

TO: COMMISSIONERS AND ADVISORS
FROM: ERIC PAULSON AND KRISTEN EDWARDS (STAFF)
SUBJECT: EL22-010 STAFF MEMORANDUM
DATE: DECEMBER 1, 2022

STAFF MEMORANDUM

1.0 OVERVIEW

On April 29, 2022, Northern States Power Company, dba Xcel Energy (Xcel or Company), filed a Petition with the South Dakota Public Utilities Commission (Commission) requesting approval of the Company's 2021 Demand Side Management (DSM) Report, proposed DSM plan for 2023, revised DSM Cost Adjustment Factor for 2023 of \$0.000487/kWh, and associated tariff sheets. In response to Staff data request 1-1, filed on September 28, 2022, Xcel revised the proposed DSM Cost Adjustment Factor for 2023 to \$0.000479/kWh and provided updated tariff sheets.

This memo discusses Xcel's 2021 DSM plan performance and the Company's proposed DSM Plan for 2023. Ultimately, Staff recommends the Commission approve Xcel's requests based on the supporting information provided by the Company.

2.0 DISCUSSION

2.1 Report on 2021 DSM Plan Activities

In 2021, Xcel's DSM Plan was over budget, spending \$898,686 compared to the Commission approved budget of \$828,696.¹ Table 1 shows the 2021 approved budgets and the 2021 actual spending for each program. The actual costs for residential programs were 79% of the approved budget, the business programs were 133% of the approved budget, and the planning segment was 104% of the approved budget. In total, the Company spent 108% compared to the approved budget.

¹ 2021 Budget approved in Docket EL20-015

Table 1. 2021 Budgeted Expenses vs. Actuals			
	Budget	Actual	% of Budget
Residential Home Lighting	\$ 99,655	\$ 97,442	98%
Residential Demand Response	\$ 235,500	\$ 190,672	81%
Consumer Education	\$ 21,165	\$ 2,397	11%
Water Heating	\$ 12,900	\$ 300	2%
Total Residential	\$ 369,220	\$ 290,810	79%
Lighting Efficiency	\$ 414,226	\$ 562,736	136%
Business Saver's Switch	\$ 25,250	\$ 33,055	131%
Peak and Energy Control	\$ 10,000	\$ 1,651	17%
Total Business	\$ 449,476	\$ 597,442	133%
Planning Segment	\$ 10,000	\$ 10,434	104%
All Programs	\$ 828,696	\$ 898,686	108%

Table 2 provides the energy savings, demand savings, and participation results from the 2021 DSM plan as compared to the approved budget. Overall Xcel's DSM plan experienced more energy savings and demand savings than forecasted, mainly due to the significantly higher energy savings that occurred in the Residential Home Lighting and Business Lighting Efficiency programs. All measures, with the exception of water heating, exceeded the demand savings goals.

Table 2. 2021 Results									
	Energy Savings (Annual kWh)			Demand Savings (kW)			Participation		
	Budget	Actual	% of Budget	Budget	Actual	% of Budget	Budget	Actual	% of Budget
Residential Home Lighting	3,011,712	4,455,965	148%	413	603	146%	4,999	6,196	124%
Residential Demand Response	99,889	42,531	43%	817	889	109%	1,400	1,020	73%
Consumer Education	-	-	-	-	-	-	68,000	5,524	8%
Water Heating	71,574	3,820	5%	9	1	7%	21	1	5%
Total Residential	3,183,176	4,502,316	141%	1,239	1,493	120%	74,420	12,741	17%
Lighting Efficiency	5,181,197	6,097,503	118%	591	995	169%	591	110	19%
Business Saver's Switch	39	66	171%	28	48	167%	10	32	320%
Peak and Energy Control	345	515	149%	174	260	155%	1	2	200%
Total Business	5,181,582	6,098,084	118%	793	1,303	164%	602	144	24%
Planning Segment	-	-	-	-	-	-	-	-	-
All Programs	8,364,757	10,600,400	127%	2,032	2,796	138%	75,022	12,885	17%

The Residential Home Lighting program once again experienced strong participation during the year, resulting in Xcel far exceeding the energy savings, demand savings, and participation goals while remaining slightly under budget. Table 3 provides the average residential LED rebates proposed in the Company's previous DSM filing compared with the actual average rebates offered in 2021.

Measure Type	Proposed	Actual	Difference
A-line	\$ 1.07	\$ 0.81	\$ (0.26)
Specialty	\$ 1.54	\$ 1.18	\$ (0.36)
TLED	\$ 2.00	\$ 2.05	\$ 0.05

The Residential Demand Response program was under budget, with fewer participants than planned, energy savings below target, and demand savings slightly above the goal. Xcel explained² that the primary factor contributing to reduced participation and achievement for the Saver’s Switch portion of the Residential Demand Response program was the effect that the COVID-19 pandemic had on program delivery. These challenges included customer site accessibility issues, impacting the ability to install equipment, as well as supply chain disruptions that slowed down equipment orders. The AC Rewards portion of the program was launched in 2020, which is when the COVID-10 pandemic began. Supply chain disruptions and cancelled consumer education events greatly contributed to the slow start to the program.

The Residential Heat Pump Water Heater’s program spending was significantly less than the approved budget given there was only one participant for the second year in a row. Xcel believes the rebate amount compared to the high upfront cost of the technology partially contributed to the low participation. For the 2022 plan Xcel received approval to increase the incentive in an effort to increase participation. In the January 1, 2021, to August 31, 2021, time period one customer received the incentive. In the January 1, 2022, to August 31, 2022, time period two customers received the incentive.³ Xcel plans to continue working with manufacturers and retailers to offer qualifying products as well as reviewing target marketing campaigns to raise awareness about the program.⁴ Staff has no recommendations to revise the budget for the Heat Pump Water Heating program at this time, but if actual spend continues to come in significantly under budget a revision to the budget may be warranted.

Looking at the Business programs, the Business Lighting program had lower participation than projected but achieved high energy and demand savings while coming in over budget. The Company attributes these results to the successful installations of linear tubes, high bays, and troffer fixtures.

² Refer to Xcel’s Response to Staff Data Request 2-1.

³ Refer to Xcel’s Response to Staff Data Request 1-7.

⁴ Refer to Xcel’s Revised Response to Staff Data Request 2-3.

The Business Saver’s Switch had more participants than expected, which resulted in exceeding demand and energy savings goals and coming in over budget. The participants under this program had one control even in 2021 for 2 hours.

The Peak and Energy Control program saw one more participant than projected with demand and energy savings above the goals while spending was significantly under budget. The participants under this program had one control even in 2021 for 1 hour.

Overall, Xcel’s DSM Plan was cost-effective for the 2021 program year. All programs had Total Resource Cost (TRC) test results greater than 1.0. Table 4 provides a breakdown of the benefit/cost test results that occurred in 2021.

Table 4. 2021 Benefit/Cost Test Results				
	TRC	Utility	Participant	RIM
Residential Home Lighting	8.32	16.29	47.71	0.32
Residential Demand Response	3.45	3.81	18.67	0.99
Consumer Education	-	-	-	-
Water Heating	1.70	4.16	7.16	0.28
Total Residential	5.72	7.96	40.77	0.41
Lighting Efficiency	1.12	5.41	2.31	0.49
Business Saver's Switch	1.67	1.67	INF	1.19
Peak and Energy Control	75.62	75.62	INF	9.70
Total Business	1.16	5.40	2.32	0.52
Planning Segment	-	-	-	-
All Programs	1.68	6.17	4.17	0.47

In its Petition, Xcel requests the Commission approve a performance incentive of \$248,609 for 2021. The incentive is a fixed percentage (30%) of actual program expenses and capped at 30% of the approved budget. The purpose of the incentive is to cover lost margins Xcel incurs as a result of DSM Plan implementation. Staff reviewed Xcel’s 2021 DSM tracker account and 2021 DSM tracker account adjustment and determined the incentive was properly accounted for.

2.2 DSM Plan for 2023

2.2.1 Proposed Program Changes for 2023

Xcel proposes no changes to any of the existing DSM programs for the Residential or Business programs.

2.2.2 Proposed Budget for 2023

The proposed budget for 2023 is provided in Table 5

In total, Xcel proposes an increase of \$10,305 for its 2023 DSM Plan compared to 2022, amounts to approximately a 1% increase, with a majority of the increase coming in the Residential Home Lighting program. Business Lighting and Residential Demand Response budgets are less while Residential Home Lighting and Residential Water Heating are increasing. Based on forecasted participation and associated energy savings, Xcel estimates that all programs will be cost-effective in 2023, with an estimated overall TRC ratio of 2.00. Staff has no concerns with Xcel’s proposed budget for 2023.

Table 5. 2023 DSM Plan				
	2022	2023	YOY Change	TRC Ratio
Residential Home Lighting	\$ 101,933	\$ 131,615	29%	7.19
Residential Demand Response	\$ 243,500	\$ 230,000	-6%	1.79
Consumer Education	\$ 21,165	\$ 21,165	0%	-
Water Heating	\$ 10,250	\$ 10,900	6%	1.02
Total Residential	\$ 376,848	\$ 393,680	4%	3.75
Lighting Efficiency	\$ 399,900	\$ 393,373	-2%	1.45
Business Saver's Switch	\$ 25,250	\$ 25,250	0%	1.33
Peak and Energy Control	\$ 10,000	\$ 10,000	0%	4.39
Total Business	\$ 435,150	\$ 428,623	-1%	1.46
Planning Segment	\$ 10,000	\$ 10,000	0%	-
All Programs	\$ 821,998	\$ 832,303	1%	2.00

In addition, the fixed percentage incentive of 30 percent of actual spending with a cap set at 30 percent of the approved budget (\$249,691) is proposed to continue in 2023.

2.2.3 DSM Cost Adjustment Factor for 2023

In its original filing, Xcel proposed to decrease the DSM Cost Adjustment Factor to \$0.000487/kWh for 2023 from \$0.000554/kWh in 2022. In response to Staff Data Request 1-1, where Xcel updated its tracker account to factor in actual expenses and revenues recorded between the initial filing and Staff’s data request, Xcel identified that the rate should be revised to \$0.000479/kWh. Note that although the proposed 2023 budget is slightly higher than the 2022 budget, the proposed rate is slightly lower due to a forecasted over recovery in the DSM tracker account as of December 2022. Table 6 provides the estimated bill impacts of the proposed DSM cost adjustment factor for 2023.

Table 6: Bill Impacts of 2023 DSM Cost Adjustment Factor

Usage (kWh)	Prior Rates				New Rates				Amount of Bill Increase	Percent Increase
	Other Rates	Prior DSM Factor	Prior DSM	Prior Bill	Other Rates	New DSM Factor	New DSM	New Bill		
400	\$56.94	\$0.000554	\$0.22	\$57.16	\$56.94	\$0.000479	\$0.19	\$57.13	(0.03)	-0.05%
500	\$69.12	\$0.000554	\$0.28	\$69.40	\$69.12	\$0.000479	\$0.24	\$69.36	(0.04)	-0.06%
600	\$81.29	\$0.000554	\$0.33	\$81.62	\$81.29	\$0.000479	\$0.29	\$81.58	(0.04)	-0.05%
750	\$99.55	\$0.000554	\$0.42	\$99.97	\$99.55	\$0.000479	\$0.36	\$99.91	(0.06)	-0.06%
1000	\$129.98	\$0.000554	\$0.55	\$130.53	\$129.98	\$0.000479	\$0.48	\$130.46	(0.07)	-0.05%
2000	\$251.71	\$0.000554	\$1.11	\$252.82	\$251.71	\$0.000479	\$0.96	\$252.67	(0.15)	-0.06%

3.0 STAFF RECOMMENDATION

For Docket EL22-010, Staff makes the following recommendations:

- 1) The Commission approve Xcel’s 2021 DSM tracker account;
- 2) The Commission approve the performance incentive earned in 2021;
- 3) The Commission approve Xcel’s proposed DSM Plan for 2023; and
- 4) The Commission approve the 2023 DSM Cost Adjustment Factor of \$0.000479/kWh, with an effective date of January 1, 2023, and the associated tariff sheet.