

**EXHIBIT NO. ___(JAP-5C)
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___

**FOURTH 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 2014 FILING
COMPANY PROPOSAL

	Peaker	CCCT	Peak Credit
Levelized Cost (\$/MWh)		99	
Levelized Cost (\$/kW-yr)	171	695	25%

REDACTED VERSION

Assumptions

	Plant Assumptions		
	Peaker	CCCT	Notes
1 Capital Costs (\$/kW-yr)	\$915	\$1,540	2012 Dollars
2 Fixed Charge Rate	10.79%	10.79%	
3 Fixed O&M (\$/kW-yr)	\$19.91	\$65.29	2012 Dollars
4 Variable O&M (\$/MWh)	\$0.68	\$0.46	2012 Dollars
5 Heat Rate (Btu/kWh)	10,231	6,822	
6 Weighted Cost of Capital	7.77%	7.77%	
7 Capacity Factor	0%	80.0%	
8 Reserve Margin	7.0%	7.0%	
9a Planning Margin 2014-15	13.5%	13.5%	
9b Planning Margin 2018-19	14.0%	14.0%	
9c Planning Margin 2023-2024	16.0%	16.0%	
10 CO ₂ Emissions (tons/GWh)	592.9	395.3	

	Weighted Cost of Capital		
	Pro Forma Capital %	Cost %	Cost of Capital
11 Short-Term Debt	4.00%	2.68%	0.11%
12 Long-Term Debt	48.00%	6.16%	2.96%
13 Common Equity	48.00%	9.80%	4.70%
14 TOTAL	100.00%		7.77%

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
2014	\$24.91	\$9.79	\$0.48		0.67	\$7.11		2.50%
2015	\$24.91	\$10.03	\$0.49		0.71	\$7.16		2.50%
2016	\$24.91	\$10.28	\$0.50		0.76	\$7.21		2.50%
2017	\$24.91	\$10.54	\$0.51		4.02	\$7.27		2.50%
2018	\$24.91	\$10.80	\$0.52		4.32	\$7.50		2.50%
2019	\$24.91	\$11.07	\$0.53		4.65	\$7.56		2.50%
2020	\$24.91	\$11.35	\$0.54		5.00	\$7.61		2.50%
2021	\$24.91	\$11.63	\$0.55		5.36	\$7.67		2.50%
2022	\$24.91	\$11.92	\$0.56		5.75	\$7.73		2.50%
2023	\$24.91	\$12.22	\$0.57		6.17	\$8.54		2.50%
2024	\$24.91	\$12.53	\$0.58		6.62	\$8.61		2.50%
2025	\$24.91	\$12.84	\$0.59		7.11	\$8.68		2.50%
2026	\$24.91	\$13.16	\$0.60		7.63	\$8.76		2.50%
2027	\$24.91	\$13.49	\$0.62		8.19	\$8.83		2.50%
2028	\$24.91	\$13.83	\$0.64		8.79	\$8.91		2.50%
2029	\$24.91	\$14.18	\$0.66		9.42	\$8.99		2.50%
2030	\$24.91	\$14.53	\$0.68		10.11	\$9.07		2.50%
2031	\$24.91	\$14.89	\$0.70		10.85	\$9.15		2.50%
2032	\$24.91	\$15.26	\$0.72		11.63	\$9.24		2.50%
2033	\$24.91	\$15.64	\$0.74		12.47	\$9.33		2.50%
2034	\$24.91	\$16.03	\$0.76		\$12.78	\$9.42		2.50%
2035	\$24.91	\$16.43	\$0.78		\$13.10	\$9.51		2.50%
2036	\$24.91	\$16.84	\$0.80		\$13.43	\$9.60		2.50%
2037	\$24.91	\$17.26	\$0.82		\$13.77	\$9.70		2.50%
2038	\$24.91	\$17.69	\$0.84		\$14.11	\$9.80		2.50%
2039	\$24.91	\$18.13	\$0.86		\$14.46	\$9.90		2.50%
2040	\$24.91	\$18.58	\$0.88		\$14.82	\$10.00		2.50%
2041	\$24.91	\$19.04	\$0.90		\$15.19	\$10.11		2.50%
2042	\$24.91	\$19.52	\$0.92		\$15.57	\$10.22		2.50%
2043	\$24.91	\$20.01	\$0.94		\$15.96	\$10.33		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
2014	\$103.73	\$20.92	\$0.00		\$0.00	\$25.55		2.50%
2015	\$103.73	\$21.44	\$0.00		\$0.00	\$25.66		2.50%
2016	\$103.73	\$21.98	\$0.00		\$0.00	\$25.77		2.50%
2017	\$103.73	\$22.53	\$0.00		\$0.00	\$25.88		2.50%
2018	\$103.73	\$23.09	\$0.00		\$0.00	\$26.63		2.50%
2019	\$103.73	\$23.67	\$0.00		\$0.00	\$26.75		2.50%
2020	\$103.73	\$24.26	\$0.00		\$0.00	\$26.88		2.50%
2021	\$103.73	\$24.87	\$0.00		\$0.00	\$27.01		2.50%
2022	\$103.73	\$25.49	\$0.00		\$0.00	\$27.14		2.50%
2023	\$103.73	\$26.13	\$0.00		\$0.00	\$29.87		2.50%
2024	\$103.73	\$26.78	\$0.00		\$0.00	\$30.02		2.50%
2025	\$103.73	\$27.45	\$0.00		\$0.00	\$30.17		2.50%
2026	\$103.73	\$28.14	\$0.00		\$0.00	\$30.33		2.50%
2027	\$103.73	\$28.84	\$0.00		\$0.00	\$30.49		2.50%
2028	\$103.73	\$29.56	\$0.00		\$0.00	\$30.66		2.50%
2029	\$103.73	\$30.30	\$0.00		\$0.00	\$30.83		2.50%
2030	\$103.73	\$31.06	\$0.00		\$0.00	\$31.00		2.50%
2031	\$103.73	\$31.84	\$0.00		\$0.00	\$31.18		2.50%
2032	\$103.73	\$32.64	\$0.00		\$0.00	\$31.37		2.50%
2033	\$103.73	\$33.46	\$0.00		\$0.00	\$31.55		2.50%
2034	\$103.73	\$34.30	\$0.00		\$0.00	\$31.75		2.50%
2035	\$103.73	\$35.16	\$0.00		\$0.00	\$31.94		2.50%
2036	\$103.73	\$36.04	\$0.00		\$0.00	\$32.15		2.50%
2037	\$103.73	\$36.94	\$0.00		\$0.00	\$32.35		2.50%
2038	\$103.73	\$37.86	\$0.00		\$0.00	\$32.57		2.50%
2039	\$103.73	\$38.81	\$0.00		\$0.00	\$32.78		2.50%
2040	\$103.73	\$39.78	\$0.00		\$0.00	\$33.01		2.50%
2041	\$103.73	\$40.77	\$0.00		\$0.00	\$33.24		2.50%
2042	\$103.73	\$41.79	\$0.00		\$0.00	\$33.47		2.50%
2043	\$103.73	\$42.83	\$0.00		\$0.00	\$33.71		2.50%