to seeing it put into effect. Therefore, Staff recommends the Commission acknowledge the TEP.

Program Design

The Company's plan describes its approach to program design. PSE's TE plans are largely based on the results of its pilot programs. ¹³ The Company has four pilot programs that have been underway since 2018: an education and outreach program; a residential charging program (which includes a time-of-use load-shifting experiment); a workplace, fleet, and multi-family charging program; and a public charging program. A big component of the TEP is the continuation of these pilot programs in the immediate term while the Company develops permanent offerings, most of which will begin in 2022 or 2023. 14 These new programs could follow any one of ten different approaches laid out in the plan, such as alternative rate structures or the utility's funding and installation of "make-ready" infrastructure (where the utility owns and installs all infrastructure for an EV charger except for the charger itself). 15

PSE intends to provide full program details in the tariff filings that would follow plan acknowledgement but provides high-level program design information in the plan. Below is a summary of those plans by program¹⁶:

- The Company intends to address the commercial fleet sector first, with offerings that could include either PSE-owned EVSE, or customer-owned EVSE provided with PSE incentives and make-ready installations. PSE is also exploring rate design options that would eliminate cost-prohibitive demand charges and rely instead on time-varying volumetric rates to recover associated costs.
- In the multifamily sector, the Company intends to expand upon its existing pilot program wherein it owns, operates, and maintains all EVSE. This program would have a specific focus on reaching low-income disadvantaged communities and vulnerable populations.
- PSE plans to extend its single-family residential pilot as a permanent program and introduce a time-varying rate to influence customer charging behavior.

¹³ See Docket UE-180877. The Company provided a copy of its most recent Electric Vehicle Charging Pilot Programs report to the statewide EVSE stakeholder group as part of the filing in its TEP docket. ¹⁴ Plan at 74.

¹⁵ *Id*. at 64.

¹⁶ Id. at 65-67; Docket UE-210191, "Addendum to Puget Sound Energy 2021 Transportation Electrification Plan" (Addendum), at 4-7.

- For public charging, the Company is contemplating both PSE-owned and make-ready installations, including the option to incorporate multi-modal transportation (such as electric bikes). PSE will also explore installing Level 2 chargers on company-owned streetlights to address gaps in neighborhood charging.
- The workplace sector will be addressed with a PSE-owned EVSE option, but the Company is also exploring a service where customers with existing, customer-owned chargers can join PSE's charging network.

<u>Staff analysis</u>: Staff was uncomfortable with the level of program details contained in the original plan filed in March. However, the addendum filed in July contains both some additional information as well as a clearer indication of when final program details will be available. For now, Staff is satisfied with the program specifics provided, and will closely analyze the upcoming tariff filings to ensure the details contained therein are consistent with the plan. Additionally, the TEP does an admirable job of incorporating the portfolio approach envisioned by the Commission in its 2017 EV charging services policy statement.¹⁷

Modeling, System Planning and Load Management

Both RCW 80.28.365 and the policy statement list load management as a priority in the review of utility TE programs. ¹⁸ It is clear from the TEP that PSE has modeled where, when, and how the EVs it expects to be registered in its service territory will charge. PSE's EV forecast, conducted by Guidehouse (formerly Navigant) shows that by 2050 the Company can expect nearly 1.5 million registered light-duty EVs in its service territory, representing about 56 percent of light-duty vehicle sales in that year. ¹⁹ The highest concentrations of these vehicles are expected to be in areas of King County north and east of Seattle. ²⁰ By 2050, these vehicles could represent an annual charging load of more than six million megawatt hours (MWh). ²¹ If left unmanaged, during average weekday peak hours (around 7-8 p.m.) in 2030 (when the Company projects 321 thousand light-duty EVs on the road), single-family home charging alone would represent nearly 45 megawatts (MW) of load to serve. ²²

PSE seems to be relying primarily on its ability to submeter loads in its efforts to minimize the impact of EV charging.²³ It intends to do so through some combination of telematics, smart chargers, automated metering infrastructure (AMI), or other methods. Through this submetering, the Company hopes to gain a better understanding of load shapes, leading to improved forecasts of charging's impacts on its overall load. The Company plans to provide further details on its load management plans in each of its program tariff filings, but preliminarily intends to manage

¹⁷ See Docket UE-160799, "Policy and Interpretive Statement Concerning Commission Regulation of Electric Vehicle Charging Services" (Policy Statement), at 73-77.

¹⁸ RCW 80.28.365(2); Policy Statement at 78-79.

¹⁹ Plan at 53, Figure 9.

²⁰ *Id.* at 49 and 51, Figures 6 and 8.

²¹ *Id.* at 54, Figure 10.

²² Plan at 56, Figure 11. The figure depicts this expected load, but per Staff's communication with the Company, the y-axis is mislabeled as being in MW when in fact it should be in kilowatts (kW).

²³ Addendum at 8-9.

load through alternative rate designs, with more direct methods (possibly including programmed EVSE and vehicle-to-grid capabilities) to be explored as well.

While the plan does not outline any specific transmission or distribution system upgrades that are or would soon be necessary, it does note that PSE will use existing tools to help it monitor EVs' impact on its grid and plan for future upgrades. The Company also plans to implement a geospatial forecasting tool that will allow it to map EV load impacts down to the circuit level, which could complement the mapping and forecasting tool envisioned in recent legislation.²⁴

Staff analysis: Modeling, planning, and load management are all topics Staff is keenly interested in. PSE has indicated that its tariff filings will include additional details on how it plans to manage EV loads for each of its EVSE programs. Staff will be paying close attention to the tariff filings for those details. Time-of-use rates and other alternative rate designs are beneficial and should be used wherever appropriate, but they should not be the only load management technique that the Company relies on. Therefore, in addition to the details on such alternative rates, Staff will be looking to see what other, more direct load management opportunities PSE plans to take advantage of.

Staff has two concerns with the EV forecast provided in the TEP. First, while the TEP presents the striking results of the Company's modeling efforts as noted above, it is silent on the issue of whether the Company's grid is prepared for such a future. PSE does not offer any clues as to whether the load required to serve EVs will necessitate transmission and distribution grid upgrades or require the Company to purchase additional generation capacity. RCW 80.28.365(2) indicates that the Commission "may consider" the impact of electrification on the utility's load when reviewing a TEP. But without an assessment of that impact from the Company, at least in this docket, the Commission is left with little that it can consider. The potential costs of such upgrades are not discussed either.

Second, Staff has some questions about whether the Guidehouse forecast is accurate given current and certain future legal requirements. Staff's concern is that the model may be underestimating the pace of EV adoption resulting from state and federal policies. The forecast was completed in early 2021, meaning it incorporates legislation and regulations passed in 2020, including the state's adoption of California's Zero Emissions Vehicle (ZEV) program. The Washington Department of Ecology (Ecology) has opened a rulemaking to adopt California's ZEV rules by reference as they existed in June of this year. ²⁵ However, Ecology will also be required to adopt by reference the rules California Air Resources Board (CARB) is currently developing that will implement Governor Gavin Newsom's September 2020 executive order that all sales of new passenger cars and light trucks in the state be electric by 2035. ²⁶ While it's

²⁴ Laws of 2021, Chapter 300.

²⁵ See the draft rules at: https://ecology.wa.gov/DOE/files/91/91cf1b49-de79-4dfc-b053-8fbf0d5e9ebe.pdf.

²⁶ See "Executive Order N-79-20", retrieved from: https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf; and "Advanced Clean Cars II", retrieved from: https://www2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about.

possible that changes could happen and the latter CARB rules may not be adopted, Staff's opinion is that they are probable enough that the plan should consider them.

The forecast provided by PSE incorporates existing rules but not rules that are nearly certain to soon be in effect. Nor does it incorporate laws that passed during Washington's 2021 legislative session, such as the low carbon fuel standard.²⁷ Taken together, all these new mandates can be expected to increase the pace of EV adoption in Washington.

Fortunately, PSE updates its forecast in the first half of every year. Staff expects the 2022 forecast to incorporate all relevant regulations, and that the Company discuss any resulting updates to its program plans in its 2022 report (discussed below). Further, in its tariff filings, the Company should be specific about how it intends to conduct load management for each program, as well as how much load it intends to shift through those activities. The Company should also update its tariffs if its updated forecasts call for it.

Low-Income and Disadvantaged Communities, Equity, and Inclusion

PSE has made equity a central piece of its TEP. As mentioned above, one of the TEP's six guiding principles is social equity and environmental justice, and furthering energy equity and inclusion is one of its four objectives. Equitable access to ownership is one of the barriers PSE intends to address through its TE programs: the plan notes, for instance, that the incremental cost of the vehicle itself is the most critical barrier facing highly impacted communities wishing to electrify.²⁸ The Company plans to devote roughly one-quarter of its total TE spending to lowincome and disadvantaged communities (as discussed in more detail below).

Those programs will likely build off the low-income EV pilot programs that the Company is currently running, which are described in Appendix B of the TEP. Pilot programs include providing EVs and/or EVSE for several low-income weatherization contractors; the Muckleshoot Indian Tribe; King County Metro; and a to-be-determined school district and non-emergency medical transport provider. Two programs involve medium- or heavy-duty transit buses, a use case that could have outsized benefits for disadvantaged communities. Program design for the permanent programs is expected to include Company ownership/operation of EVSE, or rebates for customer-owned installations. Rebates for the vehicles themselves will also be explored.

Staff analysis: Staff is impressed with the way PSE is approaching this segment of its customer base. The commitment shown by embedding TE equity in the plan to a high degree will hopefully lead to significant benefits for disadvantaged communities. It is difficult to say whether committing one-quarter of the plan's spending to low-income and disadvantaged communities is the appropriate amount; that will depend upon the specific goals that PSE hopes to achieve with that spending and the actual cost to meet them. That said, the high-level commitment shown in the TEP to addressing disadvantaged communities remains notable.

²⁷ Laws of 2021, Chapter 317.

²⁸ Addendum at 7.

Anticipated Expenses, Costs, and Benefits

The "Costs and Benefits for Electric Vehicle Programs" section outlines the budget, costs, and benefits of the programs envisioned in the plan. RCW 80.28.360(2) allows an up to 2 percent additional rate of return on capital expenditures for EVSE, but only if the EVSE portfolio increases the Company's annual retail revenue requirement by 0.25 percent or less.²⁹ The Company intends to pursue this additional rate of return and has developed its transportation electrification budget to fit within that constraint. In developing its TE budget, PSE consulted stakeholders, benchmarked other utility EV programs, and drew upon its pilot program experience and its EV adoption projections.³⁰

Table 1 (on page 8) depicts PSE's anticipated TE budget by program. The table includes the Company's high and low budget estimates, which represent a range of potential spending based upon constantly evolving market conditions. Consistent with PSE's focus on low-income and disadvantaged communities, the Company expects to dedicate approximately 25 percent of all spending (distributed across five programs) to such communities.³¹ Total spending as described in the TEP is expected to be between \$75 and \$109 million through 2026. Some of this spending will go towards completing the Company's ongoing pilot programs and converting them into new permanent programs, while the rest is intended for new programs to be stood up in the coming years.

Table 2 (also on page 8) depicts the capital investments, operations and maintenance (O&M) expenses, and return on capital that PSE anticipates during the 2019-2026 timeframe. (Expenses from the years 2019 and 2020 are exclusively from the Company's EVSE pilot programs, while the years 2021 through 2026 will encompass both pilot and permanent program spending.) The Company expects to earn \$11.3 million in capital investment return on \$71.9 million in capital investments, while also expending \$47.1 million in O&M costs.

Finally, PSE provides calculations of customer benefits over the 2021-2030 period.³² By 2030, the Company projects that its customers could avoid 448 thousand tons of carbon dioxide (CO₂) and save \$473 million in fuel and maintenance expenses.³³

²⁹ RCW 80.28.360(1).

³⁰ Plan at 68.

³¹ *Ibid*.

³² See *Id.*, Table 11 at 71.

³³ The Commission, in Docket U-190730, set the social cost of carbon in 2030 at \$89 per ton of carbon dioxide. Using that figure, PSE calculates that avoided CO₂ emissions in 2030 would be worth about \$40 million.

<u>Table 1: Preliminary PSE TEP Budget Areas, 2021-2026 (in millions)</u>

Program	Draft Budget (Low)	Draft Budget (High)
Residential Multi-Family*	\$10	\$12
Workplace	\$4	\$7
Commercial and Fleets*	\$25	\$35
Fleets Load Management & Alternative Rates	\$1.5	\$2.5
Low-Income/Disadvantaged Communities General Pilots*	\$1	\$3
Public Charging & Multi- Modal*	\$15	\$18
Innovative Technology Demonstrations	\$2	\$6
Residential Single Family	\$4	\$6
Residential Load Management & Alternative Rates	\$1.5	\$2.5
Education & Outreach*	\$5	\$9
System Planning & Optimization	\$3	\$4
Data Management & Analysis	\$3	\$4
TOTAL	\$75	\$109
Low-Income & Disadvantaged Communities	\$18.5	\$27.5

^{*} Categories included in the "Low-Income & Disadvantaged Communities" total.

Table 2: Projected PSE TEP Capital Investments and O&M Expenses, 2019-2026

	Capital	Allowed Capital	
Year	Investments	Investment Return	O&M Expenses
2019	\$1,675,376	\$0	\$1,332,728
2020	\$3,047,394	\$14,579	\$2,290,379
2021	\$5,011,264	\$183,392	\$3,518,086
2022	\$10,290,575	\$591,809	\$7,817,182
2023	\$12,889,855	\$1,244,359	\$8,558,444
2024	\$11,997,021	\$2,119,569	\$7,441,477
2025	\$15,920,978	\$3,035,311	\$8,266,102
2026	\$11,062,798	\$4,113,832	\$7,850,128
TOTAL	\$71,895,261	\$11,302,851	\$47,074,526

Staff analysis: While PSE has quantified the costs and benefits of the actions anticipated as part of its TEP, based on the filed plan it does not appear that PSE has conducted a true benefit-cost analysis. While quantifying costs and benefits meets the minimum requirement enumerated by the Commission in its policy statement, the Company should strongly consider performing a Societal Cost Test (SCT) when it files its program tariffs.³⁴ The SCT should incorporate the social cost of greenhouse gases (SCGHG) with a 2.5 percent discount rate as established in the Clean Energy Transformation Act (CETA).³⁵ To the extent possible, such modeling should also incorporate estimates of medium- and heavy-duty vehicle electrification; incorporate data collected through the TEP thus far; and be informed by the cumulative impact analysis called for by CETA.³⁶

Staff has reviewed the preliminary budget expectations and finds that they meet the requirements of RCW 80.28.365. Staff expects that PSE will provide more precise budgets in its tariff filings and will scrutinize them closely at that point. Staff also expects that the Company will provide spending updates in its reporting to the Commission as described below. Actual costs will of course vary from expectations; Staff will be looking to see how much they vary and whether PSE is accomplishing its objectives with the money spent.

Staff assumes that the costs for the TEP will be recovered in a future general rate case, and that PSE will seek to recover the additional two percent rate of return allowed by RCW 80.28.360(2). Staff will review the Company's TEP expenses in that case and takes no other position on prudency or whether PSE should be allowed the additional rate of return in these comments.

Stakeholder Engagement

PSE's expected program offerings have continued to evolve since the TEP was originally filed in March. This is largely a result of continued stakeholder outreach that the Company has undertaken in the meantime, outreach which has been specifically aimed at highly impacted communities and vulnerable populations. PSE has been working with third-party facilitators to collect different forms of community feedback, which will in turn influence the final design of the programs the Company will offer through this TEP. As outlined in the plan, this customer engagement began in 2021 and will continue well into 2022 as the Company launches its programs.³⁷

<u>Staff analysis</u>: Staff appreciates this level of outreach, particularly among disadvantaged communities and vulnerable populations, and encourages PSE to continue such outreach throughout the life of the TEP.

³⁴ Policy Statement at 93-95.

³⁵ RCW 80.28.405.

³⁶ RCW 19.405.140.

³⁷ Addendum at 3.

Tariff Filings

According to the plan, PSE will roll out the final details of its TE programs in two phases, with an associated tariff filing for each. Phase I tariffs are scheduled to be filed by the end of 2021, and will consist of an education and outreach offering, as well as commercial/fleets and residential multi-family programs. Phase II tariffs are planned for mid-2022, and will include the residential single-family, public & multi-modal charging, and workplace sectors, as well as technology demonstration and diversity, equity, and inclusion (DEI) offerings. Three topics that will be addressed in both filings are load management, system planning and optimization, and data analysis.

<u>Staff analysis</u>: Staff eagerly anticipates PSE's tariff filings and will closely review the tariffs to ensure the details conform with the TEP and are in the public interest.

Reporting

PSE outlines a reporting framework that includes three reports. The first and third reports, which would arrive in late 2022 and late 2025, respectively, would be summary reports, focusing on high-level results, expenses, and revenues to date, as well as any significant changes in plans from this TEP. The second report, due to arrive in mid-2024, would be much more detailed and include an update of the Company's EV adoption forecast, load and grid impacts, program activities, and lessons learned. The TEP also lays out a series of metrics that the Company will report on, including customer satisfaction, avoided carbon dioxide emissions, EVSE installations, and impacts on highly impacted communities and vulnerable populations.

<u>Staff analysis</u>: The reporting framework laid out in the plan is appropriate. The proposed framework is similar to Avista's 2020 TEP reporting framework.³⁸ As mentioned above, in its tariff filings, PSE should discuss how much load it expects to shift through its load management program and include progress towards those goals in its list of reporting metrics.

Public Comments

The Commission posted a Notice of Opportunity to File Written Comments in Docket UE-210191 on May 26, 2021, with a comment deadline of July 23, 2021, which was later extended to July 30. As of July 29, 19 other parties had submitted comments in the docket, including many local government entities (cities and counties and their subdivisions), PSE commercial customers, nonprofits, trade groups, and service organizations. All are in favor of TEP acknowledgement, and highlight various plan strengths, including grid planning and load management, fleet electrification, and equitable access to charging infrastructure.

While recommending acknowledgement of the plan, some stakeholders had suggestions for PSE as it implemented its TEP. Public Counsel's comments echo Staff's call for the Company to provide a traditional cost-benefit analysis, urged the Commission to consider PSE's proposed programs

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³⁸ *See* Docket UE-200607.

through an equity lens, and suggested the Commission consider how TE will impact PSE's load and demand response.

Closing Remarks

Taken together, the originally filed plan and the addendum present a strong framework for addressing transportation electrification. Staff recommends that the Commission issue a letter acknowledging the TEP by the statutory deadline of September 17, 2021.