

**EXHIBIT NO. \_\_\_(JAP-6C)  
DOCKETS UE-17\_\_\_/UG-17\_\_\_  
2017 PSE GENERAL RATE CASE  
WITNESS: JON A. PILIARIS**

**BEFORE THE  
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,**

**Complainant,**

**v.**

**PUGET SOUND ENERGY,**

**Respondent.**

**Docket UE-17\_\_\_**

**Docket UG-17\_\_\_**

**FIFTH EXHIBIT (CONFIDENTIAL) TO THE  
PREFILED DIRECT TESTIMONY OF**

**JON A. PILIARIS**

**ON BEHALF OF PUGET SOUND ENERGY**

**REDACTED  
VERSION**

**JANUARY 13, 2017**

PUGET SOUND ENERGY  
PEAK CREDIT METHOD FOR 2017 GRC WITH UPDATED DATA  
COMPANY PROPOSAL

	Peaker	CCCT	Peak Credit
Levelized Cost (\$/MWh)		93	
Levelized Cost (\$/kW-yr)	118	653	18%

**Assumptions**

	Plant Assumptions		Notes
	Peaker	CCCT	
1 Capital Costs (\$/kW-yr)	\$634	\$1,267	2016 Dollars
2 Fixed Charge Rate	10.42%	10.42%	
3 Fixed O&M (\$/kW-yr)	\$11.23	\$46.82	2016 Dollars
4 Variable O&M (\$/MWh)	\$23.00	\$2.50	2016 Dollars
5 Heat Rate (Btu/kWh)	9,823	6,650	
6 Weighted Cost of Capital	7.74%	7.74%	
7 Capacity Factor	2%	80%	
8 Reserve Margin	3.0%	3.0%	
9 Planning Margin	12.1%	12.1%	
10 CO <sub>2</sub> Emissions (tons/GWh)	574.6	389.0	

**REDACTED  
VERSION**

**Weighted Cost of Capital**

	Pro Forma		Cost of Capital
	Capital %	Cost %	
11 Other			0.00%
12 Debt	51.50%	5.81%	2.99%
13 Common Equity	48.50%	9.80%	4.75%
14 TOTAL	100.00%		7.74%

**Combined Cycle Plant (Nominal \$)**

Year	Capital Cost \$/MWh	Fixed O&M \$/MWh	Variable O&M \$/MWh	Natural Gas \$/MWh	Emissions \$/MWh	Margin \$/MWh	Total \$/MWh	Annual Inflation
2017	\$19.31	\$6.85	\$2.56	\$18.42	\$11.28	\$3.95	\$62.37	2.50%
2018	\$19.31	\$7.02	\$2.62	\$19.03	\$11.95	\$3.98	\$63.90	2.50%
2019	\$19.31	\$7.20	\$2.69	\$19.29	\$12.79	\$4.00	\$65.28	2.50%
2020	\$19.31	\$7.38	\$2.76	\$19.97	\$13.69	\$4.03	\$67.14	2.50%
2021	\$19.31	\$7.56	\$2.83	\$20.98	\$14.64	\$4.06	\$69.38	2.50%
2022	\$19.31	\$7.75	\$2.90	█	\$7.32	\$4.09	█	2.50%
2023	\$19.31	\$7.94	\$2.97	█	\$7.84	\$4.11	█	2.50%
2024	\$19.31	\$8.14	\$3.04	█	\$8.39	\$4.14	█	2.50%
2025	\$19.31	\$8.34	\$3.12	█	\$8.97	\$4.18	█	2.50%
2026	\$19.31	\$8.55	\$3.20	█	\$9.60	\$4.21	█	2.50%
2027	\$19.31	\$8.76	\$3.28	█	\$10.27	\$4.24	█	2.50%
2028	\$19.31	\$8.98	\$3.36	█	\$10.99	\$4.27	█	2.50%
2029	\$19.31	\$9.20	\$3.44	█	\$11.76	\$4.31	█	2.50%
2030	\$19.31	\$9.43	\$3.53	█	\$12.59	\$4.34	█	2.50%
2031	\$19.31	\$9.67	\$3.62	█	\$13.47	\$4.38	█	2.50%
2032	\$19.31	\$9.91	\$3.71	█	\$14.41	\$4.41	█	2.50%
2033	\$19.31	\$10.16	\$3.80	█	\$15.42	\$4.45	█	2.50%
2034	\$19.31	\$10.41	\$3.90	█	\$16.49	\$4.49	█	2.50%
2035	\$19.31	\$10.67	\$4.00	█	\$17.65	\$4.53	█	2.50%
2036	\$19.31	\$10.94	\$4.10	█	\$18.88	\$4.57	█	2.50%
2037	\$19.31	\$11.21	\$4.20	█	\$20.20	\$4.61	█	2.50%
2038	\$19.31	\$11.49	\$4.31	█	\$20.71	\$4.65	█	2.50%
2039	\$19.31	\$11.78	\$4.42	█	\$21.23	\$4.69	█	2.50%
2040	\$19.31	\$12.07	\$4.53	█	\$21.76	\$4.74	█	2.50%
2041	\$19.31	\$12.37	\$4.64	█	\$22.30	\$4.78	█	2.50%
2042	\$19.31	\$12.68	\$4.76	█	\$22.86	\$4.83	█	2.50%
2043	\$19.31	\$13.00	\$4.88	█	\$23.43	\$4.88	█	2.50%
2044	\$19.31	\$13.33	\$5.00	█	\$24.01	\$4.93	█	2.50%
2045	\$19.31	\$13.66	\$5.13	█	\$24.62	\$4.98	█	2.50%
2046	\$19.31	\$14.00	\$5.26	█	\$25.23	\$5.03	█	2.50%

**Peaker Plant (Nominal \$)**

Year	Capital Cost \$/kW-yr	Fixed O&M \$/kW-yr	Variable O&M \$/kW-yr	Natural Gas \$/kW-yr	Emissions \$/kW-yr	Margin \$/kW-yr	Total \$/kW-yr	Annual Inflation
2017	\$67.70	\$11.51	\$4.13	\$4.63	\$0.00	\$11.96	\$99.93	2.50%
2018	\$67.70	\$11.80	\$4.23	\$4.78	\$0.00	\$12.00	\$100.52	2.50%
2019	\$67.70	\$12.10	\$4.34	\$4.85	\$0.00	\$12.05	\$101.04	2.50%
2020	\$67.70	\$12.40	\$4.45	\$5.02	\$0.00	\$12.10	\$101.66	2.50%
2021	\$67.70	\$12.71	\$4.56	\$5.27	\$0.00	\$12.14	\$102.38	2.50%
2022	\$67.70	\$13.03	\$4.67	█	\$0.00	\$12.19	█	2.50%
2023	\$67.70	\$13.36	\$4.79	█	\$0.00	\$12.24	█	2.50%
2024	\$67.70	\$13.69	\$4.91	█	\$0.00	\$12.29	█	2.50%
2025	\$67.70	\$14.03	\$5.03	█	\$0.00	\$12.34	█	2.50%
2026	\$67.70	\$14.38	\$5.16	█	\$0.00	\$12.39	█	2.50%
2027	\$67.70	\$14.74	\$5.29	█	\$0.00	\$12.45	█	2.50%
2028	\$67.70	\$15.11	\$5.42	█	\$0.00	\$12.50	█	2.50%
2029	\$67.70	\$15.49	\$5.56	█	\$0.00	\$12.56	█	2.50%
2030	\$67.70	\$15.88	\$5.70	█	\$0.00	\$12.62	█	2.50%
2031	\$67.70	\$16.28	\$5.84	█	\$0.00	\$12.68	█	2.50%
2032	\$67.70	\$16.69	\$5.99	█	\$0.00	\$12.74	█	2.50%
2033	\$67.70	\$17.11	\$6.14	█	\$0.00	\$12.81	█	2.50%
2034	\$67.70	\$17.54	\$6.29	█	\$0.00	\$12.87	█	2.50%
2035	\$67.70	\$17.98	\$6.45	█	\$0.00	\$12.94	█	2.50%
2036	\$67.70	\$18.43	\$6.61	█	\$0.00	\$13.01	█	2.50%
2037	\$67.70	\$18.89	\$6.78	█	\$0.00	\$13.08	█	2.50%
2038	\$67.70	\$19.36	\$6.95	█	\$0.00	\$13.15	█	2.50%
2039	\$67.70	\$19.84	\$7.12	█	\$0.00	\$13.22	█	2.50%
2040	\$67.70	\$20.34	\$7.30	█	\$0.00	\$13.29	█	2.50%
2041	\$67.70	\$20.85	\$7.48	█	\$0.00	\$13.37	█	2.50%
2042	\$67.70	\$21.37	\$7.67	█	\$0.00	\$13.45	█	2.50%
2043	\$67.70	\$21.90	\$7.86	█	\$0.00	\$13.53	█	2.50%
2044	\$67.70	\$22.45	\$8.06	█	\$0.00	\$13.61	█	2.50%
2045	\$67.70	\$23.01	\$8.26	█	\$0.00	\$13.70	█	2.50%
2046	\$67.70	\$23.59	\$8.47	█	\$0.00	\$13.78	█	2.50%