

# Appendix 2

---

Explanation of Capacity Estimates  
2011 Utah Energy Efficiency and Peak  
Reduction Annual Report

Rocky Mountain Power

## **Load Management Programs**

### **Cool Keeper (Schedule 114)**

The kW savings of 129,143 (at generation) for the Cool Keeper program as reported in Table 2 on page 6 is the capacity value assumed to be available for curtailment through the program at the system coincident peak; however, this value is not necessarily the level of curtailment achieved. To achieve this level of curtailable load, the ambient temperature in Utah across the program control area must be equal to or exceed 97 degrees Fahrenheit. At this temperature and above, participating air conditioners are assumed to contribute their maximum load available for control. To calculate program curtailable load, the average verified load capacity of participating units is multiplied by the number of active control switches available during a control event to arrive at the reported kilowatt contributions. The kW value for the Cool Keeper program provided in this report is based on the annual cumulative number of control switches available during the reporting year multiplied by the previous year's per unit performance results.

### **Irrigation Load Control (Schedules 96 and 96A)**

The kW savings of 51,806 (at generation) for the irrigation load control programs as reported in Table 2 on page 6 is the capacity value assumed to be available for curtailment through the program at the system coincident peak. This value is calculated by aggregating the metered monthly demand of the participating irrigation pump sites (both scheduled and dispatchable). To achieve the reported value through a curtailment event, all participating pumps would need to be operating at capacity at the time of the curtailment event.

## **Energy Efficiency Programs**

The MW savings of 44.5 (at generation) for energy efficiency programs as reported in Table 1 on page 5 is not intended to represent the capacity contribution made available by energy efficiency acquisitions at the time of system coincident peak. The 44.5 MW value represents the summation of estimated MW values made available through the Company's business and residential energy efficiency programs; calculations for the business and residential programs differ. For the Company's business programs, the MW contributions are based on engineering estimates of capacity values for installed measures; project unique factors are individually calculated for custom projects while deemed factors are utilized for prescriptive measures. These calculations are based on actual installed measures in the reported year. For 2011, it is calculated that 20.1 MW of capacity contribution were made available through business program energy efficiency acquisitions. Specific hours during which business program measures contribute MW capacity is dependent upon several factors including specific business operations and general economic conditions.

For the residential programs, an energy to capacity factor is utilized to calculate the MW savings made available through these programs. The energy to capacity factor utilized in the calculation – 1.68 MW for each average MWh of energy efficiency acquired – is the same as the average load profile factor of energy efficiency resources selected in the 2011 IRP, i.e. the average peak contribution of the energy efficiency resource selections across all measures and sectors. The utilization of this factor in the MW calculation assumes that the energy efficiency resources acquired through the Company's residential programs have the same average load profile as

those energy efficiency resources selected in the 2011 IRP. Utilization of this factor in determining the MW contribution of energy efficiency programs for 2011 is detailed in the table below. As demonstrated, it is estimated that the residential energy efficiency program acquisitions in 2011 contribute 24.39 MW of capacity contribution. As with the business programs, when these savings occur on an hourly basis is dependent upon several factors including energy usage patterns of residential customers.

<b>Line</b>	<b>Description</b>	<b>Value</b>
1	First year EE program savings acquired in 2011	127,186
2	Average MWh value (line 1 / 8760 hours)	14.5
3	Energy to capacity factor	1.68
4	Peak MW contribution of 2011 EE acquisitions (line 2 X line 3)	<b>24.39</b>

Together, the 20.1 MW's estimated for the business programs and the 24.39 MW's estimated for residential programs make up the 44.5 MW savings value of energy efficiency programs reported in Table 1 on page 5 of this report.