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Xcel Energy Data Request No. 1-3
Docket No.: EL23-013
Response To: South Dakota Public Utilities Commission
Requestor: Eric Paulson
Date Received: September 6, 2023

Question:

Provide the avoided energy, avoided generation, and avoided transmission and distribution cost schedules used in the 2022 and 2024 benefit/cost models.

Response:

The assumptions for 2022 align with our Minnesota 2021-2023 Triennial Plan.

We note the following sources of information for the 2022 benefit/cost models:

- **Capacity Cost (\$/kW-Year):** CT Cost Modeling in 2019 Minnesota IRP update - Includes capital (\$46.01) and O&M (\$3.86) escalated using a 2 percent rate, adjusted for reserve margin (1.75%), and with a fixed gas charge (\$0.00) added.
- **T&D Cost (\$/kW-Year):** value is based on a 2017 T&D study with a 2022 value of \$10.59 and escalation of 2.36 percent.
- **Marginal Energy System Load Weighted Average (\$/kWh):** Based off September 2019 assumptions from Resource Planning.

For the 2022 benefit/cost models, please see the table below for the avoided energy, avoided generation, and avoided transmission and distribution cost schedules.

2021-2023 MN/SD Avoided Cost Streams – Nominal Dollars

Year	Capacity Cost (\$/kW-Year)	T&D Cost (\$/kW-Year)	Marginal Energy System Load Weighted Average (\$/kWh)
2022	\$62.08	\$10.84	\$0.01582
2023	\$63.32	\$11.10	\$0.01858
2024	\$64.59	\$11.36	\$0.02299
2025	\$65.88	\$11.63	\$0.02586
2026	\$67.20	\$11.90	\$0.02761
2027	\$68.54	\$12.18	\$0.02722
2028	\$69.92	\$12.47	\$0.02787
2029	\$71.31	\$12.76	\$0.02849
2030	\$72.74	\$13.07	\$0.02809
2031	\$74.19	\$13.37	\$0.03029
2032	\$75.68	\$13.69	\$0.03033
2033	\$77.19	\$14.01	\$0.03220
2034	\$78.74	\$14.34	\$0.03464
2035	\$80.31	\$14.68	\$0.03707
2036	\$81.91	\$15.03	\$0.03950
2037	\$83.55	\$15.38	\$0.04194
2038	\$85.23	\$15.75	\$0.04437
2039	\$86.93	\$16.12	\$0.04680
2040	\$88.67	\$16.50	\$0.04923
2041	\$90.44	\$16.89	\$0.05166

The Company filed the Minnesota 2024-2026 Triennial Plan on June 29, 2023, but since that plan was filed after the South Dakota 2024 Plan the Company is using the last approved plan (The Minnesota 2021-2023 Triennial Plan) as the source of the South Dakota 2024 Avoided Costs.

We note the following sources of information for the 2024 benefit/cost models:

- **Capacity Cost (\$/kW-Year):** Combustion Turbine Cost Modeling in 2019 Minnesota IRP update - Includes capital (\$46.01) and O&M (\$3.86) escalated using a 2 percent rate, adjusted for reserve margin (1.75%), and with a fixed gas charge (\$0.00) added.
- **T&D Cost (\$/kW-Year):** value is based on a 2017 T&D study with a 2021 value of \$10.59 and escalation of 2.36 percent.
- **Marginal Energy System Load Weighted Average (\$/kWh):** Based off September 2019 assumptions from Resource Planning.

For the 2024 benefit/cost models, please see the table below for the avoided energy, avoided generation, and avoided transmission and distribution cost schedules.

2021-2023 MN/SD Avoided Cost Streams – Nominal Dollars

Year	Capacity Cost (\$/kW-Year)	T&D Cost (\$/kW-Year)	Marginal Energy System Load Weighted Average (\$/kWh)
2024	\$64.59	\$11.36	\$0.02299
2025	\$65.88	\$11.63	\$0.02586
2026	\$67.20	\$11.90	\$0.02761
2027	\$68.54	\$12.18	\$0.02722
2028	\$69.92	\$12.47	\$0.02787
2029	\$71.31	\$12.76	\$0.02849
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2038	\$85.23	\$15.75	\$0.04437
2039	\$86.93	\$16.12	\$0.04680
2040	\$88.67	\$16.50	\$0.04923
2041	\$90.44	\$16.89	\$0.05166
2042	\$92.25	\$17.29	\$0.05409
2043	\$94.10	\$17.69	\$0.05409

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