

REDACTED VERSION

REDACTED VERSION

PUGET SOUND ENERGY
PEAK CREDIT METHOD FOR 2019 GRC WITH UPDATED DATA
COMPANY PROPOSAL

	Peaker	CCCT	Peak Credit
Levelized Cost (\$/MWh)		121	
Levelized Cost (\$/kW-yr)	96	850	11%

Assumptions

	Plant Assumptions		
	Peaker	CCCT	Notes
1 Capital Costs (\$/kW-yr)	\$671	\$1,342	2019 Dollars
2 Fixed Charge Rate	9.57%	9.57%	
3 Fixed O&M (\$/kW-yr)	\$12.64	\$56.70	2019 Dollars
4 Variable O&M (\$/MWh)	\$24.36	\$2.65	2019 Dollars
5 Heat Rate (Btu/kWh)	9,823	6,650	
6 Weighted Cost of Capital	7.48%	7.48%	
7 Capacity Factor	0%	80%	
8 Reserve Margin	3.0%	3.0%	
9 Planning Margin	13.5%	13.5%	
10 CO ₂ Emissions (tons/GWh)	574.6	389.0	

	Weighted Cost of Capital		
	Pro Forma Capital %	Cost %	Cost of Capital
11 Other			0.00%
12 Debt	51.50%	5.57%	2.87%
13 Common Equity	48.50%	9.50%	4.61%
14 TOTAL	100.00%		7.48%

REDACTED VERSION

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
2019	\$18.33	\$8.09	\$2.65	\$18.57	\$32.07	\$4.36	\$84.07	0.00%
2020	\$18.33	\$8.29	\$2.72	\$18.77	\$33.41	\$4.39	\$85.92	2.50%
2021	\$18.33	\$8.50	\$2.79	\$19.33	\$34.80	\$4.43	\$88.18	2.50%
2022	\$18.33	\$8.71	\$2.86		\$36.24	\$4.46		2.50%
2023	\$18.33	\$8.93	\$2.93		\$37.72	\$4.50		2.50%
2024	\$18.33	\$9.15	\$3.00		\$39.26	\$4.53		2.50%
2025	\$18.33	\$9.38	\$3.08		\$41.46	\$4.57		2.50%
2026	\$18.33	\$9.61	\$3.16		\$43.12	\$4.61		2.50%
2027	\$18.33	\$9.85	\$3.24		\$44.84	\$4.65		2.50%
2028	\$18.33	\$10.10	\$3.32		\$46.62	\$4.69		2.50%
2029	\$18.33	\$10.35	\$3.40		\$48.46	\$4.73		2.50%
2030	\$18.33	\$10.61	\$3.49		\$50.36	\$4.78		2.50%
2031	\$18.33	\$10.88	\$3.58		\$52.33	\$4.82		2.50%
2032	\$18.33	\$11.15	\$3.67		\$54.36	\$4.86		2.50%
2033	\$18.33	\$11.43	\$3.76		\$56.46	\$4.91		2.50%
2034	\$18.33	\$11.72	\$3.85		\$58.63	\$4.96		2.50%
2035	\$18.33	\$12.01	\$3.95		\$60.88	\$5.01		2.50%
2036	\$18.33	\$12.31	\$4.05		\$63.20	\$5.06		2.50%
2037	\$18.33	\$12.62	\$4.15		\$66.42	\$5.11		2.50%
2038	\$18.33	\$12.94	\$4.25		\$68.92	\$5.16		2.50%
2039	\$18.33	\$13.26	\$4.36		\$71.51	\$5.21		2.50%
2040	\$18.33	\$13.59	\$4.47		\$74.18	\$5.27		2.50%
2041	\$18.33	\$13.93	\$4.58		\$76.94	\$5.32		2.50%
2042	\$18.33	\$14.28	\$4.69		\$79.79	\$5.38		2.50%
2043	\$18.33	\$14.64	\$4.81		\$82.74	\$5.44		2.50%
2044	\$18.33	\$15.01	\$4.93		\$85.78	\$5.50		2.50%

REDACTED VERSION

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
2019	\$64.25	\$12.64	\$0.00	\$0.00	\$0.00	\$12.69	\$89.58	0.00%
2020	\$64.25	\$12.96	\$0.00	\$0.00	\$0.00	\$12.74	\$89.95	2.50%
2021	\$64.25	\$13.28	\$0.00	\$0.00	\$0.00	\$12.79	\$90.32	2.50%
2022	\$64.25	\$13.61	\$0.00		\$0.00	\$12.85		2.50%
2023	\$64.25	\$13.95	\$0.00		\$0.00	\$12.90		2.50%
2024	\$64.25	\$14.30	\$0.00		\$0.00	\$12.96		2.50%
2025	\$64.25	\$14.66	\$0.00		\$0.00	\$13.02		2.50%
2026	\$64.25	\$15.03	\$0.00		\$0.00	\$13.08		2.50%
2027	\$64.25	\$15.41	\$0.00		\$0.00	\$13.14		2.50%
2028	\$64.25	\$15.80	\$0.00		\$0.00	\$13.21		2.50%
2029	\$64.25	\$16.20	\$0.00		\$0.00	\$13.27		2.50%
2030	\$64.25	\$16.61	\$0.00		\$0.00	\$13.34		2.50%
2031	\$64.25	\$17.03	\$0.00		\$0.00	\$13.41		2.50%
2032	\$64.25	\$17.46	\$0.00		\$0.00	\$13.48		2.50%
2033	\$64.25	\$17.90	\$0.00		\$0.00	\$13.55		2.50%
2034	\$64.25	\$18.35	\$0.00		\$0.00	\$13.63		2.50%
2035	\$64.25	\$18.81	\$0.00		\$0.00	\$13.70		2.50%
2036	\$64.25	\$19.28	\$0.00		\$0.00	\$13.78		2.50%
2037	\$64.25	\$19.76	\$0.00		\$0.00	\$13.86		2.50%
2038	\$64.25	\$20.25	\$0.00		\$0.00	\$13.94		2.50%
2039	\$64.25	\$20.76	\$0.00		\$0.00	\$14.03		2.50%
2040	\$64.25	\$21.28	\$0.00		\$0.00	\$14.11		2.50%
2041	\$64.25	\$21.81	\$0.00		\$0.00	\$14.20		2.50%
2042	\$64.25	\$22.36	\$0.00		\$0.00	\$14.29		2.50%
2043	\$64.25	\$22.92	\$0.00		\$0.00	\$14.38		2.50%
2044	\$64.25	\$23.49	\$0.00		\$0.00	\$14.48		2.50%

REDACTED VERSION

PUGET SOUND ENERGY
PEAK CREDIT METHOD FOR 2019 GRC WITH UPDATED DATA
COMPANY PROPOSAL

	Peaker	CCCT	Peak Credit
Levelized Cost (\$/MWh)		72	
Levelized Cost (\$/kW-yr)	96	508	19%

Assumptions

	Plant Assumptions		
	Peaker	CCCT	Notes
1 Capital Costs (\$/kW-yr)	\$671	\$1,342	2019 Dollars
2 Fixed Charge Rate	9.57%	9.57%	
3 Fixed O&M (\$/kW-yr)	\$12.64	\$56.70	2019 Dollars
4 Variable O&M (\$/MWh)	\$24.36	\$2.65	2019 Dollars
5 Heat Rate (Btu/kWh)	9,823	6,650	
6 Weighted Cost of Capital	7.48%	7.48%	
7 Capacity Factor	0%	80%	
8 Reserve Margin	3.0%	3.0%	
9 Planning Margin	13.5%	13.5%	
10 CO ₂ Emissions (tons/GWh)	574.6	389.0	

	Weighted Cost of Capital		
	Pro Forma Capital %	Cost %	Cost of Capital
11 Other			0.00%
12 Debt	51.50%	5.57%	2.87%
13 Common Equity	48.50%	9.50%	4.61%
14 TOTAL	100.00%		7.48%

REDACTED VERSION

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
2019	\$18.33	\$8.09	\$2.65	\$18.57	\$0.00	\$4.36	\$52.00	0.00%
2020	\$18.33	\$8.29	\$2.72	\$18.77	\$0.00	\$4.39	\$52.50	2.50%
2021	\$18.33	\$8.50	\$2.79	\$19.33	\$0.00	\$4.43	\$53.38	2.50%
2022	\$18.33	\$8.71	\$2.86		\$0.00	\$4.46		2.50%
2023	\$18.33	\$8.93	\$2.93		\$0.00	\$4.50		2.50%
2024	\$18.33	\$9.15	\$3.00		\$0.00	\$4.53		2.50%
2025	\$18.33	\$9.38	\$3.08		\$0.00	\$4.57		2.50%
2026	\$18.33	\$9.61	\$3.16		\$0.00	\$4.61		2.50%
2027	\$18.33	\$9.85	\$3.24		\$0.00	\$4.65		2.50%
2028	\$18.33	\$10.10	\$3.32		\$0.00	\$4.69		2.50%
2029	\$18.33	\$10.35	\$3.40		\$0.00	\$4.73		2.50%
2030	\$18.33	\$10.61	\$3.49		\$0.00	\$4.78		2.50%
2031	\$18.33	\$10.88	\$3.58		\$0.00	\$4.82		2.50%
2032	\$18.33	\$11.15	\$3.67		\$0.00	\$4.86		2.50%
2033	\$18.33	\$11.43	\$3.76		\$0.00	\$4.91		2.50%
2034	\$18.33	\$11.72	\$3.85		\$0.00	\$4.96		2.50%
2035	\$18.33	\$12.01	\$3.95		\$0.00	\$5.01		2.50%
2036	\$18.33	\$12.31	\$4.05		\$0.00	\$5.06		2.50%
2037	\$18.33	\$12.62	\$4.15		\$0.00	\$5.11		2.50%
2038	\$18.33	\$12.94	\$4.25		\$0.00	\$5.16		2.50%
2039	\$18.33	\$13.26	\$4.36		\$0.00	\$5.21		2.50%
2040	\$18.33	\$13.59	\$4.47		\$0.00	\$5.27		2.50%
2041	\$18.33	\$13.93	\$4.58		\$0.00	\$5.32		2.50%
2042	\$18.33	\$14.28	\$4.69		\$0.00	\$5.38		2.50%
2043	\$18.33	\$14.64	\$4.81		\$0.00	\$5.44		2.50%
2044	\$18.33	\$15.01	\$4.93		\$0.00	\$5.50		2.50%

REDACTED VERSION

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
2019	\$64.25	\$12.64	\$0.00	\$0.00	\$0.00	\$12.69	\$89.58	0.00%
2020	\$64.25	\$12.96	\$0.00	\$0.00	\$0.00	\$12.74	\$89.95	2.50%
2021	\$64.25	\$13.28	\$0.00	\$0.00	\$0.00	\$12.79	\$90.32	2.50%
2022	\$64.25	\$13.61	\$0.00		\$0.00	\$12.85		2.50%
2023	\$64.25	\$13.95	\$0.00		\$0.00	\$12.90		2.50%
2024	\$64.25	\$14.30	\$0.00		\$0.00	\$12.96		2.50%
2025	\$64.25	\$14.66	\$0.00		\$0.00	\$13.02		2.50%
2026	\$64.25	\$15.03	\$0.00		\$0.00	\$13.08		2.50%
2027	\$64.25	\$15.41	\$0.00		\$0.00	\$13.14		2.50%
2028	\$64.25	\$15.80	\$0.00		\$0.00	\$13.21		2.50%
2029	\$64.25	\$16.20	\$0.00		\$0.00	\$13.27		2.50%
2030	\$64.25	\$16.61	\$0.00		\$0.00	\$13.34		2.50%
2031	\$64.25	\$17.03	\$0.00		\$0.00	\$13.41		2.50%
2032	\$64.25	\$17.46	\$0.00		\$0.00	\$13.48		2.50%
2033	\$64.25	\$17.90	\$0.00		\$0.00	\$13.55		2.50%
2034	\$64.25	\$18.35	\$0.00		\$0.00	\$13.63		2.50%
2035	\$64.25	\$18.81	\$0.00		\$0.00	\$13.70		2.50%
2036	\$64.25	\$19.28	\$0.00		\$0.00	\$13.78		2.50%
2037	\$64.25	\$19.76	\$0.00		\$0.00	\$13.86		2.50%
2038	\$64.25	\$20.25	\$0.00		\$0.00	\$13.94		2.50%
2039	\$64.25	\$20.76	\$0.00		\$0.00	\$14.03		2.50%
2040	\$64.25	\$21.28	\$0.00		\$0.00	\$14.11		2.50%
2041	\$64.25	\$21.81	\$0.00		\$0.00	\$14.20		2.50%
2042	\$64.25	\$22.36	\$0.00		\$0.00	\$14.29		2.50%
2043	\$64.25	\$22.92	\$0.00		\$0.00	\$14.38		2.50%
2044	\$64.25	\$23.49	\$0.00		\$0.00	\$14.48		2.50%