PUGET SOUND ENERGY

2018 All Resources RFP:

Exhibit G. Schedule of Estimated Avoided Cost

Schedule of Estimated Avoided Cost

Consistent with WAC 480-107-055, this schedule of estimated avoided costs is intended to provide only general information to potential bidders about the cost of new power supplies. It does not provide a guaranteed contract price for electricity or capacity.

Estimated avoided costs are discussed throughout Puget Sound Energy's ("PSE") 2017 Integrated Resource Plan ("IRP") and in detail in section 4 of Appendix N: Electric Analysis to the 2017 IRP ("Appendix N"). The current IRP is available on PSE's web site at http://www.pse.com/IRP.

Table No. 1 provides the nominal price forecast of monthly prices at the Mid-Columbia ("Mid-C") power trading market on a monthly basis for flat load. These prices are based upon PSE's estimates of currently projected market prices for electricity as provided for in WAC 480-107-055(2). These forecasted prices are consistent with the "Base + CAR only" estimated monthly prices for Mid-C market prices derived using PSE's AURORA forecast model and do not include system integration, shaping or transmission costs. System integration, shaping or transmission costs can be applied to decrement these prices. Currently, integration costs can range between $3.02/MWh (OATT Schedule 13) and $3.15/MWh (PSE 2017 IRP, page D-43) for a wind resource. This "Base + CAR Only" scenario in the 2017 IRP removes federal clean power plan compliance for the electric portfolio in the context of the base scenario assumptions but incorporating the compliance of Washington State's Clean Air Rule ("CAR"). This estimated avoided energy cost information is not a guaranteed contract price but provides general information to potential bidders.

1. *2018-2037 Avoided Energy Costs as Projected as the Estimated Monthly Prices for Mid-C Market in PSE's 2017 Integrated Resource Plan*

2018-2037 Avoided Energy Costs as Projected as the Estimated Monthly Prices for Mid-C Market in PSE's 2017 Integrated Resource Plan (Nominal $/MWh)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg. Annual
2018	31.15	30.89	28.82	24.41	21.65	21.62	27.89	30.19	29.94	28.71	27.51	28.55	27.61
2019	29.74	29.29	27.64	24.91	22.72	22.27	28.21	30.56	30.94	30.06	27.69	28.56	27.71
2020	29.43	29.29	27.73	24.87	22.28	22.85	28.93	31.15	32.15	32.05	29.66	29.67	28.34
2021	31.21	31.27	28.91	26.02	23.36	23.82	30.12	32.71	33.52	32.18	30.92	31.16	29.60
2022	32.93	33.33	30.47	28.53	26.57	27.44	33.04	35.96	36.82	35.98	34.72	33.90	32.47
2023	35.13	35.81	32.66	30.36	29.13	29.90	35.64	38.62	39.51	40.79	38.79	36.94	35.27
2024	37.01	38.62	35.08	32.71	31.51	31.58	37.99	41.65	42.97	42.20	39.46	39.45	37.52
2025	40.60	41.97	38.71	36.91	35.43	34.92	42.20	45.57	46.80	45.86	43.18	43.15	41.27
2026	44.87	46.21	43.40	39.90	37.40	38.11	45.93	49.72	50.61	51.14	47.81	46.97	45.17
2027	47.85	49.28	46.31	42.70	40.10	40.75	48.68	52.68	53.42	52.98	50.37	49.78	47.91
2028	50.87	51.89	48.99	46.13	44.44	43.97	51.72	56.10	56.36	56.78	54.59	52.87	51.23
2029	53.83	55.67	51.83	48.25	45.85	45.23	54.83	59.55	60.06	60.20	57.05	55.80	54.01
2030	56.83	58.50	53.86	50.80	47.73	46.09	57.40	61.82	63.06	62.38	59.30	59.14	56.41
2031	59.84	61.59	56.73	54.49	51.47	49.09	60.71	65.32	66.79	65.83	63.11	62.63	59.80
2032	63.34	64.33	60.11	56.58	52.37	52.84	63.69	69.04	70.32	70.13	68.21	66.37	63.11
2033	66.96	67.97	62.83	60.23	56.59	55.91	66.95	72.51	73.42	72.30	70.45	69.25	66.28
2034	69.65	70.23	64.08	61.88	59.32	56.67	68.85	74.71	75.56	74.83	73.17	71.72	68.39
2035	72.45	73.49	67.78	64.22	59.37	57.05	71.53	78.53	80.06	78.72	76.81	75.44	71.29
2036	75.00	76.00	69.85	66.30	60.46	58.88	73.76	80.59	83.10	80.47	78.50	78.47	73.45
2037	77.57	78.09	71.78	68.66	63.78	60.56	75.52	82.63	85.24	82.37	81.49	81.18	75.74

The 2018 All Resources RFP seeks capacity resources as early as 2022 to meet resource needs described in Section 1 of the All Resources RFP document. Table No. 2 shows the peak capacity credit of gas-fired, wind, solar, battery storage and market resources starting in 2022. The peak capacity credit of these resources is expressed as a percentage of equivalent gas peaker capacity. For a detailed discussion of PSE's approach to determining the peak capacity of resources refer to Chapter 6, Section 2 of PSE's 2017 IRP, which can be found on our web site at www.pse.com/irp.[1]

[1] *See Effective Load Carrying Capability of Resources section beginning on page 6-8 of Chapter 6 of the 2017 IRP.*

2. Estimated Peak Capacity Credit of Resources

Resource	Nameplate (MW)	Peak Capacity Credit Based on 5% LOLP[2]
Gas-fired Generation	239 MW	100%
Montana Wind	100	49%
Eastern Washington Wind	100	16%
Offshore Washington Wind	100	51%
Market Reliance	1,580	99%
Eastern Washington Solar	50	2%
Resource	**Nameplate (MW)**	**Peak Capacity Credit Based on EUE at 5% LOLP[2,3]**
Lithium-ion Battery, 2hr, 25 MW max per hour	25	60%
Lithium-ion Battery, 4hr, 25 MW max per hour	25	88%
Flow Battery, 4hr, 25 MW max per hour	25	76%

[2] Loss of load probability ("LOLP")

[3] Since batteries are energy-limited resources, using the loss of load probability metric does not capture the frequency, magnitude and duration of outages. For these resources, PSE uses expected unserved energy (EUE) to appropriately capture the risks associated with these resources.