Exhibit i

2020-2029 Ten-year Electric Conservation Potential and

2020-2021 Two-year Electric Target

Development Summary

PSE PUGET SOUND ENERGY

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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 2020-2021 electric and natural gas conservation savings targets. Consistent with Commission Order 01 in UE-180607 and UG-180608,[1] PSE will file a 10-Year Conservation Potential and 2-Year Conservation Target based on data from the 2017 IRP with the Commission as a part of its 2020-2021 Biennial Conservation Plan. PSE will then file a petition with the Commission following PSE's filing of the final 2019 IRP, outlining a timeline for filing updated savings based on the final 2019 IRP. PSE will file update Target savings figures according to the terms of the petition.

PSE provides detailed information on the development of its Conservation Potential Assessment (CPA) in its 2017 Integrated Resource Plan (IRP). Specifically, PSE discusses the electric potential in Appendix J of the 2017 IRP, including a detailed list of the measures included. Those discussions will be updated in the final 2019 IRP.

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.

[1] Order 01: "Order", part (2), ¶ 24, pg 5 – "Puget Sound Energy is authorized to use data from its 2017 Integrated Resource Plan to set the energy efficiency target for its 2020-2021 Biennial Conservation 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 2017 Integrated Resource Plan (IRP).[2] 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. 2019 IRP Development

The 2019 IRP potential will indicate 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 2019 IRP will be based on commercially available technologies and includes updates from the previous IRP.

[2] As indicated in Section I, PSE’s November 1 Biennial Conservation Plan filing will be based on 2017 IRP data. The savings targets will be updated subsequent to PSE’s filing of the final 2019 IRP in January, 2020.

These updated assumptions most notably include:

- PSE's updated load forecast, including 2018-2019 and projected 2020-2021 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 new federal and state codes and standards.
- Current Regional Technical Forum (RTF) measure database
- New and expanded measures were incorporated. For instance, behavior change, smart thermostats, and tubular LED lighting (TLED).
- 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 2018 and 2019, PSE conducted four IRP Advisory Group (IRPAG) meetings and eight 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 Councils 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 F of the 2019 IRP. The results of the economic potential are presented in Chapter 7.

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 o Building characteristics o Fuel & equipment saturations o Equipment life/turnover o New & existing units o 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

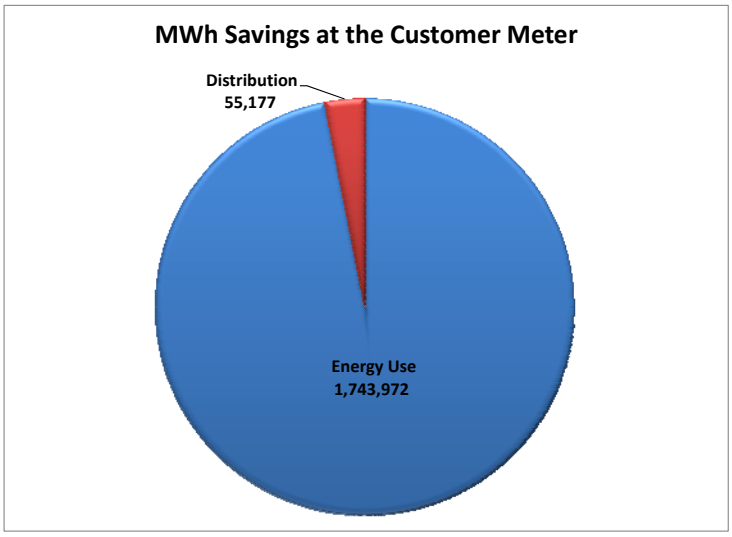
There were no incremental efficiency improvements identified at electric production facilities for the 2020-2021 biennium. Energy Efficiency staff regularly consults with Generation staff to ascertain potential of efficiency upgrades when generating equipment or office measure replacement is planned. This assessment included all hydro and thermal plants operated by PSE in the state of Washington. 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 2017 IRP, PSE's total cumulative ten-year conservation potential is 1,799,100 MWh (205.38 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 excludes federal and state codes and standards that are scheduled to take effect during the planning period. These codes and standards are quantified and modeled separately in the IRP.

Figure II-2 shows how the cumulative ten-year potential breaks out by type of conservation resource. As can be seen, the vast majority (97 percent) of the ten-year potential comes from Energy Use Conservation. Energy Use Conservation consists of improved building shell efficiency, high-efficiency electric end use equipment and controls, and small scale distributed generation[3].

Figure II-2: PSE Cumulative Ten-Year Electric Conservation Potential (2020-2029)



[3] Distributed solar pv is not treated as a conservation resource in the 2017 IRP, but as a must take resource that reduces the demand forecast.

III. Biennial Conservation Target

A. Statutory and Regulatory Requirements

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 2020–2021 two-year pro rata portion of the cumulative ten-year potential indicated in data from the 2017 IRP is 359,861 MWh (41.1 aMW) at the meter level. This represents 20 percent of the 2020-2029 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. For the 2020-2021 period, the three Washington IOU's, including PSE, requested NEEA to provide its savings estimate segregated into 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 23,564 MWh (2.7 aMW).

Making these adjustments, the total biennial EIA target is 477,993 MWh (54.6 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 III-1: 2020–2021 Electric Biennial Conservation Target

Puget Sound Energy 2020-2021 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			***These are specific elements that comprise the Portfolio View of Exhibit 1.***	
a	CPA Pro-Rata Share *IRP & CPA Guidance*	359,861	41.1	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*, Exhibit i
b	**EIA Target**	**359,861**	**41.1**	Meets RCW 18.285.040(1)(a) and (b) requirements	line bg of Exhibit 1 Portfolio View
	Calculate the Penalty Thresholds				
c	Subtract NEEA Savings	-23,564	-2.69	("Option A" in savings calculation table from NEEA forecast–current method)	line ac of Exhibit 1 Portfolio View
d	**EIA Penalty Threshold**	**336,297**	**38.4**	$61 - 64/MWh shortfall penalty, based on 2020 inflation, per RCW 19.285.060.	**= b - c**
e	**Decoupling Threshold**	**17,993**	**2.1**	5 percent of EIA Target	**= b * .05**
	Complete the Portfolio			Use CPA Pro-Rata Share as foundation.	
f	Add Firm Savings Excluded from CPA	9,198	1.0	2020/2021: 449s, special contracts	line *u* of Exhibit 1
g	Add Pilots with Uncertain Savings	15,080	1.7	Commercial Pay For Performance pilot, Retail Choice, SMB Enhanced Engagement	line *aa* of Exhibit 1 Portfolio View
h	Additional Portfolio Build-out	74,336	8.5	Represents incremental effort to anticipate 2019 IRP updates.	various programs
i	**Total 2020-2021 Utility Conservation Goal**	**476,468**	**54.4**	This is the total Portfolio to which Energy Efficiency is managing.	= b + e + (f + g + h): lines bb & be of Exhibit 1 Portfolio View