PUGET SOUND ENERGY

Exhibit i

2022-2031 Ten-year Electric Conservation Potential and 2022-2023 Two-year Electric Target Development Summary

ENERGY EFFICIENCY

Table of Contents

Figures

I. 10-Year Conservation Potential and Two-Year Conservation Target Development Summary

Exhibit i: 10-Year Conservation Potential and 2-Year Conservation Target Development provides summary discussions of the steps PSE employed to reach its 2022-2023 electric and natural gas conservation savings targets.

PSE provides detailed information on the development of its Conservation Potential Assessment (CPA) in its Integrated Resource Plan (IRP). PSE discusses the electric potential in Appendix E of the 2021 IRP, including a detailed list of the measures included.

II. Cumulative Ten-Year Conservation Potential

PSE developed its 10-year conservation potential with the involvement of both the Integrated Resource Plan Advisory Group (IRPAG) and Conservation Resource Advisory Group (CRAG) over a two-year timeframe. The following discussion provides a summary of the development steps.

A. Statutory and Regulatory Requirements

RCW 19.285.040 requires that, beginning in 2010 and every two years thereafter, utilities must project their "cumulative ten-year conservation potential", including all electric savings that are "cost-effective, reliable and feasible". WAC 480-109-100 (2) says that this projection must be derived from the utility's most recent IRP and must consider all available conservation resources that are cost-effective, reliable, and feasible. Further, when developing this projection, utilities must use methodologies consistent with those used in the Northwest Conservation and Electric Power Plan.

As defined by WAC 480-109-060 (6), "conservation" means "any reduction in electric power consumption" due to increased efficiency of:

- Energy Use, where PSE includes energy efficient building systems, high efficiency electric end use equipment, conversion of electric end uses to high-efficiency natural gas equipment, and high efficiency cogeneration systems to meet on-site customer load;
- Distribution, where PSE includes line phase balancing and conservation voltage reduction;
- Production, where PSE includes energy efficiency improvements at PSE electric production facilities.

The remainder of this section describes determination of the conservation potential and consistency of the company's methodology with that of the Northwest Power and Conservation Council (hereafter referred to as the "Council").

B. Identifying All Conservation Opportunities That Are Cost Effective, Reliable, and Feasible

The ten-year cumulative conservation potential consists of the optimized level of cost-effective energy use and distribution system conservation potential selected by PSE's resource portfolio model for the latest Integrated Resource Plan (IRP). It includes ramping the timing for achieving this potential so that all the economic achievable retrofit potential in existing buildings would be achieved in 10 years or sooner, not the full 20-year planning horizon of the IRP.

1. 2021 IRP Development

The 2021 IRP potential indicates the total amount of conservation that is technically available, achievable and cost-effective in the long run, based on the best information and analysis available. This includes all potential savings from any combination of utility programs, new codes and standards, and market transformation.

The conservation potential in the 2021 IRP is based on commercially available technologies and includes updates from the previous IRP.

These updated assumptions most notably include:

- PSE's updated load forecast, including achieved and projected efficiency accomplishments.
- Most recent Commercial Building Stock Assessment (CBSA) and Residential Building Stock Assessment (RBSA) data.
- Other recent data such as evaluations, and the most recent Residential Characteristics Survey (RCS).
- Incorporation of newly enacted federal and state codes and standards.
- Current Regional Technical Forum (RTF) measure database
- New and expanded measures were incorporated.
- Updated energy and peak capacity supply costs.

In addition, PSE will include estimations of the potential for electric energy savings from improvements to the efficiency of PSE's distribution system.

2. Public Involvement

Throughout the Integrated Resource Plan process, PSE conducted numerous IRP Advisory Group (IRPAG) meetings and Technical Advisory Group meetings that are open to the public.

C. Consistency with Council Methodology

The methodology used to determine these potentials was consistent that that used by the Northwest Power and Conservation Council (the "Council") to develop the 7th Northwest Conservation and Electric Power Plan.

The conservation potential was built with a bottom-up approach, using individual energy-efficient technologies applied to appropriate end uses and building types to determine technical, achievable, economic potential.

Both PSE and the Council use similar Total Resource Cost (TRC) approaches to their economic analyses. In the spring of 2011, a sub-group of the Washington State Conservation Work Group was convened to examine the methodologies of all the state's electric investor-owned utilities relative to the Council methodology. That sub-group concluded that all the utilities, including PSE, were generally consistent with the Council methodology. PSE continues to use the same methodology that was reviewed at that time.

A few minor differences in methodology exist, but none of these have significant impacts on the results. One minor difference in the economic analysis is that PSE analyzed bundles of measures with similar costs while the Council analyzes individual measures, but this does not appear to cause significant differences in results.

Another minor difference is that PSE expresses its benefits and costs in nominal terms (includes inflation) while the Council uses real terms (excludes inflation), which does not cause any difference in relative cost-effectiveness since benefits and costs are treated equally.

Finally, PSE assumes that it is possible to accelerate discretionary measures to acquire them over the first ten years, which is slightly faster rate than the Power Council's ramping assumptions.

Figure II-1 identifies the key elements of PSE's methodology, consistent with the methodology published on the Council's website, except for minor differences noted above. Complete descriptions of PSE's technical and achievable potential are in Appendix E of the 2021 IRP.

Figure II-1: PSE Conservation Potential Consistency with Council Methodology

Technical Potential	Achievable Potential	Economic Potential

• Wide array of technologies, applied to all customer sectors
• "Applicable" units, as determined by
  ○ Building characteristics
  ○ Fuel & equipment saturations
  ○ Equipment life/turnover
  ○ New & existing units
  ○ Measure interactions & substitutions
• Calibrated to customer & load forecasts for PSE service area
	• Annual acquisition levels based on IRP portfolio modeling where conservation competes against all other resources
	• Discretionary & lost opportunity potentials identified
	• Use ramp rates that accelerate discretionary retrofit measures, with 85% maximum market penetration
	• Potentials are revised based on new information and market experience gained since previous IRP
		• Economic screen uses TRC approach
		• Based on forecast of wholesale market prices
		• Energy and capacity savings shaped for time and seasonal differences
		• Use range of scenarios to account for uncertainty and risk
		• Use full incremental measure costs, plus applicable O&M and program admin. Costs
		• Benefits include energy, capacity, T&D losses and deferral
		• Non-energy benefits, 10% Power Act credit & environmental externalities included

Energy Efficiency staff regularly consults with Generation staff to ascertain potential of efficiency upgrades when generating equipment or office measure replacement is planned. When cost-effective projects are developed, PSE will include these in its savings reports.

D. Total Ten-year Conservation Potential

Based on the data indicated in the 2021 IRP, PSE's total cumulative ten-year electric conservation potential is 2,487,820 MWh (284 aMW) at the customer meter, which excludes line loss savings from the customer meter back to the power generator and intra-year ramping of annual savings (these were included in the IRP portfolio analysis). This potential also includes Distribution Efficiency's ten-year electric potential of 146,772 MWh. These totals exclude federal and state codes and standards that are scheduled to take effect during the planning period. Implemented codes and standards are quantified and modeled separately in the IRP.

As mentioned above, the conservation ten-year potential is at the customer meter and removes intra-year ramping. The IRP though, does include line loss and intra-year ramping (as it is an hourly model/simulation). The IRP economic portfolio model selects bundles from the CPA, weighing those savings against other resource alternatives. Therefore, the cost effective output savings potential from the IRP undergoes translation to the customer meter (not the generator) and alignment with annual block savings (no intra-year ramping) which aligns with EIA target

requirements and annualized program tracking and reporting activities. The resulting cost-effective conservation savings potential, plus the Distribution Efficiency potential, are what feed into the 2022-2023 Electric Biennial Conservation Target "Building The Target" table, shown below in Figure III-1.

III. Biennial Conservation Target

A. Statutory and Regulatory Requirement

RCW 19.285.040(1) and WAC 480-109-100(3) require that, once the ten-year conservation potential has been developed, utilities shall set a biennial electric conservation acquisition target which is no lower than the utility's two-year pro rata share of its ten-year potential.

The WAC rules further define "pro rata" simply as "the calculation dividing the utility's projected ten-year conservation potential into five equal proportions"(WAC 480-109-060 (19)).

B. Determination of Pro Rata Share of the Ten-year Conservation Potential

The 2022–2023 two-year pro rata portion of the cumulative ten-year potential indicated in data from the 2021 IRP is 497,564 (56.8 aMW) at the meter level. This represents 20 percent of the ten-year potential.

C. Biennial Conservation Target

The IRP does not differentiate between savings that are best achieved by local utility or regional market transformation programs. PSE and the CRAG agreed to exclude market transformation savings acquired through NEEA because these savings are outside of PSE's control and NEEA's forecasts are subject to fluctuation. Therefore, PSE excludes NEEA savings, consistent with PSE's reporting methodology, provided in the Joint Utility Proposal, filed under Docket UE-100177. NEEA provides its savings estimate in three categories.

- Program Measures: These savings come from measures NEEA worked on and must be subtracted from the IRP guidance to calculate the EIA target.
- Codes and Standards Measures: These savings come from codes and standards that NEEA worked on, but are already accounted for in PSE's IRP so no further adjustment is necessary.
- Trackable Measures: NEEA often collects additional data for measures that it did not work on and the estimated savings are therefore not part of any target calculations.
- The projected savings provided by NEEA from its Program Measures result in a reduction of the EIA Penalty Threshold by 28,382 (3.24 aMW).
- Making these adjustments, the total biennial EIA Penalty Threshold is 469,182 MWh (53.6 aMW) to be achieved through PSE-sponsored programs, as shown in Figure III-1. Additional adjustments to the total portfolio savings are also made for a commitment that PSE exceed its base EIA Penalty Threshold by 5 percent to be eligible for revenue

decoupling and avoid additional financial penalty, as well as savings from Schedule 449 Retail Wheeling and Special Contract customers, and savings from pilots with uncertain savings. However, these adjustments are not part of the biennial target required by WAC 480-109.

Figure II-1 2022-2023 Electric Biennial Conservation Target

Puget Sound Energy 2022-2023 Electric Portfolio Savings					
Index	**Description**	**MWh**	**aMW**	**Comment**	**Calculation**
	Colored cells correspond to indicated lines in Exhibit 1: *Savings and Budgets, 2-Year Portfolio View*.				
	Calculate the EIA Target				
a	CPA Pro-Rata Share *IRP & CPA Guidance*	497,564	56.8	Represents all available conservation that is cost-effective, reliable, and feasible, as a 20% pro-rata share of PSE's 10-year conservation potential, per RCW 19.285.040(1).	Figure 3, Exhibi
b	**EIA Target**	**497,564**	**56.8**	Meets RCW 18.285.040(1)(a) and (b) requirements	
	Calculate the Penalty Thresholds				
c	Subtract NEEA Savings	-28,382	-3.24	("Option A" in savings calculation table from NEEA forecast--current method)	
d	**EIA Penalty Threshold**	**469,182**	**53.6**	$58-60/MWh shortfall penalty, based on 2020 inflation, per RCW 19.285.060.	**= b - c**
e	**Decoupling Threshold**	**24,878**	**2.8**	5 percent of EIA Target	**= b * .05**
	Complete the Portfolio			Use CPA Pro-Rata Share as foundation.	
f	Add Firm Savings Excluded from CPA	9,550	1.1	2022/2023: 449s, special contracts	
g	Add Pilots with Uncertain Savings	4,725	0.5		
h	**Total 2022-2023 Utility Conservation Goal**	**536,717**	**61.3**	This is the total Portfolio to which Energy Efficiency is managing.	= b + e + (f + g)