

**PACIFIC POWER
AVOIDED COST CALCULATION**

WASHINGTON - FEBRUARY 2012

The starting point for the avoided cost calculation is the load and resource balance developed for the Company's 2011 Integrated Resource Plan (IRP). It should be noted that many of the input assumptions for the IRP were fixed in December 2010, in order to enable filing of the IRP in March 2011. Due to the age of the input assumptions, some of the inputs have been updated for known changes for purposes of this avoided cost calculation. The avoided cost prices were also developed consistent with the west control area allocation methodology adopted for the Company in Docket No. UE-061546, Order 08.

Loads and Resources

The Company's November 2011 load forecast was used in the study.

Long-term sales and purchase contracts were updated to include information available as of mid-December 2011. These changes include the addition or revision of several long-term purchase contracts¹.

Table 1 presents the Company's west control area loads and resource balance. Table 1 shows an energy balance with a surplus of 507 aMW in 2012 declining to a surplus of 38 aMW in 2021. The winter peak has a capacity surplus of 43 MW in 2012 and a capacity deficit of over 400 MW in 2013 through 2021. The summer months have a capacity deficit in all years.

Avoided Cost Calculation

Based on the load and resource energy balance, the avoided cost calculation is separated into two distinct periods: (1) the Short Run – a period of resource sufficiency in which the avoided costs are based on the marginal production cost of existing resources plus the cost of purchasing winter capacity in the years when the winter season is capacity deficient; and (2) the Long Run – a resource deficit period in which new resources are required to provide both capacity and energy to meet the Company's resource requirements. Avoided costs during the deficit period are based on the cost of a combined cycle combustion turbine. The load and resource energy balances in the Company's west control area in Table 1 indicates resource sufficiency for all ten years, therefore, only Short Run avoided costs are included in the current filing.

¹ Additions and revisions to the long-term contracts portfolio include the termination of the Grant County 10 aMW purchase, and extension of the Seattle City Light Stateline contract .

Short Run Avoided Costs

The annual summary of load and resource balance is shown in **Table 1**, which indicates that the Company's west control area is resource sufficient in all five years. During periods of resource sufficiency, avoided energy costs are based on the displacement of purchased power and existing thermal resources calculated by the Company's production cost model, GRID. To calculate short-run avoided costs, two production cost studies are prepared using GRID. The only difference between the two studies is an assumed 50 aMW and zero cost resource. The 50 aMW resource is a proxy for qualifying facility generation. The avoided energy cost is the difference between the two studies. The outputs of the production cost model run are provided as **Table 2**.

Winter capacity costs in 2013 through 2021 are based on three-month capacity purchases. The annual value as shown in **Table 3** is one-fourth of the total fixed costs of a west side simple cycle combustion turbine (SCCT) as listed in the Company's 2011 IRP. Because energy generated by a qualifying facility may vary, avoided costs at 75%, 85% and 95% capacity factors are prepared to illustrate the impact of differing generation levels. This calculation is also shown in Table 3.

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 4** shows the calculation of on-peak and off-peak avoided energy prices.

For informational purposes, **Table 5** shows a comparison between the avoided costs currently in effect in Washington and the proposed avoided costs in this filing.

Table 6 shows the calculation of the total fixed costs of a SCCT that are used in Table 3.