ROCKY MOUNTAIN POWER
AVOIDED COST CALCULATION

STANDARD RATES FOR AVOIDED COST PURCHASES FROM QUALIFYING FACILITIES THAT QUALIFY FOR SCHEDULE NO. 37

UTAH – MAY 2013

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Overview

In compliance with the Commission's February 12, 2009, Order in Docket No. 08-035-78 on Net Metering Service, PacifiCorp (the "Company") calculates and files Schedule No. 37 avoided costs annually in order to establish the value or credit for net excess generation of large commercial customers under the Schedule No. 135 Net Metering Service.[1] To perform this calculation, the Company uses the Commission approved Schedule No. 37 avoided cost methodology prescribed in Docket No. 94-2035-03, as modified by Docket Nos. 03-035-T10 and 12-035-T10.

Resource Sufficiency / Deficiency Period

In its November 28, 2012, order in Docket No. 12-035-T10 the Commission clarified the methodology to be used to determine the resource sufficiency and deficiency period. The Commission Ordered:

> We will rely on the Company's [Integrated Resource Plan (IRP)] process and the Company's planned actions as articulated in its IRP or IRP update action plans as the basis for identifying the type and timing of a deferrable resource and therefore the time period in which the proxy plant method will be used to calculate energy and capacity payments for Schedule 37 during the period of resource deficiency.

Table 1 presents the timing of deferrable resources as listed in Table 8.7 of the Company's 2013 IRP dated April 30, 2013. Table 1 shows that the Company intends to acquire several combined cycle combustion turbines ("CCCT") including a 645 MW

1 Docket No. 08-035-78, February 12, 2009 Order, U.P.S.C 24 (2009).

CCCT in 2014 and a 423 MW CCCT in 2024. The Company has begun construction of the 645 MW Lake Side 2 CCCT scheduled to come online in 2014, so the 423 MW CCCT scheduled for 2024 is the Company's next deferrable resource in the 2013 IRP and 2024 marks the start of the avoided cost resource deficiency period.

In filings prior to Docket No. 12-035-T10, the Company based the timing of the resource deficit period on an energy load and resource balance developed using its Generation and Regulation Initiative Decision Tools ("GRID") production cost model. Although the IRP action plan now governs the determination of the resource deficit period, a GRID-based load and resource balance is still required to determine the number of months during the resource sufficiency period in which the Company is capacity short.[2] The Company prepared a GRID-based load and resource balance, both on an energy and capacity basis, using the existing resource portfolio from its most recently filed IRP[3] and has included the results in Confidential Appendix 3 in this filing. Confidential Appendix 3 shows an energy surplus from 2012 through 2020, followed by an energy deficit of 137 average megawatts ("aMW") in 2021, or three years prior to the deficiency period based on the next deferrable resource in the IRP.

In its Order in Docket No. 09-035-T14, the Commission directed the Company "to label Table 1 with the applicable planning reserve margin assumption (e.g., 12 or 15 percent) in all subsequent filings of Schedule No. 37 rates." The IRP uses planning reserves to account for operating reserves, regulating reserves, load forecast errors and other planning uncertainties. As shown on Table 1, the 2013 IRP utilized a 13 percent planning reserve margin.

[2] See Docket No. 03-035-T10, June 1, 2004 Order, U.P.S.C. 16 (2004) and Docket No. 12-035-T10, November 28, 2012 Order, U.P.S.C. 7 (2012)
[3] Updated for any known changes occurring subsequent to the preparation of the IRP.

Avoided Cost Calculation

Based on the timing of the next deferrable resource shown in **Table 1**, the avoided cost calculation is separated into two distinct periods: (1) the Short Run – a period of resource sufficiency (2013 through 2023); and (2) the Long Run – a period of resource deficiency (2024 and beyond).

1. Short Run Avoided Costs

During periods of resource sufficiency, the Company's avoided energy costs are based on the displacement of purchased power and existing thermal resources as modeled by the Company's GRID model.

To calculate short-run avoided costs, two production cost studies are prepared. The only difference between the two studies is an assumed 10 aMW increase, at zero running cost. The 10 aMW resource serves as a proxy for qualifying facility generation. The avoided energy cost could be viewed as the highest variable cost incurred to serve total system load from existing and non-deferrable resources. The outputs of the production cost model run are provided as **Table 2**.

Capacity costs in this period are based on capacity purchases for the number of months that the company is capacity deficit. For example, if the Company is capacity deficit for five months in a given year, the purchases would be for five-twelfths of the year and the annual value shown in **Table 3** would be five-twelfths of the capacity cost of a simple cycle combustion turbine ("SCCT"). **Table 11** summarizes the monthly capacity deficits used to determine the short-run capacity payment and supporting details are provided in Confidential Appendix 3.

In the Commission's Order dated October 31, 2011, in Docket 11-035-T06 the Commission directed the Company to show how hedging gains and losses relate to the Schedule 37 rates. Hedging gains and losses are included as a fixed cost in the GRID studies used to calculate short-run avoided energy costs in the same manner as they are

included in general rate case proceedings. In the calculation of short-run avoided costs, natural gas hedging gains and losses allocated to gas-fired resources fluctuate to the extent plant dispatch is altered by the addition of the 10 megawatt zero cost resource.

2. *Long Run Avoided Costs*

During the resource deficiency period (2024 and beyond), avoided costs are the fixed and variable costs of a proxy resource that could be avoided or deferred. The current proxy resource is a combined cycle combustion turbine ("CCCT").[4]

Since CCCTs are assumed to be built as base load units that provide both capacity and energy under the Utah Schedule 37 methodology, it is appropriate to split the fixed costs of this unit into capacity and energy components. The fixed cost of a SCCT, which is assumed to be acquired as a capacity resource under the Utah Schedule 37 methodology, defines the portion of the fixed cost of the blended resource that is assigned to capacity. Consistent with the Commission Order in Docket No. 03-035-14, 50% of the fixed costs associated with the construction of the CCCT resource in excess of the fixed costs of a SCCT are assigned to energy and are added to the variable production (fuel) costs of the CCCT resource to determine the total avoided energy costs. **Table 3** shows the capitalized energy costs.

The fuel cost of the CCCT defines the avoided variable energy costs. The gas price forecast used as the basis for the CCCT fuel cost is discussed later in this document. **Table 4** shows the CCCT fuel cost, the addition of capitalized energy costs at an assumed 51.9%[5] capacity factor and the total avoided energy costs.

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[4] 423 MW CCCT Dry "J", Adv 1x1 - East Side Resource (5,050') as listed in the 2013 IRP. Fuel costs are from the Company's March 2013 Official Forward Price Curve.

[5] The 51.9% capacity factor is the combined energy weighted capacity factor of the CCCT Dry "J", Adv 1x1 resource (56%) and the CCCT Dry "J", Adv 1x1 duct firing (16%) included in the 2013 IRP. See Table 6.2 in the 2013 IRP.

Because energy generated by a qualifying facility may vary, the total avoided costs at 75%, 85% and 95% capacity factor are prepared to illustrate the impact of differing generation levels. This calculation is shown in **Table 5**.

Avoided energy costs can be differentiated between on-peak and off-peak periods. To make this calculation, the Company assumed that all capacity costs are incurred to meet on-peak load requirements. On an annual basis, approximately 57% of all hours are on-peak and 43% are off-peak. **Table 6** shows the calculation of on-peak and off-peak avoided energy prices.

For informational purposes, **Table 7** shows a comparison between the avoided costs currently in effect in Utah and the proposed avoided costs in this filing. The 20 year nominal levelized prices are calculated using a 6.882% discount rate.[6] The discount rate was updated from 7.154% in the prior filing to 6.882% as listed on page 164 of the 2013 IRP.

Table 8 shows the calculation of the total fixed costs and fuel costs of the CCCT and SCCT that are used in **Table 3** and **Table 4**. In this filing, the Company's next deferrable resource is a CCCT located on the east side of the Company's system. This result is consistent with the Company's addition of an east side CCCT in 2024 as modeled in the 2013 IRP. Costs and the payment factors are listed in Tables 6.1 and 6.2 of the 2013 IRP.

Price Forecast for Electricity and Natural Gas

The electricity and natural gas prices used in this filing are from the Company's Official Forward Price Curve dated March 29, 2013. Both the electricity and natural gas prices are inputs to the Company's GRID model in the calculation of the proposed avoided costs. **Table 9** shows the natural gas price used to calculate the fuel costs of the CCCT that is the proxy resource for the Long Run avoided costs, and **Table 10** shows the

[6] The discount rate equates to PacifiCorp's after-tax weighted cost of capital.

electricity prices at Mid-Columbia and Palo Verde that are used in the Company's avoided cost calculation on a heavy-load hour and light-load hour basis.

For the period from 2013 through April 2019, the official forward prices are based on the information from the market forward transactions. For the period from May 2019 through April 2020, the official forward prices are the average of market information and the long-term price forecast. For period beginning in May 2020 and beyond, the official forward prices are based on the long-term price forecast.