

**TO:** COMMISSIONERS AND ADVISORS  
**FROM:** ERIC PAULSON AND KRISTEN EDWARDS (STAFF)  
**SUBJECT:** EL18-023 STAFF MEMORANDUM  
**DATE:** DECEMBER 5, 2018

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## STAFF MEMORANDUM

### 1.0 OVERVIEW

On May 1, 2018, Northern States Power Company, dba Xcel Energy (Xcel), filed a Petition with the Commission requesting approval of the company's 2017 Demand Side Management (DSM) Report, proposed DSM plan for 2019, revised DSM Cost Adjustment Factor for 2019 of \$0.000486/kWh, and associated tariff sheets. In response to a Staff data request, Xcel revised the proposed DSM Cost Adjustment Factor for 2019 to \$0.000464/kWh and provided updated tariff sheets.

Provided in this memo is a discussion on Xcel's 2017 DSM plan performance and changes to the company's proposed DSM Plan for 2019. 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 2017 DSM Plan Activities

In 2017, Xcel came in over budget where the company spent \$809,595 and a budget of \$750,625 was approved by the Commission. Table 1 shows the 2017 approved budgets and the 2017 actual spending for each program. The residential programs came in at 112% of the approved budget and the business programs came in at 106% of the approved budget. The ground source heat pump was discontinued in EL16-018 but one heat pump rebate was submitted and paid out in 2017.

	B	A	V
Ground Source Heat Pump	\$ -	\$ 3,000	-
Residential Home Lighting	\$ 97,340	\$ 111,733	115%
Residential Saver's Switch	\$ 181,650	\$ 196,635	108%
Consumer Education	\$ 27,165	\$ 32,233	119%
<b>Total Residential</b>	<b>\$ 306,155</b>	<b>\$ 343,600</b>	<b>112%</b>
Lighting Efficiency	\$ 389,520	\$ 417,589	107%
Business Saver's Switch	\$ 30,950	\$ 33,120	107%
Peak and Energy Control	\$ 10,000	\$ 3,911	39%
<b>Total Business</b>	<b>\$ 430,470</b>	<b>\$ 454,621</b>	<b>106%</b>
<b>Planning Segment</b>	<b>\$ 14,000</b>	<b>\$ 11,374</b>	<b>81%</b>
<b>All Programs</b>	<b>\$ 750,625</b>	<b>\$ 809,595</b>	<b>108%</b>

Table 2 provides the energy savings, demand savings, and participation results from the 2017 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.

	Energy Savings (Annual kWh)			Demand Savings (kW)			Participation		
	B	A	V	B	A	V	B	A	V
Ground Source Heat Pump	0	2,889	-	0	4	-	0	1	-
Residential Home Lighting	1,065,912	2,738,397	257%	112	288	257%	3,772	4,660	124%
Residential Saver's Switch	1,486	3,136	211%	565	1,089	193%	770	1,406	183%
Consumer Education	0	0	-	0	0	-	68,000	73,472	-
<b>Total Residential</b>	<b>1,067,398</b>	<b>2,744,422</b>	<b>257%</b>	<b>677</b>	<b>1,381</b>	<b>204%</b>	<b>72,542</b>	<b>79,539</b>	<b>110%</b>
Lighting Efficiency	4,192,955	3,291,040	78%	552	484	88%	2,410	11,700	485%
Business Saver's Switch	84	217	258%	34	92	271%	12	16	133%
Peak and Energy Control	3,707	11,825	319%	102	326	320%	1	4	400%
<b>Total Business</b>	<b>4,196,746</b>	<b>3,303,082</b>	<b>79%</b>	<b>688</b>	<b>902</b>	<b>131%</b>	<b>2,423</b>	<b>11,720</b>	<b>484%</b>
<b>Planning Segment</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>All Programs</b>	<b>5,264,145</b>	<b>6,047,504</b>	<b>115%</b>	<b>1,366</b>	<b>2,282</b>	<b>167%</b>	<b>74,965</b>	<b>91,259</b>	<b>122%</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. However, the lighting efficiency program was closer to the planned target in 2017 as compared to 2016 (42%). Xcel points out in the petition that the cost overruns for the lighting efficiency program are due to more customers participating in higher cost measures.

Overall, Xcel's DSM Plan was cost-effective for the 2017 program year. All programs had Total Resource Cost (TRC) test results greater than 1.0, except Ground Source Heat Pump which was removed from the DSM plan in 2016. Table 3 provides a breakdown of the benefit/cost test results that occurred in 2017. 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.

<b>Table 3. 2017 Benefit/Cost Test Results</b>				
	<b>TRC</b>	<b>Utility</b>	<b>Participant</b>	<b>RIM</b>
Ground Source Heat Pump	0.4	1.81	0.35	0.86
Residential Home Lighting	3.79	7.47	14.87	0.72
Residential Saver's Switch	5.27	5.27	INF	0.87
Consumer Education	-	-	-	-
<b>Total Residential</b>	<b>3.99</b>	<b>5.46</b>	<b>19.69</b>	<b>0.58</b>
Lighting Efficiency	1.09	4.55	1.78	0.63
Business Saver's Switch	2.63	2.63	INF	0.6
Peak and Energy Control	36.60	36.6	INF	2.29
<b>Total Business</b>	<b>1.18</b>	<b>4.68</b>	<b>1.89</b>	<b>0.66</b>
<b>Planning Segment</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>All Programs</b>	<b>1.71</b>	<b>4.95</b>	<b>3.37</b>	<b>0.62</b>

In its Petition, Xcel requests the Commission approve a performance incentive of \$225,188 for 2017. 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 2017 DSM tracker account and 2018 DSM tracker account adjustment and determined the incentive was properly accounted for.

## 2.2 DSM Plan for 2019

### *2.2.1 Proposed Program Changes for 2019*

The only proposed changes to Xcel's 2019 DSM program are to the residential and business lighting programs, which are as follows:

Residential Lighting: Reduced LED bulb rebate;

Business Lighting:

1. Reduced rebates for retrofit LED interior fixtures, LED exterior wall packs, and LED interior lamps;
2. Reduced rebates for new construction LED interior lamps and LED interior fixtures;
3. New rebate for retrofit LED high bay fixtures;

Staff has no concerns with the proposed program changes. 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 2019

The proposed budget for 2019 is provided in Table 4. Xcel proposes a decrease of \$22,386 for its 2019 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 2019. Staff has no concerns with Xcel’s proposed budget for 2019.

	<b>2018</b>	<b>2019</b>	<b>YOY Change</b>	<b>TRC Ratio</b>
Residential Home Lighting	\$ 109,598	\$ 93,412	-15%	1.91
Residential Saver's Switch	\$ 187,913	\$ 187,913	0%	3.24
Consumer Education	\$ 27,165	\$ 21,165	-22%	-
<b>Total Residential</b>	<b>\$ 324,676</b>	<b>\$ 302,490</b>	<b>-7%</b>	<b>2.43</b>
Lighting Efficiency	\$ 389,520	\$ 389,320	0%	1.16
Business Saver's Switch	\$ 37,213	\$ 37,213	0%	1.26
Peak and Energy Control	\$ 10,000	\$ 10,000	0%	4.66
<b>Total Business</b>	<b>\$ 436,733</b>	<b>\$ 436,533</b>	<b>0%</b>	<b>1.17</b>
<b>Planning Segment</b>	<b>\$ 13,000</b>	<b>\$ 13,000</b>	<b>0%</b>	<b>-</b>
<b>All Programs</b>	<b>\$ 774,409</b>	<b>\$ 752,023</b>	<b>-3%</b>	<b>1.36</b>

In addition, the fixed percentage incentive of 30 percent of actual spending with a cap set at 30 percent of the approved budget (\$225,607) is proposed to continue in 2019.

### 2.2.3 DSM Cost Adjustment Factor for 2019

In its original filing, Xcel proposed to decrease the DSM Cost Adjustment Factor to \$0.000486/kWh for 2019. In response to Staff Data Request 1-2, 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 \$0.000464/kWh. Table 5 provides the estimated bill impacts of the proposed DSM cost adjustment factor for 2019.

Table 5: Bill Impacts of 2019 DSM Cost Adjustment Factor

Usage (kWh)	Prior Rates				New Rates				Amount of Bill Decrease	Percent Decrease
	Other Rates	Prior DSM Factor	Prior DSM	Prior Bill	Other Rates	New DSM Factor	New DSM	New Bill		
400	\$53.41	\$0.000510	<b>\$0.20</b>	\$53.61	\$53.41	\$0.000464	<b>\$0.19</b>	\$53.60	(0.01)	-0.02%
500	\$64.71	\$0.000510	<b>\$0.26</b>	\$64.97	\$64.71	\$0.000464	<b>\$0.23</b>	\$64.94	(0.03)	-0.05%
600	\$76.00	\$0.000510	<b>\$0.31</b>	\$76.31	\$76.00	\$0.000464	<b>\$0.28</b>	\$76.28	(0.03)	-0.04%
750	\$92.93	\$0.000510	<b>\$0.38</b>	\$93.31	\$92.93	\$0.000464	<b>\$0.35</b>	\$93.28	(0.03)	-0.03%
1000	\$121.16	\$0.000510	<b>\$0.51</b>	\$121.67	\$121.16	\$0.000464	<b>\$0.46</b>	\$121.62	(0.05)	-0.04%
2000	\$234.07	\$0.000510	<b>\$1.02</b>	\$235.09	\$234.07	\$0.000464	<b>\$0.93</b>	\$235.00	(0.09)	-0.04%

### **3.0 STAFF RECOMMENDATION**

For docket EL18-023, Staff makes the following recommendations:

- 1) The Commission approve Xcel's 2017 DSM tracker account;
- 2) The Commission approve the performance incentive earned in 2017;
- 3) The Commission approve Xcel's proposed DSM Plan for 2019; and
- 4) The Commission approves the 2019 DSM Cost Adjustment Factor of \$0.000464/kWh, with an effective date of January 1, 2019, and the associated tariff sheet.