

# Action Response

To: Public Service Commission  
Ric Campbell, Chair  
Connie White, Commissioner  
Ted Boyer, Commissioner

From: Division of Public Utilities  
Judith Johnson, Interim Director,  
Ron Burrup, Technical Consultant  
Artie Powell, Technical Consultant

Date: October 7, 2003

Subject: Docket No. 03-035-T10, Schedule 37: Avoided Cost  
Purchases from Qualifying Facilities Less Than 1 MW

## **I S S U E**

On September 12, 2003 PacifiCorp filed updated avoided costs for Electric Service Schedule No. 37. This schedule provides the standard avoided cost rates for purchases from qualifying facilities (“QFs”) under one megawatt in size. This memo provides the Utah Division of Public Utilities’ (“Division”) analysis of that filing and our recommendation to the Commission.

## **R E C O M M E N D A T I O N**

The Division recommends adoption of the rates as specified in PacifiCorp’s proposed Schedule 37 attached to its filing.

## ANALYSIS

Consistent with the Commission’s order (January 15, 2002) in Docket 01-2035-01, PacifiCorp’s uses a three-stage methodology in calculating the avoided costs for QFs less than 1 MW. Specifically, the avoided costs are based on (i) market prices for the first 12 months – September 2003 through August 2004; (ii) the costs of a simple cycle combustion turbine (“SCCT”) for the following 22 months – September 2004 through June 2006; and (iii) the costs of a combined cycle combustion turbine (“CCCT”) thereafter. The currently approved avoided costs for Schedule 37 also used this method and were adopted in the final order previously cited. Table 1 compares the major inputs or assumptions used by PacifiCorp in calculating the current approved rates and those proposed in its current filing.

**Table 1: Comparison of Avoided Cost Assumptions**

	<b>Current</b>	<b>Proposed</b>	<b>Percent Change</b>
<b>General</b>			
On-Peak Hours	57.00%	57.00%	0.00%
Inflation Rate	2.50%	2.50%	0.00%
Escalation Rate	2.80%	NA	
Discount Rate	7.82%	7.50%	-4.09%
Fuel Cost (\$/MWh)	40.62 (2001)	32.11 (2003)	NA
<b>SCCT</b>			
Capital Costs (\$/kW)	505	554	9.70%
Variable O&M (\$/MWh)	2.25	3.14	39.56%
Fixed O&M (\$/kW-Yr)	10.00	11.43	14.30%
Heat Rates	11,159	12,176	9.11%
Capacity Factors	50.00%	15.00%	-70.00%
Payment Factors	8.59%	9.59%	11.64%
Assumed Plant Life	30	25	-16.67%
<b>CCCT</b>			
Capital Costs (\$/kW)	603	767	27.20%
Variable O&M \$/MWh	2.50	1.77	-29.20%
Fixed O&M (\$/kW-Yr)	14.50	8.03	-44.62%
Heat Rates	6,980	7,074	1.35%
Capacity Factors	85.00%	85.00%	0.00%
Payment Factors	8.37%	8.61%	-2.79%
Assumed Plant Life	35	35	0.00%

Several assumptions have changed considerably. In particular, the variable O&M costs for the SCCT have increased by approximately 40%. The variable and fixed O&M costs for a CCCT, on the other hand, have decreased by approximately 29% and 45% respectively. However, all of the assumptions are consistent with PacifiCorp's IRP-2003, except as noted in Appendix A of PacifiCorp's filing.

In particular PacifiCorp updates its load forecast for Utah, and as a consequence its load and resource balance. PacifiCorp also updates its forward curves for gas and market prices. The new load forecast, and Market and Gas price forecasts are consistent with the anticipated update to the IRP-2003.<sup>1</sup>

Table 2 compares the fuel costs between the current avoided costs and those proposed in PacifiCorp's filing and Figure 1 compares the market prices. As can be seen in Table 1, for the years 2003 through 2020, gas costs forecasts have increased on average by about 6%. Graph 1 indicates that market prices have also generally increased. A comparison month by month shows that market prices are approximately 16% greater in the proposed rates as compared to those in the current rates.

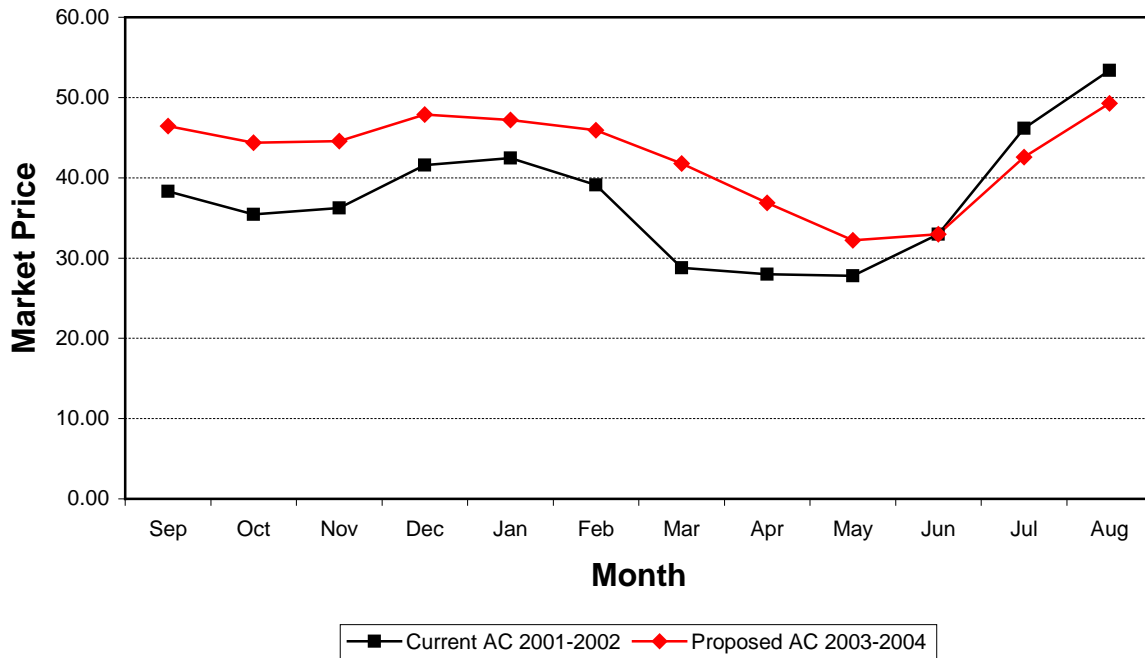
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<sup>1</sup> PacifiCorp recently hosted IRP public input meetings, which the Division participated in. In these meetings PacifiCorp presented updates to its load forecast and the group discussed the issues and new numbers. PacifiCorp indicated that it would file an update to its IRP in October. From the discussions and in answer to data request in this avoided cost docket, it appears that they forecasts used at deriving the avoided costs are consistent with the information that PacifiCorp will file on its IRP.

**Table 2: Comparison of Fuel Costs (\$/MMbtu)**

<b>Year</b>	<b>Current</b>	<b>Proposed</b>	<b>Percent Change</b>
2001	3.64	NA	NA
2002	3.10	NA	NA
2003	3.44	4.54	31.90%
2004	3.68	4.51	22.53%
2005	3.76	4.25	12.97%
2006	3.84	4.25	10.75%
2007	3.82	4.29	12.37%
2008	3.87	4.38	13.02%
2009	3.85	4.29	11.51%
2010	3.84	3.97	3.49%
2011	3.88	3.82	-1.47%
2012	3.95	3.94	-0.12%
2013	4.03	4.06	0.74%
2014	4.06	3.64	-10.40%
2015	4.11	3.72	-9.42%
2016	4.12	3.97	-3.71%
2017	4.14	4.20	1.62%
2018	4.17	4.32	3.56%
2019	4.20	4.45	5.97%
2020	4.25	4.58	7.72%
Mean	3.89	4.18	6.28%

**Figure 1: Comparison of Market Prices by Month**



Overall, given the updates to the forecasts and the other inputs in Table 1, the proposed avoided costs are on average, for the years 2003 through 2020, about 6% greater than the current avoided costs. (See Table 4). The capacity cost, on a levelized basis, actually increased by less than 1%, while the energy price increased by approximately 16%. The total price increased by about 11%. (See Table 3).

**Table 3: Comparison of Levelized Avoided Costs**

	Capacity Price	Energy Price	Total Price
Proposed Levelized Rate	6.04	3.71	4.68
Current Levelized Rate	5.99	3.21	4.23
Percent Change	0.83%	15.58%	10.64%

**Table 4 : Comparison of Proposed and Current Avoided Costs**

Year	Proposed	Current	Difference	Percent Difference
	Avoided Costs \$/MWh	Avoided Costs \$/MWh		
2003	45.81	47.38	-1.57	-3.31%
2004	46.77	44.10	2.67	6.04%
2005	61.39	38.77	22.62	58.35%
2006	52.15	39.66	12.49	31.50%
2007	43.28	39.89	3.39	8.50%
2008	44.23	40.66	3.57	8.78%
2009	43.97	40.88	3.09	7.55%
2010	42.01	41.17	0.84	2.05%
2011	41.30	41.86	-0.56	-1.34%
2012	42.52	42.76	-0.24	-0.57%
2013	43.75	43.79	-0.04	-0.09%
2014	41.12	44.42	-3.30	-7.43%
2015	42.07	45.18	-3.11	-6.89%
2016	44.25	45.78	-1.53	-3.35%
2017	46.29	46.33	-0.04	-0.08%
2018	47.53	47.07	0.46	0.98%
2019	48.86	47.75	1.11	2.32%
2020	50.25	48.66	1.59	3.26%
		Mean	2.30	5.90%

We note that the capacity factor for the SCCT has decreased about 70%. (See Table 1). In the current filing the capacity factor is 15% compared to 50% used in to calculate the current avoided costs. The assumed plant life is also lower in the proposed avoided costs than in the current avoided costs. Both changes are, however, as indicated previously, consistent with PacifiCorp’s IRP-2003.

While the change in the change in the capacity factor for the SCCT appears quit large, the impact on the proposed avoided costs appears to be relatively minor. For example, if a capacity factor of 50% were used in the proposed calculations, the overall increase would be about 6.2% as opposed to

the 5.9% shown in Table 4. Increasing the plant life would, by spreading the capital costs over more years, likely lower the avoided costs and possibly offset any increase due to the change in the capacity factor. Therefore, we conclude that the net impact of these two changes is minor.<sup>2</sup>

## **C O N C L U S I O N**

The Division has reviewed PacifiCorp's proposed avoided costs for Schedule 37 and concludes that they are slightly greater than the currently approved avoided costs contained in the approved Schedule 37. The methodology used to arrive at the avoided costs are consistent with the Commission's prior orders in this matter and the inputs used are either consistent with the assumptions filed in PacifiCorp's IRP-2003 or are consistent with anticipated updates. Therefore the Division recommends that the Commission adopt the proposed avoided costs contained in Appendix A of PacifiCorp's filing.

CC Tim Hunter, PacifiCorp  
Dan Gimble, Committee of Consumer Services

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<sup>2</sup> Changing the capacity factor does have a relatively large impact on the years where the SCCT is the basis of the calculation. However, the SCCT is used only for 22 months out of the 20 year calculation and thus has a minor effect on the overall average increase or the levelized prices.