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Form 6 – Demand Side Management Methodology Documentation

Program Background:

The Energy Storage (ES) program has consisted of installations of ice based Thermal Energy Storage Systems (TES) at Redding’s commercial customer facilities between 2005 and 2017. Installations of energy storage equipment provided a pathway to shift air conditioning load to off peak hours. As shown on Form 3.4, the energy storage program includes both dispatchable capacity, where REU specifies the control strategy of the energy storage equipment and nondispatchable capacity, where the customer controls the energy storage equipment.

The demand response values shown in Form 3.4 for dispatchable installations are based on the stipulated values shown below.

Demand Response Capacity

Demand Response Capacity (kW) based on HVAC System Capacity and Vintage					
Year of Connected Package Unit	Equipment Nominal Tonnage				
	3	3.5	4	5	6
2006+	5.5	6.5	7.4	9.2	11.0
1999-2005	6.7	7.8	8.9	11.2	13.4
1992-1998	7.2	8.4	9.6	12.0	14.5
1984-1991	7.3	8.5	9.8	12.2	14.8
Pre 1984	8.3	9.6	11.0	13.7	16.4

Nondispatchable installations are chiller based TES systems that provide optimized equipment utilization profiles resulting in load shifting capacity shown in Form 3.4. These values are based on custom engineering calculations.

Load Impacts:

Redding’s load forecast reflects the historical embedded use of the ES program and as such, they are not provided as separate inputs into the load forecast.