

**TO:** COMMISSIONERS AND ADVISORS  
**FROM:** DARREN KEARNEY, LORENA REICHERT AND AMANDA REISS (STAFF)  
**SUBJECT:** EL17-019 STAFF MEMORANDUM  
**DATE:** DECEMBER 1, 2017

STAFF MEMORANDUM

**1.0 OVERVIEW**

On April 28, 2017, Northern States Power Company, dba Xcel Energy (Xcel), filed a Petition with the Commission requesting approval of the company’s 2016 Demand Side Management (DSM) Report, proposed DSM plan for 2018, revised DSM Cost Adjustment Factor for 2018 of \$0.000515/kWh, and associated tariff sheets. In response to a Staff data request, Xcel revised the proposed DSM Cost Adjustment Factor for 2018 to \$0.000510/kWh and provided updated tariff sheets.

Provided in this memo is a discussion on Xcel’s 2016 DSM plan performance and changes to the company’s proposed DSM Plan for 2018. 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 2016 DSM Plan Activities

In 2016, Xcel came in over budget where the company spent \$819,917 and a budget of \$775,041 was approved by the Commission. Table 1 shows the 2016 approved budgets and the 2016 actual spending for each program. The residential programs came in at 95% of the approved budget and the business programs came in at 114% of the approved budget.

<b>Table 1. 2016 Budgeted Expenses vs. Actuals</b>			
	B	A	V
Ground Source Heat Pump	\$ 25,050	\$ 16,940	68%
Residential Home Lighting	\$ 56,035	\$ 74,962	134%
Residential Saver’s Switch	\$181,650	\$ 168,133	93%
Consumer Education	\$ 27,165	\$ 15,243	56%
<b>Total Residential</b>	<b>\$289,900</b>	<b>\$ 275,278</b>	<b>95%</b>
Lighting Efficiency	\$433,191	\$ 485,750	112%
Business Saver’s Switch	\$ 30,950	\$ 48,239	156%
Peak and Energy Control	\$ 6,000	\$ 2,178	36%
<b>Total Business</b>	<b>\$470,141</b>	<b>\$ 536,167</b>	<b>114%</b>
<b>Planning Segment</b>	<b>\$ 15,000</b>	<b>\$ 8,472</b>	<b>56%</b>
<b>All Programs</b>	<b>\$ 775,041</b>	<b>\$ 819,917</b>	<b>106%</b>

Table 2 provides the energy savings, demand savings, and participation results from the 2016 DSM plan as compared to the approved budget. Overall Xcel's DSM plan experienced fewer energy savings than forecasted, mainly due to the lower energy savings that occurred in the Business Lighting Efficiency Program.

	Energy Savings (Annual kWh)			Demand Savings (kW)			Participation		
	B	A	V	B	A	V	B	A	V
Ground Source Heat Pump	102,398	68,269	67%	19	29	153%	12	11	92%
Residential Home Lighting	828,699	1,162,819	140%	108	144	133%	7,851	18,416	235%
Residential Saver's Switch	3,954	3,493	88%	502	431	86%	758	628	83%
Consumer Education	0	0	-	0	0	-	68,000	71,500	-
<b>Total Residential</b>	<b>935,051</b>	<b>1,234,581</b>	<b>132%</b>	<b>629</b>	<b>604</b>	<b>96%</b>	<b>76,621</b>	<b>90,555</b>	<b>118%</b>
Lighting Efficiency	8,367,645	3,493,233	42%	1,448	645	45%	2,565	183	7%
Business Saver's Switch	224	1,313	586%	30	176	587%	20	70	350%
Peak and Energy Control	2,612	5,815	223%	101	158	156%	1	1	100%
<b>Total Business</b>	<b>8,370,481</b>	<b>3,500,361</b>	<b>42%</b>	<b>1,579</b>	<b>979</b>	<b>62%</b>	<b>2,586</b>	<b>254</b>	<b>10%</b>
<b>Planning Segment</b>	-	-	-	-	-	-	-	-	-
<b>All Programs</b>	<b>9,305,532</b>	<b>4,734,942</b>	<b>51%</b>	<b>2,208</b>	<b>1,583</b>	<b>72%</b>	<b>79,207</b>	<b>90,809</b>	<b>115%</b>

The residential lighting program experienced strong participation during the year, resulting in Xcel exceeding the energy savings goal and budget. Looking at the Business programs, the lighting efficiency program experienced lower energy savings than planned while exceeding the budget. Xcel identifies in its Petition that the budget exceedance resulted from the company trying to make up energy savings since customers the measures rebated resulted in low energy savings.

Overall, Xcel's DSM Plan was cost-effective for the 2016 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 2016. Staff notes that the Business Lighting Program proved to be cost effective even though the program exceeded its budget and experienced less energy savings than planned.

	TRC	Utility	Participant	RIM
Ground Source Heat Pump	1.02	6.01	0.71	0.8
Residential Home Lighting	2.32	10.11	2.21	3.27
Residential Saver's Switch	3.6	3.6	-	0.71
Consumer Education	-	-	-	-
<b>Total Residential</b>	<b>2.37</b>	<b>5.32</b>	<b>2.99</b>	<b>0.83</b>
Lighting Efficiency	1.32	5.91	1.74	1.43
Business Saver's Switch	3.73	3.73	-	1.21
Peak and Energy Control	43.17	43.17	-	1
<b>Total Business</b>	<b>1.4</b>	<b>5.87</b>	<b>1.81</b>	<b>1.11</b>
<b>Planning Segment</b>	-	-	-	-
<b>All Programs</b>	<b>1.59</b>	<b>5.62</b>	<b>1.99</b>	<b>0.9</b>

In its Petition, Xcel requests the Commission approve a performance incentive of \$232,512 for 2016. 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 2016 DSM tracker account and 2017 DSM tracker account adjustment and determined the incentive was properly accounted for.

## 2.2 DSM Plan for 2018

### *2.2.1 Proposed Program Changes for 2018*

The only proposed changes to Xcel's 2018 DSM program for 2018 are to the residential and business lighting programs, which are as follows:

Residential Lighting: Removal of CFL incentives from the program

Business Lighting:

1. Changed 2018 technical assumptions for calculating energy savings to accurately reflect the hours of operation for certain measures;
2. Revised the forecasted participant calculation to better reflect measures adopted by customers;
3. Reduced rebates for outdoor canopy lighting, parking lot lighting, and troffers;
4. Added rebates for linear LED tube lighting; and
5. Increased rebates for certain LED lighting fixtures to drive adoption.

Staff has no concerns with the proposed program changes. Removal of CFLs from the residential lighting program makes sense as the market is now more readily adopting LEDs as the price of the LED bulbs continue to fall. Changes to the technical assumptions and participant calculation for the business lighting program brings the 2018 forecasted energy savings into alignment with what was experienced in 2016. Reducing rebates as costs of energy efficient technologies fall over time is encouraged by Staff. The addition of LED lighting technologies, such as the LED tube lighting, that are easy to install will help allow more customers to participate in the program. Finally, increasing rebates for certain LED lighting fixtures to help drive customer adoption is reasonable if the program remains cost effective.

### *2.2.2 Proposed Budget for 2018*

The proposed budget for 2018 is provided in Table 4. Xcel proposes an increase of \$23,784 for its 2018 DSM Plan. This increase is spread between the residential lighting program, residential savers switch program, and business savers switch program. Based

on forecasted participation and associated energy savings, Xcel estimates that all programs will be cost-effective in 2018. Staff has no concerns with Xcel’s proposed budget for 2018.

	2017	2018	YOY Change	TRC Ratio
Residential Home Lighting	\$ 97,340	\$ 109,598	13%	1.22
Residential Saver's Switch	\$181,650	\$ 187,913	3%	3.28
Consumer Education	\$ 27,165	\$ 27,165	0%	-
<b>Total Residential</b>	<b>\$306,155</b>	<b>\$ 324,676</b>	<b>6%</b>	<b>1.85</b>
Lighting Efficiency	\$389,520	\$ 389,520	0%	1.18
Business Saver's Switch	\$ 30,950	\$ 37,213	20%	1.28
Peak and Energy Control	\$ 10,000	\$ 10,000	0%	4.71
<b>Total Business</b>	<b>\$430,470</b>	<b>\$ 436,733</b>	<b>1%</b>	<b>1.2</b>
<b>Planning Segment</b>	<b>\$ 14,000</b>	<b>\$ 13,000</b>	<b>-7%</b>	<b>-</b>
<b>All Programs</b>	<b>\$750,625</b>	<b>\$ 774,409</b>	<b>3%</b>	<b>1.33</b>

In addition, the fixed percentage incentive of 30 percent of actual spending with a cap set at 30 percent of the approved budget (\$232,322) is proposed to continue in 2018.

*2.2.3 DSM Cost Adjustment Factor for 2018*

In its original filing, Xcel proposed to increase the DSM Cost Adjustment Factor to \$0.000515/kWh for 2018. In response to Staff Data Request 1-3, 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 \$0.000510/kWh. Table 5 provides the estimated bill impacts of the proposed DSM cost adjustment factor for 2018.

Table 5: Bill Impacts of 2018 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	\$49.81	0.000504	\$0.20	\$50.01	\$49.81	0.000510	\$0.20	\$50.01	\$0.00	0.00%
500	\$60.20	0.000504	\$0.25	\$60.45	\$60.20	0.000510	\$0.26	\$60.46	\$0.00	0.00%
600	\$70.58	0.000504	\$0.30	\$70.88	\$70.58	0.000510	\$0.31	\$70.89	\$0.00	0.01%
750	\$86.17	0.000504	\$0.38	\$86.55	\$86.17	0.000510	\$0.38	\$86.55	\$0.00	0.01%
1000	\$112.14	0.000504	\$0.50	\$112.64	\$112.14	0.000510	\$0.51	\$112.65	\$0.01	0.01%
2000	\$214.35	0.000504	\$1.01	\$215.36	\$214.35	0.000510	\$1.02	\$215.37	\$0.01	0.01%

**3.0 STAFF RECOMMENDATION**

For docket EL17-019, Staff makes the following recommendations:

- 1) The Commission approve Xcel's 2016 DSM tracker account;
- 2) The Commission approve the performance incentive earned in 2016;
- 3) The Commission approve Xcel's proposed DSM Plan for 2018; and
- 4) The Commission approves the 2018 DSM Cost Adjustment Factor of \$0.000510/kWh, with an effective date of January 1, 2018, and the associated tariff sheet.