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Xcel Energy Data Request No. 1-7
 Docket No.: EL19-019
 Response To: South Dakota Public Utilities Commission
 Requestor: Eric Paulson
 Date Received: September 4, 2019

Question:

Explain how participant costs were determined for the 2018 and 2020 benefit/cost models, including any calculations used.

Answer:

Participant costs in the 2018 and 2020 benefit/cost models include both Incremental Capital Costs and Incremental Operation & Maintenance Costs (“Incremental O&M”). Incremental Capital Costs are the difference in cost between energy efficient equipment or materials and equipment or materials meeting the minimum baseline level of efficiency.

Participant Incremental Capital Cost

$$= P - B$$

Where:

- P = Projected participant cost for purchase/installation of efficient option
- B = Projected purchase/installation cost for an option of baseline efficiency

For the 2020 Plan, the equation above is used to create deemed values used in the 2020 benefit/cost models for all participants. Projected costs for variables P and B are derived from market indicators, product/technology research, and data from participants in current Xcel Energy efficiency programs.

For the 2018 benefit/cost models, the Incremental Capital Costs that were provided in the originally filed 2018 Plan were used. These costs were created using the same general method described for the 2020 Plan. The only exception in the 2018 benefit/cost analysis was the Home Lighting program. Due to continued changes in the residential LED market, the Incremental Capital Cost of \$7.17 per bulb in the 2018 Modified Plan (filed in fall 2017) was no longer a reasonable approximation of

the incremental cost paid by participating customers in 2018.¹ Instead, a more current value of \$1.35 per bulb was calculated using 2018 LED purchase price data from participants in our Residential Lighting programs. This value was used as updated deemed value for participant costs in the 2018 benefit/cost analysis for this program.

Incremental O&M costs are the changes in operations and maintenance expenses as a result of the energy efficient improvement. They are calculated based upon projected energy savings impacts or other available data. For 2018, O&M costs were assumed to be \$0.00 for all programs except the Lighting Efficiency program. Each measure within the Lighting Efficiency program also includes a deemed assumption of the added natural gas required to heat a conditioned space due to the energy-efficient lighting equipment giving off less heat. The value of this added natural gas consumption is tracked as Incremental O&M Costs. For the 2020 Plan, in addition to Lighting Efficiency, the Residential Demand Response and Residential Water Heating programs also included measures with Incremental O&M costs or savings because of assumed changes in natural gas heating requirements associated with these measures (smart thermostats in Residential Demand Response and heat pump water heaters in Residential Water Heating).

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¹ Please see Data Request No. 3-1 in Docket EL18-023 for further information regarding incremental cost of lighting measures.