

TO: COMMISSIONERS AND ADVISORS
FROM: ERIC PAULSON AND KRISTEN EDWARDS (STAFF)
SUBJECT: EL19-019 STAFF MEMORANDUM
DATE: DECEMBER 4, 2019

STAFF MEMORANDUM

1.0 OVERVIEW

On May 1, 2019, Northern States Power Company, dba Xcel Energy (Xcel), filed a Petition with the Commission requesting approval of the company’s 2018 Demand Side Management (DSM) Report, proposed DSM plan for 2020, revised DSM Cost Adjustment Factor for 2020 of \$0.000475/kWh, and associated tariff sheets. In response to a Staff data request 3-2, Xcel revised the proposed DSM Cost Adjustment Factor for 2020 to \$0.000477/kWh and provided updated tariff sheets.

Provided in this memo is a discussion on Xcel’s 2018 DSM plan performance and changes to the company’s proposed DSM Plan for 2020. Further, Staff provides a recommendation that the Commission approve Xcel’s requests based on the supporting information provided by the company.

2.0 DISCUSSION

2.1 Report on 2018 DSM Plan Activities

In 2018, Xcel came in slightly over budget, spending \$776,907 while a budget of \$774,408 was approved by the Commission. Table 1 shows the 2018 approved budgets and the 2018 actual spending for each program. The residential programs came in at 98% of the approved budget, the business programs came in at 101% of the approved budget, and the planning segment came in at 110% of the approved budget.

Table 1. 2018 Budgeted Expenses vs. Actuals			
	B	A	V
Residential Home Lighting	\$ 109,598	\$ 98,643	90%
Residential Saver's Switch	\$ 187,913	\$ 185,091	98%
Consumer Education	\$ 27,165	\$ 35,868	132%
Total Residential	\$ 324,676	\$ 319,602	98%
Lighting Efficiency	\$ 389,520	\$ 394,257	101%
Business Saver's Switch	\$ 37,213	\$ 44,850	121%
Peak and Energy Control	\$ 10,000	\$ 3,876	39%
Total Business	\$ 436,733	\$ 442,983	101%
Planning Segment	\$ 13,000	\$ 14,323	110%
All Programs	\$ 774,409	\$ 776,908	100%

Table 2 provides the energy savings, demand savings, and participation results from the 2018 DSM plan as compared to the approved budget. Overall Xcel’s DSM plan experienced more energy savings than forecasted, mainly due to the significantly higher energy savings that occurred in the Residential Home Lighting Program.

Table 2. 2018 Results									
	Energy Savings (Annual kWh)			Demand Savings (kW)			Participation		
	B	A	V	B	A	V	B	A	V
Residential Home Lighting	1,480,452	2,558,158	173%	162	282	174%	3,225	4,601	143%
Residential Saver’s Switch	1,486	1,391	94%	565	485	86%	770	637	83%
Consumer Education	0	0	-	0	0	-	68,000	79,218	116%
Total Residential	1,481,938	2,559,549	173%	727	767	105%	71,995	84,456	117%
Lighting Efficiency	3,913,384	3,497,612	89%	509	506	99%	325	134	41%
Business Saver’s Switch	108	129	119%	44	54	123%	12	10	83%
Peak and Energy Control	3,707	408	11%	102	11	11%	1	3	300%
Total Business	3,917,199	3,498,149	89%	655	571	87%	338	147	43%
Planning Segment	-	-	-	-	-	-	-	-	-
All Programs	5,399,137	6,057,698	112%	1,382	1,338	97%	72,333	84,603	117%

The residential lighting program experienced strong participation during the year, resulting in Xcel exceeding the energy savings goal while remaining under budget. Looking at the Business programs, the peak energy control program experienced significantly lower energy and demand savings than planned and was under budget. Xcel did not have any peak energy control events which explains why the energy and demand savings are so minimal.

Overall, Xcel’s DSM Plan was cost-effective for the 2018 program year. All programs had Total Resource Cost (TRC) test results greater than 1.0. Table 3 provides a breakdown of the benefit/cost test results that occurred in 2018. Staff notes that the Peak and Energy control program proved to be cost effective even though the program was under budget and experienced significantly less energy and demand savings than planned.

Table 3. 2018 Benefit/Cost Test Results				
	TRC	Utility	Participant	RIM
Residential Home Lighting	3.31	5.32	17.14	0.37
Residential Saver’s Switch	2.86	2.86	INF	0.83
Consumer Education	-	-	-	-
Total Residential	2.81	3.30	22.71	0.50
Lighting Efficiency	1.27	5.11	2.56	0.54
Business Saver’s Switch	1.30	1.30	INF	0.52
Peak and Energy Control	1.34	1.34	INF	0.11
Total Business	1.27	4.69	2.63	0.53
Planning Segment	-	-	-	-
All Programs	1.53	4.03	3.70	0.52

In its Petition, Xcel requests the Commission approve a performance incentive of \$232,322 for 2018. 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 2018 DSM tracker account and 2018 DSM tracker account adjustment and determined the incentive was properly accounted for.

2.2 DSM Plan for 2020

2.2.1 Proposed Program Changes for 2020

The proposed changes to Xcel's 2020 DSM program are to the residential and business lighting programs, which are as follows:

Residential Lighting:

1. Reduced LED bulb rebate;
2. Add new LED bulb – linear tube rebate;

Residential Saver's Switch:

1. Change name to Residential Demand Response;
2. Add AC rewards program;

Residential Water Heater: Add a new heat pump water heater rebate;

Business Lighting:

1. Reduced rebates for retrofit LED interior screw in fixture and LED Ref and Frz Cases;
2. Reduced rebates for new construction LED Ref and Frz Cases and LED Outdoor Canopy or Soffit lighting;
3. Eliminate rebates for various sensors;
4. Add a new retrofit Stairwell Fixture, sensors, LED Mogul Screw-base lamps, LED high bay fixtures, LED high bay retrofit kits;

New AC Rewards Program

Xcel discusses the new AC rewards program in more detail on pages 15 and 16 of the filing. The AC Rewards program allows residential customers the opportunity to implement a new load management program not currently offered to them. This program allows Xcel to control load, AC usage, at peak times. Customers do have the option to opt-out of a control event if need be but too many opt-outs may result in removal from the program. Customers on this program will need to have a qualifying

ENERGY STAR® connected thermostat. Customers will be responsible for purchasing a qualifying thermostat and an incentive to enroll is given to those with a qualifying thermostat. Customers who do not have a qualifying thermostat can receive discounts when purchasing a qualifying thermostat if they enroll in the program.

This program differs from the Saver's Switch program by only being applicable to AC units and is controlled by incremental changes in the thermostat. The Saver's Switch program remotely can control both the central AC and the electric water heaters. Saver's Switch program cycles the AC and/or water heat on and off.

Residential Heat Pump Water Heater Program

Xcel discusses the new Heat Pump Water Heaters program in more detail on pages 14 and 15 of the filing. This new program will be offered to both retrofit and new construction options. The company originally had proposed a rebate amount of \$400 for the purchase and installation of a qualifying water heater. In Attachment A in response to DR1-14 you can see at this level of rebate a payback period was less than one year. It was Staff's opinion that with that short of a payback period a \$400 rebate may be too high of a rebate. Through discussions with Xcel, Staff and Xcel were able to agree on a \$300 rebate. This allowed the payback period of upgrading water heaters to be .85-1.4 years depending on the water heating set up, see DR3-1. Staff felt like this would be an appropriate payback period to still incentivize customers to upgrade to a more efficient water heater while at the same time not just giving the customer an essentially "free" upgrade. Customers will still see a timely payback period and will still see significant savings over the life of the water heater with a \$300 rebate offered to them.

Staff has no concerns with the proposed program changes and new DSM programs. Reducing rebates as costs of energy efficient technologies fall over time is encouraged by Staff. Xcel states in their petition that the incremental costs related to LED technologies were updated in this filing to account for the continued cost decreases in LED technologies.

2.2.2 Proposed Budget for 2020

The proposed budget for 2020 is provided in Table 4. Xcel proposes a decrease of \$22,386 for its 2020 DSM Plan. This decrease is spread between the residential lighting program and consumer education program. Based on forecasted participation and associated energy savings, Xcel estimates that all programs will be cost-effective in 2020. Staff has no concerns with Xcel's proposed budget for 2020.

	2019	2020	YOY Change	TRC Ratio
Residential Home Lighting	\$ 93,412	\$ 96,756	4%	3.57
Residential Demand Response*	\$ 187,913	\$ 235,500	25%	2.82
Consumer Education	\$ 21,165	\$ 21,165	0%	-
Water Heating**	\$ -	\$ 12,900	-	1.37
Total Residential	\$ 302,490	\$ 366,321	21%	2.90
Lighting Efficiency	\$ 389,320	\$ 389,320	0%	1.20
Business Saver's Switch	\$ 37,213	\$ 25,250	-32%	1.23
Peak and Energy Control	\$ 10,000	\$ 10,000	0%	4.60
Total Business	\$ 436,533	\$ 424,570	-3%	1.21
Planning Segment	\$ 13,000	\$ 14,000	8%	-
All Programs	\$ 752,023	\$ 804,891	7%	1.61

*Formerly Residential Saver's Switch in 2019

**New for 2020

In addition, the fixed percentage incentive of 30 percent of actual spending with a cap set at 30 percent of the approved budget (\$241,467) is proposed to continue in 2020.

2.2.3 DSM Cost Adjustment Factor for 2020

In its original filing, Xcel proposed to increase the DSM Cost Adjustment Factor to \$0.000475/kWh for 2020. In response to Staff Data Request 3-2, where Xcel updated its tracker account to factor in actual expenses and revenues recorded between the initial filing and Staff's data request, and updated heat pump rebate amount, Xcel identified that the rate should be revised to \$0.000477/kWh. Table 5 provides the estimated bill impacts of the proposed DSM cost adjustment factor for 2020.

Table 5: Bill Impacts of 2020 DSM Cost Adjustment Factor

Usage (kWh)	Prior Rates				New Rates				Change in Bill	Percent Increase
	Other Rates	Prior DSM Factor	Prior DSM	Prior Bill	Other Rates	New DSM Factor	New DSM	New Bill		
400	\$52.90	\$0.000464	\$0.19	\$53.09	\$52.90	\$0.000477	\$0.19	\$53.09	0.00	0.00%
500	\$64.06	\$0.000464	\$0.23	\$64.29	\$64.06	\$0.000477	\$0.24	\$64.30	0.01	0.02%
600	\$75.22	\$0.000464	\$0.28	\$75.50	\$75.22	\$0.000477	\$0.29	\$75.51	0.01	0.01%
750	\$91.96	\$0.000464	\$0.35	\$92.31	\$91.96	\$0.000477	\$0.36	\$92.32	0.01	0.01%
1000	\$119.86	\$0.000464	\$0.46	\$120.32	\$119.86	\$0.000477	\$0.48	\$120.34	0.02	0.02%
2000	\$231.48	\$0.000464	\$0.93	\$232.41	\$231.48	\$0.000477	\$0.95	\$232.43	0.02	0.01%

3.0 STAFF RECOMMENDATION

For docket EL19-019, Staff makes the following recommendations:

- 1) The Commission approve Xcel's 2018 DSM tracker account;
- 2) The Commission approve the performance incentive earned in 2018;
- 3) The Commission approve Xcel's proposed DSM Plan for 2020; and
- 4) The Commission approve the 2020 DSM Cost Adjustment Factor of \$0.000477/kWh, with an effective date of January 1, 2020, and the associated tariff sheet.