

**TO:** COMMISSIONERS AND ADVISORS  
**FROM:** DARREN KEARNEY AND AMANDA REISS (STAFF)  
**SUBJECT:** EL16-018 STAFF MEMORANDUM  
**DATE:** NOVEMBER 18, 2016

STAFF MEMORANDUM

**1.0 OVERVIEW**

On April 29, 2016, Northern States Power Company, dba Xcel Energy (Xcel), filed a Petition with the Commission requesting approval of the company’s 2015 Demand Side Management (DSM) Report, proposed DSM plan for 2017, revised DSM Cost Adjustment Factor for 2017 of \$0.000492/kWh, and customer bill message.

Provided in this memo is a discussion on Xcel’s 2015 DSM plan performance and changes to the company’s proposed DSM Plan for 2017. 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 2015 DSM Plan Activities

*2.1.1 Budgeted Expenses vs. Actual Expenses*

In 2015, Xcel came in over budget where the company spent \$844,973 and a budget of \$775,041 was approved by the Commission. Table 1 shows the 2015 approved budgets and the 2015 actual spending for each program. The residential programs were 91 percent over budget and the business programs were 42 percent under budget. Total program spending was 9 percent over budget.

<b>Table 1. 2015 Budgeted Expenses vs. Actuals</b>			
	B	A	V
Ground Source Heat Pump	\$ 25,050	\$ 14,361	-43%
Residential Home Lighting	\$ 56,035	\$ 204,700	265%
Residential Saver’s Switch	\$181,650	\$ 270,775	49%
Consumer Education	\$ 27,165	\$ 63,005	132%
<b>Total Residential</b>	<b>\$289,900</b>	<b>\$ 552,841</b>	<b>91%</b>
Lighting Efficiency	\$433,191	\$ 238,751	-45%
Business Saver’s Switch	\$ 30,950	\$ 28,556	-8%
Peak and Energy Control	\$ 6,000	\$ 4,708	-22%
<b>Total Business</b>	<b>\$470,141</b>	<b>\$ 272,015</b>	<b>-42%</b>
<b>Planning Segment</b>	<b>\$ 15,000</b>	<b>\$ 20,117</b>	<b>34%</b>
<b>All Programs</b>	<b>\$775,041</b>	<b>\$ 844,973</b>	<b>9%</b>

It should be noted that all residential programs, except for ground source heat pumps, experienced actual expenses well above the budgeted expenses. The increased expenses in the residential programs were offset by a lower actual spend in the business programs. The majority of budgeted dollars transferred from the business programs to the residential programs were from the business lighting program. Xcel identifies that the re-launch of the business lighting program in 2015 led to decreased participation in that program and this allowed for the company to redirect some of the program's budgeted dollars to the residential programs.

Xcel charges the same energy efficiency rate to both residential and business customers. Given this, preventing cross subsidization of customer classes is managed through the budget rather than through rates. With the large transfer of business program budgeted dollars to the residential programs, it is clear that cross-subsidization between customer classes occurred in 2015. That is, business customers subsidized residential customer's programs. In response to Staff's Data Request 1-20, Xcel identifies that allowing the transfer of dollars between customer classes provides flexibility for the company to match market needs. The company also noted that the opposite situation occurred in 2013, where residential program dollars were transferred to the business programs.

Staff understands that minimizing cross-subsidization is important for Xcel's customers and also understands that energy efficiency program budget flexibility is important for driving energy savings. Therefore, Staff would like the Commission to discuss this issue and provides the following questions to facilitate discussion:

- 1) Is the Commission comfortable with cross-subsidization in energy efficiency programs?
- 2) If not, should cross subsidization be controlled through separate energy efficiency cost recovery factors for residential customers and business customers? Or, should the transfer of budget dollars between customer classes be disallowed in the future?

### *2.1.2 2015 Program Results*

Table 2 provides the energy savings, demand savings, and participation results from the 2015 DSM plan as compared to the approved budget. Overall Xcel's DSM plan experienced fewer energy savings than forecasted as a result of less participation in the business lighting program. As stated above, the low participation in the business lighting program was due to the re-launch of the program in 2015. The residential lighting program actual energy savings was 248 percent greater than forecasted. These energy savings were driven by increased participation and transferring budgeted dollars from the business lighting program to meet the participation levels.

	Energy Savings (Annual kWh)			Demand Savings (kW)			Participation		
	B	A	V	B	A	V	B	A	V
Ground Source Heat Pump	102,398	44,799	-56%	19	26	37%	12	9	-25%
Residential Home Lighting	799,473	2,727,345	241%	104	338	225%	7,129	38,919	446%
Residential Saver's Switch	3,954	5,877	49%	502	726	45%	758	1,024	35%
Consumer Education	0	-	-	0	-	-	68,000	93,056	-
<b>Total Residential</b>	<b>905,825</b>	<b>2,778,021</b>	<b>207%</b>	<b>625</b>	<b>1,090</b>	<b>74%</b>	<b>75,899</b>	<b>133,008</b>	<b>75%</b>
Lighting Efficiency	5,177,006	1,687,744	-67%	964	312	-68%	304	99	-67%
Business Saver's Switch	224	407	82%	30	55	83%	20	7	-65%
Peak and Energy Control	2,612	43,889	1580%	101	797	689%	1	9	800%
<b>Total Business</b>	<b>5,179,842</b>	<b>1,732,040</b>	<b>-67%</b>	<b>1,095</b>	<b>1,164</b>	<b>6%</b>	<b>325</b>	<b>115</b>	<b>-65%</b>
<b>Planning Segment</b>	-	-	-	-	-	-	-	-	-
<b>All Programs</b>	<b>6,085,667</b>	<b>4,510,061</b>	<b>-26%</b>	<b>1,720</b>	<b>2,254</b>	<b>31%</b>	<b>76,224</b>	<b>133,123</b>	<b>75%</b>

### 2.1.3 2015 Benefit/Cost Test Results

Overall, Xcel's DSM Plan was cost-effective for the 2015 program year. All programs, except for Ground Source Heat Pumps, 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 2015. Regarding Ground Source Heat Pumps, the TRC test score for 2015 aligned with past TRC test scores. However, the score was less than the estimated score of 0.94 in docket EL14-040.<sup>1</sup> For the business lighting program, the program was cost-effective in 2015 with a TRC score of 1.02 (even with less participation than expected). The participation levels in the business lighting program did drive down the TRC score from the forecasted TRC score of 2.19 identified in docket EL14-040.

	TRC	Utility	Participant	RIM
Ground Source Heat Pump	0.62	3.11	0.85	0.66
Residential Home Lighting	2.48	6.5	7.89	0.43
Residential Saver's Switch	2.67	2.67	-	1.01
Consumer Education	-	-	-	-
<b>Total Residential</b>	<b>2.21</b>	<b>3.79</b>	<b>7.67</b>	<b>0.53</b>
Lighting Efficiency	1.02	4.01	1.36	0.77
Business Saver's Switch	1.93	1.93	-	1.59
Peak and Energy Control	72.36	72.36	-	2.35
<b>Total Business</b>	<b>1.33</b>	<b>4.98</b>	<b>1.52</b>	<b>0.95</b>
<b>Planning Segment</b>	-	-	-	-
<b>All Programs</b>	<b>1.73</b>	<b>4.08</b>	<b>3.63</b>	<b>0.64</b>

### 2.1.4 2015 Performance Incentive

In its Petition, Xcel requests the Commission approve a performance incentive of \$232,512 for 2015. 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

<sup>1</sup> Docket EL 14-040 was the docket in which the Commission approved Xcel's 2015 DSM plan.

Xcel's 2015 DSM tracker account and 2016 DSM tracker account adjustment and determined the incentive was properly recovered.

## 2.2 DSM Plan for 2017

### *2.2.1 Proposed Program Changes for 2017*

Xcel does not propose any major modifications to its 2017 DSM plan. The company does plan to expand LED incentives for its residential home lighting program, while continuing to phase out CFL lighting.

### *2.2.2 Proposed Budget for 2017*

The proposed budget for 2017 is provided in Table 4. Xcel proposes a modest increase of \$684 for its 2017 DSM Plan. A budget increase of \$41,305 is proposed for the residential lighting program. This increase is offset by a proposed reduction of the business lighting program budget of \$43,671. Based on forecasted participation and associated energy savings, Xcel estimates that all programs (except for the ground source heat pump program) will be cost-effective in 2017. Staff has no concerns with Xcel's proposed budget for 2017.

	<b>2016</b>	<b>2017</b>	<b>YOY Change</b>	<b>TRC Ratio</b>
Ground Source Heat Pump	\$ 25,050	\$ 25,050	0%	0.64
Residential Home Lighting	\$ 56,035	\$ 97,340	74%	1.87
Residential Saver's Switch	\$181,650	\$ 181,650	0%	2.97
Consumer Education	\$ 27,165	\$ 27,165	0%	-
<b>Total Residential</b>	<b>\$289,900</b>	<b>\$ 331,205</b>	<b>14%</b>	<b>1.83</b>
Lighting Efficiency	\$433,191	\$ 389,520	-10%	1.27
Business Saver's Switch	\$ 30,950	\$ 30,950	0%	1.05
Peak and Energy Control	\$ 6,000	\$ 10,000	67%	4.17
<b>Total Business</b>	<b>\$470,141</b>	<b>\$ 430,470</b>	<b>-8%</b>	<b>1.28</b>
<b>Planning Segment</b>	<b>\$ 15,000</b>	<b>\$ 14,000</b>	<b>-7%</b>	<b>-</b>
<b>All Programs</b>	<b>\$775,041</b>	<b>\$ 775,675</b>	<b>0%</b>	<b>1.4</b>

In addition, the fixed percentage incentive of 30 percent of actual spending with a cap set at 30 percent of the approved budget (\$232,703) is proposed to continue in 2017.

### *2.2.3 DSM Cost Adjustment Factor for 2017*

In its original filing, Xcel proposed to increase the DSM Cost Adjustment Factor to \$0.000507/kWh for 2017. In response to Staff Data Request 1-9, 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 \$0.000492/kWh. Upon further review of the 2016 tracker account, it was found that

the forecasted 2016 performance incentive of \$232,703 was not fully accounted for. Including the entire amount of the 2016 performance incentive in the DSM Cost Adjustment Factor calculation for 2017 returns the rate to the originally proposed rate of \$0.000507/kWh. Staff finds that the rate of \$0.000507/kWh should be implemented for 2017. Table 5 provides the estimated bill impacts of the proposed DSM cost adjustment factor for 2017.

**Table 5: Bill Impacts of 2017 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	0.000448	<b>\$0.18</b>	\$49.99	\$49.81	0.000507	<b>\$0.20</b>	\$50.01	\$0.02	0.05%
500	\$60.20	0.000448	<b>\$0.22</b>	\$60.42	\$60.20	0.000507	<b>\$0.25</b>	\$60.45	\$0.03	0.05%
600	\$70.58	0.000448	<b>\$0.27</b>	\$70.85	\$70.58	0.000507	<b>\$0.30</b>	\$70.88	\$0.04	0.05%
750	\$86.17	0.000448	<b>\$0.34</b>	\$86.51	\$86.17	0.000507	<b>\$0.38</b>	\$86.55	\$0.04	0.05%
1000	\$112.14	0.000448	<b>\$0.45</b>	\$112.59	\$112.14	0.000507	<b>\$0.51</b>	\$112.65	\$0.06	0.05%
2000	\$214.35	0.000448	<b>\$0.90</b>	\$215.25	\$214.35	0.000507	<b>\$1.01</b>	\$215.36	\$0.12	0.05%

It should be noted that the proposed DSM Cost Adjustment Factor accounts for the recovery of the 2017 DSM Plan forecasted expenses, the 2017 forecasted Performance Incentive, and the forecasted carrying charges to be incurred each month.

### **3.0 STAFF RECOMMENDATION**

For docket EL16-018, Staff makes the following recommendations:

- 1) The Commission approve Xcel’s 2015 DSM tracker account;
- 2) The Commission approve the performance incentive of \$232,512 earned in 2015;
- 3) The Commission approve Xcel’s proposed DSM Plan for 2017;
- 4) The Commission approves the proposed budget for Xcel’s 2017 DSM Plan and the fixed percentage incentive to be set at 30% of actual expenses (with a cap set at 30% of the approved budget);
- 5) The Commission approves the 2017 DSM Cost Adjustment Factor of \$0.000507/kWh, with an effective date of January 1, 2017, and the associated tariff sheet; and
- 6) The Commission accept the customer bill onsert message as filed on April 29, 2016.

Staff also recommends that the Commission provide guidance on whether or not the DSM program should be amended to prevent future customer class cross-subsidization.