Exh. DJR-6
Dockets UE-220066 and UG-220067,
UG-210918
Witness: Deborah J. Reynolds

BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**DOCKETS UE-220066, UG-220067, UG-210918 (consolidated)**
In the Matter of the Petition of **PUGET SOUND ENERGY** **For an Order Authorizing Deferred Accounting Treatment for Puget Sound Energy's Share of Costs Associated with the Tacoma LNG Facility**	

EXHIBIT TO TESTIMONY OF

DEBORAH J. REYNOLDS

STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

PSE Response to UTC Staff Data Request No. 296

July 28, 2022

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-220066 & UG-220067
Puget Sound Energy
2022 General Rate Case

UTC STAFF DATA REQUEST NO. 296:
Re: CEIP (Clean Energy Implementation Plan)
REQUESTED BY: Kathi Scanlan

Please reference Exh. JJJ-1T, resource optimization decision-making, at page 18 of 58, and (i) list all software models and/or vendor(s) relied on to determine targets, considering risk, specified in the final Clean Energy Implementation Plan, (ii) explain how each model is used by PSE decision-makers to implement RCW 19.405.060, and (iii) identify the most useful model(s) used by PSE decision-makers.

Response:

Puget Sound Energy ("PSE") objects to WUTC Staff Data Request No. 296 as overbroad and not reasonably calculated to lead to the discovery of admissible evidence. The Commission denied PSE's request to consolidate the Clean Energy Implementation Plan ("CEIP") with the General Rate Case ("GRC"), and denied PSE's subsequent appeal of its decision.[1] Therefore, data requests pertaining to the CEIP should be submitted in Docket UE-210795. Notwithstanding this objection, PSE responds as follows.

PSE relied on work done by the vendors Black & Veatch, West Monroe, Energy Exemplar (the developer of Aurora), and DNV to help determine the targets, with consideration of the risk specified in the final CEIP. PSE used the Aurora software model to determine targets and consider risk, specified in the final CEIP. The Aurora model is used by PSE decision-makers to implement the incremental cost of compliance under Revised Code of Washington Section 19.405.060. Aurora is an electric modeling forecasting and analysis software that uses the Western power market to produce hourly electricity price forecasts of potential future market conditions, and it identifies hypothetical portfolios of resources. The Integrated Resource Plan ("IRP"), on which the CEIP is built, used PLEXOS modeling to estimate the cost savings due to sub-hour operation for new generic resources. The IRP also used the probabilistic Resource Adequacy Model to enable PSE to assess the following:

1. to quantify physical supply risks as PSE's portfolio of loads and resources evolves over time;

[1] UE-220066 & UG-220067, Orders 10 and 15.

2. to establish peak load planning standards, which in turn leads to the determination of PSE's capacity planning margin; and
3. to quantify the peak capacity contribution of a renewable and energy-limited resource, also known as its effective load carrying capacity ("ELCC").

The most useful model used by PSE decision-makers in developing its final CEIP is the Aurora model.

To help answer this question with additional context, PSE provides more detailed information regarding the four CEIP proposed targets: energy efficiency ("EE"), demand response ("DR"), distributed energy resources ("DER"), and the Renewable/Interim Target and how modeling was used to develop them.

<u>EE</u>: PSE's energy efficiency target for the 2022–2025 CETA implementation period is 1,073,434 MWh. This is consistent with PSE's Final Biennial Conservation Plan ("BCP") filed on November 1, 2021. The annual targets are detailed in PSE's BCP and include all energy efficiency and conservation targets and goals required by the Washington Utilities and Transportation Commission ("WUTC").

In PSE's Aurora modeling, energy efficiency is modeled as a resource. PSE performed the Long-term Capacity Expansion study and Hourly Economic Dispatch; and then a new energy efficiency amount selected by the model is subtracted from the projected retail sales to calculate the Clean Energy Transformation Act ("CETA") interim target.

PSE's BCP informed the CEIP energy efficiency targets. PSE conducted a Conservation Potential Assessment ("CPA"), a study that determines the conservation potential — the amount of energy efficiency available in our service territory – to build the BCP. PSE used the CPA as inputs for the PSE IRP economic portfolio modeling.

The models selected the amount of annual energy efficiency that is cost-effective compared to alternative resources. Variables that influence this selection process included load growth, additional generation costs, and other factors. In conjunction with our Conservation Resource Advisory Group ("CRAG"), PSE used the achievable, technical, and economic potential to build biennial targets.

<u>DR</u>: PSE used information from the CPA in portfolio modeling to estimate the cost-effectiveness of the effective DR programs. The preferred portfolio from the 2021 IRP and the Clean Energy Action Plan ("CEAP") each included a similar selection of demand response programs. The achievable technical potential for DR was assessed through the CPA, and the IRP identified the cost effective demand response programs.

Based on the results of the targeted DER Request for Proposal ("RFP"), PSE may update this target. PSE did not alter its proposed DR target based on customer benefit indicators. PSE will use the results of the Targeted DER RFP to consider customer benefit indicators in the evaluation process.

<u>DER</u>: PSE seeks to develop a portfolio of DER programs that help increase customer and third-party adoption of clean energy resources. PSE is using the following principles, developed internally and with help from West Monroe, to guide its DER strategy:

- Ensure DER development and deployment are flexible as technologies change;
- Launch customer programs that expand participation in DERs to historically under-served customer groups and ensure the benefits are equitably distributed;
- Become the partner our customers rely on for these new DER programs;
- Deploy DERs in areas where they provide maximum benefit to the grid.

The IRP (via the use of Aurora modeling) defined the overall target for DER, including distributed solar and distributed batteries. Cost inputs and market potential on DER program concepts were provided by Black and Veatch for internal benefit and cost analysis, and in combination with customer benefit indicators ("CBI"), led to the selection of a preferred portfolio of distributed solar and distributed battery program concepts to meet the defined targets. Please see Appendix K, "Black and Veatch Cost and Market Potential Report," which is a part of the CEIP that includes the detail of the cost inputs and market potential for all DER program concepts, available here. Please also see Appendix D-1, "DER Suite Selection and Evaluation," which is a part of the CEIP that shows the selection of the preferred portfolio of DERs to meet the defined targets, available here.

<u>Renewable Energy/Interim Target</u>: To develop the final CEIP, PSE performed multiple modeling iterations in Aurora to understand the mix of utility-scale resources and their incremental cost and CETA-energy impact on the preferred portfolio. In the first run, the model selected a large amount of Washington ("WA") wind to meet the clean energy targets at the end of the CEIP period in 2025 to take advantage of the expiring production tax credits ("PTC"). This selection would create a risk to system reliability from an overreliance on WA wind, and thus did not seem to reflect what PSE likely would acquire through the All-Source RFP. In the second run, PSE performed a model run that considered a more diverse set of renewable resources: a smaller amount of wind (500

megawatts (“MW”)) spread over two years instead of one, plus the addition of 300 MW of solar in 2024–2025. Finally, PSE performed a third model run that kept the wind and solar resources and added 50 MW of batteries over the period 2024 to 2025.

PSE determined that solar and battery resources should be in the proposed resource mix for this final CEIP because a diversified portfolio provides benefits that an all-wind portfolio does not, and the addition of batteries supports power system resilience.