

**Puget Sound Energy**  
**2021 Annual Renewable Portfolio Standard Report**  
**pursuant to RCW 19.285.070 and WAC 480-109-210**

June 1, 2021

## Required Contents: Checklist and Table of Contents

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The utility's annual load for the prior two years	The utility's annual load for the prior two years	<b>Section 1 Annual Load For Previous Two Years</b> Page 1
The amount of megawatt-hours needed to meet the annual renewable energy target	The total number of megawatt-hours from eligible renewable resources and/or renewable resource credits the utility needed to meet its annual renewable energy target by January 1 of the target year	<b>Section 2 Renewable Energy Target</b> Page 1
The amount of megawatt-hours of each type of eligible renewable resource acquired, the type and amount of renewable energy credits acquired	The amount (in megawatt-hours) of each type of eligible renewable resource used and the amount of renewable energy credits acquired	<b>Section 3 Renewable Energy Acquired To Have Met Renewable Energy Target</b> Page 1
The percent of its total annual retail revenue requirement invested in the incremental cost of eligible renewable resources and the cost of renewable energy credits	Total incremental cost as a dollar amount and in dollars per megawatt-hour of renewable energy generated by all eligible renewable resources and multiply the dollars per megawatt-hour cost by the number of megawatt-hours needed for target year compliance.	<b>Section 4 Incremental Cost Calculation and Revenue Requirement Ratio</b> Page 2
	State whether the utility is relying upon one of the alternative compliance mechanisms provided in WAC <a href="#">480-109-220</a> instead of fully meeting its renewable resource target.	<b>Section 5 Alternative Compliance</b> Page 3

<b>RCW 19.285.070</b>	<b>WAC 480-109-210(2)</b>	<b>Section/Page</b>
	Describe the resources that the utility intends to use to meet the renewable resource requirements for the target year.	<b>Section 6 2020 Compliance Plan Page 3</b>
	A list of each eligible renewable resource that serves Washington customers, for which a utility owns the certificates, with an installed capacity greater than twenty-five kilowatts.	<b>Section 7 Eligible Resources Page 4</b>
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- Attachment 1: Memo dated December 11, 2020 Regarding Sufficient Eligible Renewable Resources for 2021 Compliance**
- Attachment 2: Appendix G from PSE’s 2021 Integrated Resource Plan**
- Attachment 3: Reporting Tool**
- Attachment 4: REC Sales, Confidential Version  
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**Attachment 10:**      **REC Transfers - WREGIS Report for First Time Facilities,  
Confidential Version**  
**REC Transfers – WREGIS Report for First Time Facilities,  
Redacted Version**

## Section 1. Annual Load for the Prior Two Years

	<u>2019</u>	<u>2020</u>
Delivered Load to Retail Customers (MWh)	20,833,230	20,088,222

The source of this data is the Puget Sound Energy (“PSE”) 2020 FERC Form 1, p. 301, line 10, columns d and e.

## Section 2. 2020 Renewable Energy Target

*This section provides the number of megawatt-hours from eligible renewable resources and/or renewable resource credits the utility needed to meet its annual renewable energy target by January 1st of the target year.*

After Commission approval, PSE’s Renewable Energy Target for 2021 will be 3,069,109 MWh.

Calculation:

	<u>2019</u>	<u>2020</u>
Delivered Load to Retail Customers (MWh)	20,833,230	20,088,222
Average Load	20,460,726	
15 Percent of Average Load	3,069,109	

## Section 3. Renewable Energy Acquired To Meet 2021 Renewable Energy Target

*This section provides the amount (in megawatt-hours) of each type of eligible renewable resource used, and the amount of renewable energy credits acquired to meet the 2021 target.*

As was previously documented as shown in Attachment 1, PSE has sufficient eligible renewable resources to meet its 2021 target. PSE plans to meet its 2021 target with a combination of incremental hydro along with other renewable energy certificates from qualifying resources. The following table shows all of PSE’s eligible resources for 2021, a subset of which will be used for compliance purposes:

Incremental Hydro Resources	118,380
Eligible Wind Resources	3,855,696
Biomass	120,421

## Section 4. Incremental Cost Calculation and Revenue Requirement Ratio

*This section calculates the total incremental cost as a dollar amount and in dollars per megawatt-hour of renewable energy generated by all eligible renewable resources and multiplies the dollars per megawatt-hour cost by the number of megawatt-hours needed for target year compliance and provides the annual revenue requirement ratio.*

*The following is a summary of PSE’s incremental cost calculation as developed in Staff’s template, attached as Attachment 5.*

Incremental Cost	\$29.8M
Revenue Requirement	\$2,042M
Percentage	1.459%
Source of Information	Please see table below.

PSE’s incremental cost is based on the average cost of eligible renewable resources. Consistent with the requirements outlined in WAC 480-109-210 (2)(a)(i) (A) through (G), the calculation of incremental costs for each eligible resource is performed at the time of acquisition. PSE has required one new eligible resource and will utilize the incremental cost calculation from its 2021 Integrated Resource Plan (“IRP”) as documented in Attachment 2. The incremental costs (in millions of dollars) along with the annual megawatt hour (MWh) that will be sourced from PSE’s 2021 IRP, for each eligible resource are as follows:

(\$ Millions/Year)	Renewable Resource	Equivalent Non-Renewable			One Year Incremental Cost	Annual MWh	Market Price/Peaker Assumptions
		Peaker	Market	Total			
Hopkins Ridge	\$18.77	\$1.71	\$19.26	\$20.97	(\$2.20)	466,908	2004 RFP
Wild Horse	\$34.94	\$3.21	\$26.53	\$29.74	\$5.20	642,984	2006 RFP
Klondike III	\$10.27	\$0.93	\$8.98	\$9.91	\$0.36	157,680	2006 RFP
Hopkins Infill	\$1.28	\$0.17	\$1.19	\$1.36	(\$0.08)	21,024	2007 IRP
Wild Horse Expansion	\$10.03	\$0.81	\$5.09	\$5.90	\$4.14	91,980	2007 IRP
Lower Snake River I	\$70.61	\$1.69	\$48.51	\$50.20	\$20.42	897,900	2010 Trends
Snoqualmie Falls Upgrade	\$3.85	\$0.74	\$2.44	\$3.18	\$0.67	34,164	2009 Trends
Lower Baker 4	\$8.60	\$1.37	\$7.92	\$9.29	(\$0.69)	109,500	2011 IRP Base
SPI PPA	\$6.77	\$1.41	\$3.37	\$4.78	\$1.99	126,582	2019 IRP Process Mid
<b>Total</b>					<b>\$29.80</b>	<b>2,548,722</b>	

As reflected in the above table, the incremental cost of the eligible renewable resources portfolio is \$29.80 million resulting in an average cost/MWh of \$11.69. The incremental cost for the 2021 target year, based on the average cost for the portfolio of resources is \$35.9 million (\$11.69/MWh \* 3,069,109 MWh).

The resulting ratio of the portfolio's annualized cost of investment relative to the utility's total annual retail revenue requirement is 1.459%. Utilizing Staff's template, attached as Attachment 5, the calculation of the incremental cost for satisfying the target based on the actual resources that are planned to be used for 2021 target year compliance is \$35.8 million.

RECs from PSE's Klondike III contract and its Wild Horse and Hopkins Ridge facilities were Green-e eligible and sold in the voluntary REC market during 2019 and 2020. Pacific Northwest wind has a higher value in the REC markets as does Green-e eligibility. PSE has been able to sell these Green-e eligible wind RECs in the voluntary REC market (the sales are reflected in Section 8, Attachment 3 and Attachment 4) and replace them by purchasing lower cost RPS compliant RECs to satisfy its RPS compliance (purchases are reflected in Attachment 3). The net proceeds are provided to PSE's customers through the Schedule 137 Tracker. This ongoing optimization strategy allows PSE to lower the cost of PSE's RPS compliance.

The total annual retail revenue requirement for 2021 is \$2,041.738 million. The 2021 revenue requirement is based on the base rates revenue requirement determined in PSE's last general rate case (UE-190529), as well as Protected-Plus Excess Deferred Income Tax Reversal ("EDIT ARAM") (Rate Schedule 141X), and Unprotected Excess Deferred Income Tax ("UP EDIT") Reversals Rate Adjustment (Rate Schedule 141Z).

## **Section 5. Alternative Compliance**

*This section states whether the utility is relying upon one of the alternative compliance mechanisms provided in WAC 480-109-220 instead of fully meeting its renewable resource target. A utility using an alternative compliance mechanism must use the incremental cost methodology described in this section and include sufficient data, documentation and other information in its report to demonstrate that it qualifies to use that alternative mechanism.*

PSE is not utilizing an alternative compliance mechanism provided for in RCW 19.285.040(2)(d) or RCW 19.285.050(1) and WAC 480.109.220 instead of meeting its 2021 Renewable Energy Target.

## **Section 6. 2021 Compliance Plan**

*This section describes the resources that PSE intends to use to meet the renewable resource requirements for the target year.*

PSE is positioned to meet its 2021 Renewable Energy Target with a combination of qualified hydroelectric upgrades and other renewable energy certificates from qualifying resources. The following table provides a summary of PSE's expected 2021 compliance. Further details about this information can be found in Attachment 3.

Facility	Source	PSE 2021 Compliance Plan		
		2020 Vintage	2021 Vintage	2021 Plan
Baker River Project	Water		98,639	98,639
Hopkins Ridge	Wind		396,353	396,353
Hopkins Ridge Phase II	Wind		20,072	20,072
Klondike III	Wind	139,693	136,625	276,318
Lower Snake River - Dodge Junction	Wind	564,293	90,405	654,698
Lower Snake River - Dodge Junction - Apprenticeship Credits	Wind-A	112,859	18,081	130,940
Lower Snake River - Phalen Gulch	Wind	404,341		404,341
Lower Snake River - Phalen Gulch - Apprenticeship Credits	Wind-A	80,868		80,868
Snoqualmie Falls Project	Water		19,741	19,741
Sierra Pacific Burlington - Sierra Pacific Burlington	Biomass		120,421	120,421
Wild Horse	Wind	174,195	543,895	718,090
Wild Horse Phase II	Wind	123,857		123,857
Wild Horse Phase II - Apprenticeship Credits	Wind-A	24,771		24,771
Totals		1,624,877	1,444,232	3,069,109

Blue = Hydro, Gray = Apprenticeship Credits

Data for 2021 provided above is an estimate and is subject to change.

## Section 7. Eligible Resources

*This section provides a list of each eligible renewable resource that serves Washington customers, for which PSE owns the certificates, with an installed capacity greater than twenty-five kilowatts and each resource's WREGIS registration status and use of certificates, whether it be for annual target compliance, a voluntary renewable energy program as provided for in RCW 19.29A.090, or owned by the customer; and eligible resources being included in the report for the first time and documentation of their eligibility.*

PSE has acquired sufficient eligible renewable resources in its portfolio to supply at least fifteen percent of its estimated load for the year 2021, in advance of January 1, 2021. Eligible renewable resources that PSE may elect to use in whole or in part to meet its 2021 target include (but are not limited to):

- Hopkins Ridge Wind Project;
- Wild Horse Wind Project;
- Wild Horse Expansion Wind Project (including extra apprenticeship credits);
- Lower Snake River Wind Project (including extra apprenticeship credits);
- Klondike III Wind Project (e.g. the output PSE purchases from Iberdrola);
- Snoqualmie Falls Hydroelectric Efficiency Upgrades;
- Lower Baker River Hydroelectric Efficiency Upgrades;
- Allocation of Hydroelectric Efficiency Upgrades that may be (now or in the future) a part of PSE's Mid-C Contracts;
- Biomass;



- Customer-Generator owned facilities taking service from PSE under PSE electric rate Schedule 91;
- Washington RPS compliant REC purchases; and
- Any other eligible renewable resources that may become available in 2021 or 2022.

Please also see Attachment 1.

### Attestation

PSE has purchased RECs for RPS compliance from the following 12 facilities for the first time. PSE respectfully requests the Commission consider and approve these 12 facilities as eligible renewable resources for annual RPS compliance. In support of this request, PSE provides documentation supporting the eligibility of these first time facilities in Attachment 7. PSE has provided the REC purchase contracts under which the RECs were purchased from the 12 facilities (see Confidential Attachment 8, REC Summary and Contracts). Additionally, PSE has provided a WREGIS report indicating that all 12 facilities have a Commenced Operation Date prior to January 1, 2020, the year in which these RECs are intended to be used (see Attachment 9, WREGIS Proof of Operability).

No.	Facility	WREGIS ID	Contract	Facility Type per Att. 9	Compliant Pursuant to WAC 480-109-200
1	Cosmo Specialty Fibers - Cos1	W2233	Contracts A&B	Biomass***	(12)(a)(i) & (32)(j)
2	Cosmo Specialty Fibers Inc. - COS2	W2242	Contracts A&B	Biomass***	(12)(a)(i) & (32)(j)
3	Goodnoe Hills - Goodnoe Hills	W536	Contract C	Wind	(12)(a)(i) & (32)(b)
4	Hidden Hollow Energy LLC	W1634	Contracts D&E	Landfill gas*	(12)(a)(i) & (32)(e)
5	Klondike Wind Power IIIa	W817	Contract F	Wind	(12)(a)(i) & (32)(b)
6	Marengo – Marengo	W185	Contract C	Wind	(12)(a)(i) & (32)(b)
7	Nine Canyon Wind Project	W684	Contract B	Wind***	(12)(a)(i) & (32)(b)
8	Rolling Hills	W928	Contracts G&H	Wind	(12)(a)(i) & (32)(b)
9	Sierra Pacific Burlington	W1491	Contract K	Biomass***	(12)(a)(i) & (32)(j)
10	stimson lumber-plummer	W813	Contract I	Biomass	(12)(a)(i) & (32)(j)
11	Stoltze Cogeneration Plant1	W3662	Contract J	Biomass**	(12)(a)(i) & (32)(j)
12	Top of the World - Top of the World	W1749	Contracts G&H	Wind	(12)(a)(i) & (32)(b)

\* Hidden Hollow was determined to be eligible for WA RPS compliance in the compliance letter in PacifiCorp’s 2016 RPS report in Docket No. UE-160777. A copy of the compliance letter is included in Attachment 7. Additionally, PSE is requesting in this filing that this facility be approved to receive a two times multiple as distributed generation. As previously mentioned, this facility has been approved as an eligible renewable resource and it has a nameplate capacity of less than 5 MW of alternating current. Hidden Hollow’s nameplate capacity per Attachment 9 is 3.2 MW-AC. As an eligible renewable resource with a nameplate capacity of less than 5 MW of alternating current, Hidden Hollow meets the definition of Distributed generation per WAC 480-109-060(11). Accordingly, this resource qualifies for the DG multiplier under WAC 480-109-200(4)(b)(ii).

\*\* Stoltze Cogeneration Plant 1 received an advisory opinion from Department of Commerce (“DOC”) on January 22, 2013 that the facility qualifies as a WA RPS eligible resource that also

qualifies as distributed generation for the two times multiplier. A copy of the DOC advisory opinion has been included in Attachment 7.

\*\*\* Advisory opinions from the Department of Commerce have been received for these facilities and copies of the opinions are included in Attachment 7.

## Section 8. Sales

*This section reports on the number of certificates sold, their WREGIS certificate numbers, their source, and the revenues obtained from the sales.*

The following table summarizes PSE’s REC sales volumes by source and vintage year for 2012 through 2020 vintages. Through March 31, 2021, the Company has not transferred title to any Vintage 2021 RECs.

Source	WREGIS No.	Vintage									Total REC Sold
		2012	2013	2014	2015	2016	2017	2018	2019	2020	
Wild Horse	W183	389,146	246,192	541,930	43,254	138,677	44,385	203,209	306,408	51,915	1,965,116
Wild Horse Phase II	W1364	54,206	47,386	98,496	10,000	-	-	-	-	-	210,088
Hopkins Ridge	W184	181,289	166,117	423,662	109,781	190,560	74,400	176,270	25,000	-	1,347,079
Hopkins Ridge Phase II	W1382	-	7,309	18,641	1,735	9,184	-	10,171	-	-	47,040
Klondike III	W237	127,913	68,465	133,571	60,697	62,849	57,197	57,609	87,499	-	655,800
Lower Snake River-Dodge Junction	W2669	-	201,751	230,247	-	-	-	-	-	-	431,998
Lower Snake River-Phalen Gulch	W2670	-	142,210	169,808	12,732	-	-	-	-	-	324,750
		<b>752,554</b>	<b>879,430</b>	<b>1,616,355</b>	<b>238,199</b>	<b>401,270</b>	<b>175,982</b>	<b>447,259</b>	<b>418,907</b>	<b>51,915</b>	<b>4,981,871</b>

Reflects REC transfers through 3/31/2021.

Confidential Attachment 4 provides transaction details including the revenue proceeds associated with those sales.