Puget Sound Power & Light Company Docket No. UE-920499 Response to Bench Request #4

Request

Reconcile the combined cycle combustion turbine cost used in the peak credit method with the avoided cost filing.

Response by Mr. Hoff

The combined cycle combustion turbine (CCCT) is used in the avoided cost analysis as a proxy for the generation resource required starting in 1996. The starting date for the CCCT is based upon an assessment of resource costs and power requirements as of May, 1991. The CCCT is used in the peak credit method as the proxy for the most likely power plant that would be used as the next base generation plant. The costs for this unit are based upon the <u>Integrated Resource Plan</u> (IRP), prepared in the Spring of 1992.

The cost for both the numerator (the CT) and the denominator (the CCCT) of the peak credit calculation are based upon consistent assumptions as documented in the IRP. The major differences between the assumptions for the CCCT cost in the peak credit method and the avoided cost study are:

- o The peak credit uses a higher capital plant cost,
- o The peak credit uses a higher availability factor, and
- o The peak credit uses lower gas costs and different gas escalation rates.

The attached work paper compares the assumptions used in the peak credit and the avoided cost filing.

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Comparison of Assumptions in Peak Credit Method and Avoided Cost

Element	Peak Credit	Avoided Cost
Starting Year	1991	1996
Capital Cost (\$/kW)	670	615
Fixed O&M (mills/kWh)	0.8	8.0
Variable O&M (mills/kWh)	3.2	3.2
Heat Rate (BTU/kWh)	7,740	7,740
Availability Factor	80%	75%
Gas Cost (\$/mmBTU)	\$2.00	\$2.60
Fixed Charge Rate	13.16%	13.16%

Escallation Rates

	Peak Credit	Avoided Cost	Peak Credit	Avoided Cost
Year	O&M	O&M	Gas	Gas
1992	2.80%	3.70%	2,80%	4.60%
1993	2.70%	3.10%	4.41%	4.60%
1994	2.90%	3.10%	5.59%	17.40%
1995	3.00%	3.70%	5.95%	17.40%
1996	3.40%	3.90%	5.64%	9.30%
1997	3.50%	4.00%	6.01%	9.30%
1998	3.50%	4.10%	6.87%	9.30%
1999	3.60%	4.10%	7.46%	9.30%
2000	3.90%	4.40%	7.63%	9.30%
2001	4.00%	4.80%	7.61%	4.80%
2002	4.10%	5.00%	7.59%	5.00%
2003	4.10%	4.90%	7.47%	4.90%
2004	4.10%	4.90%	6.87%	4.90%
2005	4.10%	4.90%	7.04%	4.90%
2006	4.20%	4.90%	7.06%	4.90%
2007	4.20%	5.00%	6,98%	5.00%
2008	4.30%	5.10%	7.01%	5.10%
2009	4.40%	5.10%	6.83%	5.10%
2010	4.40%	5.10%	6.56%	5.10%
2011	4.40%	5.10%	5.00%	5.10%
2012	4.50%	5.10%	5.00%	5.10%
2013	4.60%	5.10%	5.00%	5.10%
2014	4.80%	5.20%	5.00%	5.20%
2015	4.80%	5.20%	5.00%	5.20%
2016	4.80%	5.00%	5.00%	5.00%
2017	5.00%	5.00%	5.00%	5.00%
2018	5.00%	5.00%	5.00%	5.00%
2019	5.00%	5.00%	5.00%	5.00%
2020	5.00%	5.00%	5.00%	5.00%