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Xcel Energy

Data Request No. 1-12

Docket No.: EL19-019

Response To: South Dakota Public Utilities Commission

Requestor: Eric Paulson

Date Received: September 4, 2019

Question:

Provide the annual kWh and kW savings for qualifying heat pump water heaters and explain how Xcel came up with those numbers.

Response:

The table below represents the annual kW and kWh for the 2020 program year depending upon the heating and cooling space conditioning sources of participating customers.

Measure	Annual Customer Savings per Unit (kWh)	Annual Customer Demand Savings per Unit (kW)
Medium Draw Heat Pump Water Heater - Refrigerant Based Cooling & Electric Resistance Heat (30-50 Gallon)	2,683	0.579
Medium Draw Heat Pump Water Heater - Refrigerant Based Cooling & ASHP Heat (30-50 Gallon)	3,559	0.575
Medium Draw Heat Pump Water Heater - Refrigerant Based Cooling & Natural Gas Heat (30-50 Gallon)	4,283	0.575
Medium Draw Heat Pump Water Heater - Non-Refrigerant Based Cooling & Electric Resistance Heat (30-50 Gallon)	2,594	0.483
Medium Draw Heat Pump Water Heater - Non-Refrigerant Based Cooling & ASHP Heat (30-50 Gallon)	3,498	0.482
Medium Draw Heat Pump Water Heater - Non-Refrigerant Based Cooling & Natural Gas Heat (30-50 Gallon)	4,218	0.482

In Attachment A to this response, we have provided further information on the deemed savings calculations and assumptions for each of these qualifying types of heat pump water heaters at the customer meter. For reference, the kW and kWh savings “at generator” in the 2020 Plan Water Heating benefit-cost analysis results represents the total customer kW and kWh savings from the program, adjusted for line losses.

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