



SOUTH DAKOTA

Demand Side Management Plan

Update

Results for July 1, 2015 – September 30, 2016

November 18, 2016

Introduction

NorthWestern Energy's ("NorthWestern") South Dakota Demand Side Management ("DSM") Program Plan was approved by the South Dakota Public Utility Commission ("Commission") with its order issued on June 16, 2014 in Docket No. GE12-001. The two-year plan featured a program ramp-up period to allow the DSM program portfolio to become fully operational and the customer base to become better informed about program features and availability.

This report includes the cumulative activities completed during the July 1, 2015 through September 30, 2016 period. As background, NorthWestern provided an update to the Commission, including a revised plan for Year 2 (July 1, 2015 – June 30, 2016), in July, 2015 and committed to providing quarterly updates during Year 2. The Commission approved updated energy efficiency program tariffs and moving forward with the Year 2 Plan at its September 15, 2015 meeting (Docket No. GE15-002). NorthWestern requested an extension of the Year 2 Plan through December 31, 2016, which was approved by the Commission on June 23, 2016 (Docket No. GE16-002). The last report was provided for the period of July 1, 2015 – June 30, 2016. This report shows the Year 2 results through September 30, 2016 with the electric and natural gas savings and expenses broken out by quarter.

Also included with the filing of this report are the cost-effectiveness analysis workbooks of the program activities, applying the Program Administrator Cost ("PAC") test, the Total Resource Cost ("TRC") test, and Ratepayer Impact Measurement ("RIM") test.

The cumulative savings and expenditures of program activity through December 31, 2016 will be reported in March of 2017 once all invoices associated with the work completed through December have been processed and paid. In late October of 2016, following discussion with Commission staff, the electric rebate program offerings were suspended as the electric budget had been spent and NorthWestern was working to maintain costs within the 30% overage allowed by Commission Order. Customer responses to the Commercial electric rebate offerings drove the program expenditures above the approved budget.

The electric and natural gas program offerings have been introduced under the NorthWestern sub-brand of Efficiency Plus (“E+”). As provided in the updated Year 2 plan, current program offerings include the E+ Audits for the Home, lighting, insulation, and equipment rebates for existing homes and businesses, limited rebates for electric new construction for homes and businesses, and custom incentives for existing and new construction commercial projects.

The Total Year 2 budget with the approved extension is \$1,986,832. Expenditures through September 30, 2016 total \$1,314,067 for home energy audits, rebates, rebate implementation, travel, program start-up for the new offerings in Year 2, and advertising. However, expenditures lag results. Savings are reported based upon the activities invoiced but not all invoices are reflected in the expenditures for this reporting period since NorthWestern’s E+ program implementation contractor invoices NorthWestern after energy audits are completed and after rebates are paid to customers. NorthWestern has reported savings based on completed energy audits and rebates paid to NorthWestern’s customers by the E+ program implementation contractor through September 30, 2016. NorthWestern reports expenditures as actual spending as reflected in NorthWestern’s accounting system. This leads to the lag between reported energy savings and the costs to achieve those savings. Of the Year 2 budget, \$633,300 is assigned to rebates and \$653,140 to home energy audits. For the reporting period of July 1, 2015 – September 30, 2016, expenditures on rebates totaled \$479,248 and home energy audits totaled \$499,500.

July 1, 2015 – September 30, 2016 Results

Since July 1, 2015, customer participation in the Year 2 E+ programs resulted in 6,587,965 kilowatt hours (“kWh”) of electric savings and 19,194 dekatherms (“dKt”) of natural gas savings.

Customer satisfaction with the E+ Audit for the Home has been high as customers value learning more about how their homes use energy and actions they can take to manage energy use and, in some cases, improve the natural gas safety of their homes. A total of

781 E+ Audits for the Home have been completed since July 1, 2015 generating 225,721 kWh of electric and 3,005 dKt of natural gas savings.

Commercial electric program savings between July 1, 2015 and September 30, 2016 resulted in 6,322,158 kWh of savings, with the majority of these savings primarily driven through commercial lighting and commercial variable frequency drive (“VFD”) rebates for existing and new construction. High efficiency lighting and VFDs have shown to represent substantial energy-saving opportunities in the commercial electric sector and are applicable to many types of commercial facilities.

Residential lighting and residential electric offerings for both existing and new construction resulted in 40,087 kWh of savings during this reporting period. Additional details are provided in Table 1-1 and Table 2-1 below.

Commercial natural gas rebates during the July 1, 2015 – September 30, 2016 period brought 12,290 dKt of savings, with one customer’s project contributing 12,001 dKt. In the same timeframe, customer participation in the residential natural gas rebate program generated 3,899 dKt of savings, with majority of rebates given for high efficiency furnaces and programmable thermostats.

Custom incentives under the E+ Business Partners program for existing or new businesses often require months of planning and development. One project is estimated to be completed in the fourth quarter of 2016. The initial estimate on this project indicates a large amount of savings.

Between July 1, 2015 and September 30, 2016, the calculated annual savings associated with all E+ program offerings total 6,587,965 kWh of electricity and 19,194 dKt of natural gas.

Table 1-1 and Table 1-2 show the number of rebates paid in the electric and natural gas programs, respectively, for the period of July 1, 2015 – September 30, 2016. The tables also include the number of completed E+ Audits for the Home.

Table 1-1. Number of Electric Rebates by Program

South Dakota Electric DSM Programs	Rebates						
	Total	2015		2016			
		July thru Sept	Oct thru Dec	Jan thru Mar	Apr thru June	July thru Sept	Oct thru Dec
E+ Energy Audit ¹	781	85	195	175	166	160	-
E+ Business Partners Program	-	-	-	-	-	-	-
E+ Commercial Lighting Rebate Program	50	14	6	10	12	8	-
E+ Residential Lighting Program	12	5	4	-	-	3	-
E+ Residential NC Electric Rebate Program	1	-	-	-	1	-	-
E+ Residential EX Electric Rebate Program	27	2	-	4	14	7	-
E+ Commercial NC Electric Rebate Program	33	-	-	24	-	9	-
E+ Commercial EX Electric Rebate Program	66	10	22	5	2	27	-
Total	970	116	227	218	195	214	-

1. Total number of residential audits completed between July 1, 2015 and September 30, 2016. This total includes audits that save electricity only, natural gas only, and audits that save both electricity and natural gas.

Table 1-2. Number of Natural Gas Rebates by Program

South Dakota Natural Gas DSM Programs	Rebates						
	Total	2015		2016			
		July thru Sept	Oct thru Dec	Jan thru Mar	Apr thru June	July thru Sept	Oct thru Dec
E+ Energy Audit ¹	781	85	195	175	166	160	-
E+ Business Partners Program	-	-	-	-	-	-	-
E+ Residential EX Gas Rebate Program	303	38	40	109	78	38	-
E+ Commercial EX Gas Rebate Program	9	1	1	-	2	5	-
Total	1,093	124	236	284	246	203	-

1. Total number of residential audits completed between July 1, 2015 and through September 30, 2016. This total includes audits that save electricity only, natural gas only, and audits that save both electricity and natural gas.

Table 2-1 and Table 2-2 shows the electric savings and the natural gas savings by program, respectively, for the period of July 1, 2015 – September 30, 2016.

Table 2-1. Electric Savings by Program

South Dakota Electric DSM Programs	kWh						
	Total	2015		2016			
		July thru Sept	Oct thru Dec	Jan thru Mar	Apr thru June	July thru Sept	Oct thru Dec
E+ Energy Audit	225,721	21,521	46,351	55,935	56,285	45,629	-
E+ Business Partners Program	-	-	-	-	-	-	-
E+ Commercial Lighting Rebate Program	2,980,275	975,479	276,306	415,923	281,218	1,031,349	-
E+ Residential Lighting Programs	20,956	19,993	248	-	-	715	-
E+ Residential NC Electric Rebate Program	2,795	-	-	-	2,795	-	-
E+ Residential EX Electric Rebate Program	16,336	263	-	4,927	2,403	8,743	-
E+ Commercial NC Electric Rebate Program	175,179	-	-	138,665	-	36,514	-
E+ Commercial EX Electric Rebate Program	3,166,703	546,873	516,957	196,308	89,620	1,816,945	-
Total	6,587,965	1,564,129	839,862	811,758	423,321	2,939,895	-

Table 2-2. Natural Gas Savings by Program

South Dakota Natural Gas DSM Programs	dKt						
	Total	2015		2016			
		July thru Sept	Oct thru Dec	Jan thru Mar	Apr thru June	July thru Sept	Oct thru Dec
E+ Energy Audit	3,005	301	864	665	583	592	-
E+ Business Partners Program	-	-	-	-	-	-	-
E+ Residential EX Gas Rebate Program	3,899	415	632	1,381	968	503	-
E+ Commercial EX Gas Rebate Program	12,290	4	42	-	131	12,113	-
Total	19,194	720	1,538	2,046	1,682	13,208	-

July 1, 2015 – September 30, 2016 Cost Summary

NorthWestern incurred \$1,314,067 in costs between July 1, 2015 and September 30, 2016. As noted previously, expenses lag in comparison to savings. Tables 3-1 through 3-3 show a comparison of the Year 2 Budget to the expenditures for July 1, 2015 – September 30, 2016 cumulatively and broken out by electric and natural gas programs.

Table 3-1. Budget Compared to Expenditures Electric and Natural Gas

NorthWestern South Dakota DSM Program Budget (extension approved June 23, 2016) vs. Spending July 1, 2015 – Sept. 30, 2016								
Electric and Natural Gas								
	Electric and Natural Gas 2015-16 Budget (w/ Extension)	Electric and Natural Gas 2015-16 (07/01/15 through 09/30/16)	2015		2016			
			July thru Sept	Oct thru Dec	Jan thru Mar	Apr thru June	July thru Sept	Oct thru Dec
Contractor Expenses (DNV GL)								
Residential Audit Program								
Program Startup (contractor cost):								
Two vehicles (approximate, at cost)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RECAP & Database Development (T&M, not to exceed)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
In-home audits	\$ 653,140	\$ 499,500	\$ 54,240	\$ 124,433	\$ 111,671	\$ 105,928	\$ 103,228	\$ -
Program Subtotal	\$ 653,140	\$ 499,500	\$ 54,240	\$ 124,433	\$ 111,671	\$ 105,928	\$ 103,228	\$ -
Residential/Commercial Electric & Natural Gas Rebate Programs								
Program Startup (contractor cost)	\$ 11,692	\$ 11,026	\$ 1,232	\$ 729	\$ 1,172	\$ 7,821	\$ 72	\$ -
Outside Services:	\$ 413,150	\$ 308,497	\$ 32,469	\$ 61,000	\$ 70,342	\$ 74,635	\$ 70,051	\$ -
Program Subtotal	\$ 424,842	\$ 319,523	\$ 33,701	\$ 61,729	\$ 71,513	\$ 82,456	\$ 70,124	\$ -
Contractor Expenses (DNV GL) Total	\$ 1,077,982	\$ 819,024	\$ 87,941	\$ 186,162	\$ 183,184	\$ 188,384	\$ 173,351	\$ -
NorthWestern Energy Expenses								
Rebates	\$ 633,300	\$ 479,248	\$ 100,588	\$ 64,345	\$ 86,223	\$ 63,380	\$ 164,712	\$ -
Admin/non-labor (Travel, office supplies, etc.)	\$ 8,000	\$ 1,819	\$ 520	\$ 3	\$ -	\$ 7	\$ 1,289	\$ -
Advertising	\$ 267,550	\$ 13,975	\$ 5,945	\$ 2,598	\$ -	\$ 2,778	\$ 2,655	\$ -
NorthWestern Energy Expenses Total	\$ 908,850	\$ 495,043	\$ 107,053	\$ 66,945	\$ 86,223	\$ 66,166	\$ 168,656	\$ -
Totals	\$ 1,986,832	\$ 1,314,067	\$ 194,995	\$ 253,108	\$ 269,407	\$ 254,550	\$ 342,007	\$ -

Table 3-2. Budget Compared to Expenditures – Electric

NorthWestern South Dakota DSM Program Budget (extension approved June 23, 2016) vs. Spending July 1, 2015 – Sept. 30, 2016								
Electric								
	Electric 2015-16 Budget (w/ Extension)	Electric Spend 2015-16 (07/01/15 through 09/30/16)	2015		2016			
			July thru Sept	Oct thru Dec	Jan thru Mar	Apr thru June	July thru Sept	Oct thru Dec
Contractor Expenses (DNV GL)								
Residential Audit Program								
Program Startup (contractor cost):								
Two vehicles (approximate, at cost)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RECAP & Database Development (T&M, not to exceed)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
In-home audits	\$ 326,570	\$ 249,750	\$ 27,120	\$ 62,217	\$ 55,836	\$ 52,964	\$ 51,614	
Program Subtotal	\$ 326,570	\$ 249,750	\$ 27,120	\$ 62,217	\$ 55,836	\$ 52,964	\$ 51,614	\$ -
Residential/Commercial Electric & Natural Gas Rebate Programs								
Program Startup (contractor cost)	\$ 8,184	\$ 7,718	\$ 863	\$ 510	\$ 820	\$ 5,475	\$ 51	
Outside Services:	\$ 289,205	\$ 241,454	\$ 24,175	\$ 48,140	\$ 56,650	\$ 58,575	\$ 53,913	
Program Subtotal	\$ 297,389	\$ 249,172	\$ 25,038	\$ 48,650	\$ 57,470	\$ 64,050	\$ 53,964	\$ -
Contractor Expenses (DNV GL) Total	\$ 623,959	\$ 498,922	\$ 52,158	\$ 110,867	\$ 113,306	\$ 117,014	\$ 105,578	\$ -
NorthWestern Energy Expenses								
Rebates	\$ 537,970	\$ 391,214	\$ 96,743	\$ 61,429	\$ 73,702	\$ 52,215	\$ 107,125	
Admin/non-labor (Travel, office supplies, etc.)	\$ 4,000	\$ 929	\$ 279	\$ 2	\$ -	\$ 4	\$ 644	
Advertising	\$ 167,110	\$ 7,139	\$ 3,124	\$ 1,299	\$ -	\$ 1,389	\$ 1,327	
NorthWestern Energy Expenses Total	\$ 709,080	\$ 399,282	\$ 100,146	\$ 62,730	\$ 73,702	\$ 53,607	\$ 109,097	\$ -
Totals	\$ 1,333,039	\$ 898,204	\$ 152,304	\$ 173,597	\$ 187,008	\$ 170,621	\$ 214,675	\$ -

Table 3-3. Budget Compared to Expenditures – Natural Gas

NorthWestern South Dakota DSM Program Budget (extension approved June 23, 2016) vs. Spending July 1, 2015 – Sept. 30, 2016								
Natural Gas								
	Natural Gas 2015-16 Budget (w/ Extension)	Natural Gas Spend 2015-16 (07/01/15 through 09/30/16)	2015		2016			
			July thru Sept	Oct thru Dec	Jan thru Mar	Apr thru June	July thru Sept	Oct thru Dec
Contractor Expenses (DNV GL)								
Residential Audit Program								
Program Startup (contractor cost):								
Two vehicles (approximate, at cost)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RECAP & Database Development (T&M, not to exceed)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
In-home audits	\$ 326,570	\$ 249,750	\$ 27,120	\$ 62,217	\$ 55,836	\$ 52,964	\$ 51,614	
Program Subtotal	\$ 326,570	\$ 249,750	\$ 27,120	\$ 62,217	\$ 55,836	\$ 52,964	\$ 51,614	\$ -
Residential/Commercial Electric & Natural Gas Rebate Programs								
Program Startup (contractor cost)	\$ 3,508	\$ 3,308	\$ 370	\$ 219	\$ 352	\$ 2,346	\$ 22	
Outside Services:	\$ 123,945	\$ 67,043	\$ 8,293	\$ 12,860	\$ 13,692	\$ 16,060	\$ 16,138	
Program Subtotal	\$ 127,453	\$ 70,351	\$ 8,663	\$ 13,079	\$ 14,043	\$ 18,406	\$ 16,160	\$ -
Contractor Expenses (DNV GL) Total	\$ 454,023	\$ 320,101	\$ 35,783	\$ 75,295	\$ 69,879	\$ 71,370	\$ 67,774	\$ -
NorthWestern Energy Expenses								
Rebates	\$ 95,330	\$ 88,035	\$ 3,846	\$ 2,915	\$ 12,521	\$ 11,166	\$ 57,587	
Admin/non-labor (Travel, office supplies, etc.)	\$ 4,000	\$ 891	\$ 241	\$ 2	\$ -	\$ 4	\$ 644	
Advertising	\$ 100,441	\$ 6,836	\$ 2,821	\$ 1,299	\$ -	\$ 1,389	\$ 1,327	
NorthWestern Energy Expenses Total	\$ 199,771	\$ 95,762	\$ 6,908	\$ 4,216	\$ 12,521	\$ 12,558	\$ 59,559	\$ -
Totals	\$ 653,793	\$ 415,863	\$ 42,691	\$ 79,511	\$ 82,400	\$ 83,929	\$ 127,333	\$ -

Conclusion

NorthWestern is committed to providing a DSM program that helps customers to reduce energy usage while meeting the expectations of the Commission in realizing a cost-effective DSM portfolio of offerings. Through September 30, 2016, energy audits and electric rebates are in line with the extended Year 2 Plan. Natural gas rebates are still lagging, especially in the commercial sector. NorthWestern has worked to refocus outreach and has seen improving results in Year 2.

As noted in the introduction of this report and, as discussed in October 2016 with Commission staff, strong responses by commercial customers to the electric rebate program offerings led to the electric budget to be spent. In order to maintain costs within the 30% overage allowed by Commission Order, NorthWestern suspended the electric rebate offerings for the balance of 2016. Indications are that a number of commercial electric projects are developing for future savings which signals increased customer awareness and progress toward future participation. As noted in Year 1, results continue to be driven by a mix of the size of individual projects as well as the volume of projects.

The cumulative savings and expenditures of program activity through December 31, 2016 will be reported in March of 2017 once all invoices associated with the work completed through December have been processed and paid.

NorthWestern respectfully submits this update for the Year 2 extended DSM plan and budget for South Dakota customers.