

CHAPTER 3 DEMAND SIDE MANAGEMENT

DSM Acquisition Plan and Programs

DSM Goals

NorthWestern has recently contracted with Nexant Consulting Inc. (“Nexant”) for an updated Electric Efficiency Potential Assessment (“2016 Efficiency Assessment”) which will provide information as to the amount of remaining achievable, cost-effective electric DSM available in NorthWestern’s Montana service territory. The most recent Efficiency Assessment was conducted in 2009 and this value was estimated to be 84.3 aMW. Based on that value, NorthWestern established its annual DSM acquisition goal at the level of 6.0 aMW after an initial year target of 5.5 aMW. NorthWestern intends to continue implementing the annual goal of 6.0 aMW until a review of electric avoided costs resulting from this planning cycle can be completed and the 2016 Efficiency Assessment is available.

Electric avoided costs are a primary determinant of DSM cost-effectiveness. Therefore, eligible DSM measures, achievable cost-effective DSM potential, proper DSM Program rebate/incentive levels, and expenditure levels for various other DSM Program activities such as marketing and outreach must be evaluated against the most recent avoided costs. NorthWestern expects the results of the 2016 Efficiency Assessment based on new electric avoided costs from this planning cycle will be available to DSM planners in second quarter of 2016. The new avoided costs are expected to be lower than those applied in the previous planning cycle.

NorthWestern recognizes that the annual goal of 6.0 aMW is aggressive given lower

avoided costs and the federal legislative developments in the lighting sector that have reduced the contribution that energy efficient lighting can make to annual DSM results. Federal regulations relating to CFLs and other lighting technologies began phasing in over a three-year period starting January 1, 2012. NorthWestern started using halogen incandescent lamps as the baseline lamps beginning January 1, 2015. Despite these changes CFLs continue to be a cost-effective DSM measure and NorthWestern continues to incent customers to purchase and install the higher cost but more efficient CFLs.

In February 2015, NorthWestern contracted for a CFL lighting market study (Refer to Volume 2, Chapter 3) that was designed to help the Company better understand the current state of the market for energy efficient lighting products in Montana, with specific focus on awareness, installation, and saturation of CFLs in the residential sector for both general and specialty lighting. This study concluded that the residential CFL lighting market is not transformed and NorthWestern should continue to include CFLs in its programs through at least the 2015-2016 tracker period while continuing to monitor developments and changes in the market during the next few years. The study recommended continued evaluation of LEDs for future DSM offerings. CFLs and LEDs will be evaluated as part of the 2016 Efficiency Assessment.

NorthWestern has also continued its focus on acquiring energy efficiency in the commercial sector and has contracts in place with several firms for services in support of the E+ Business Partners Program, the E+ Commercial Lighting Rebate Program, the E+ Commercial Electric Rebate Program for New Construction, and the E+ Commercial Electric Rebate Program for Existing Facilities. The firms are:

- National Center for Appropriate Technology
- McKinstry Essention
- CTA Associates, Inc.

- Energy Resource Management, Inc.
- CLEAResult Consulting, Inc. (formerly Portland Energy Conservation, Inc.)
- Associated Construction Engineering, Inc.

These contractors are compensated by NorthWestern on a performance basis, with payment based on a percentage of the energy conservation resource value of each individual DSM project that is completed with the contractor's involvement. Each contractor is expected to deliver to NorthWestern a minimum estimated 0.25 aMW per year of incremental energy savings each year.

These contractors continue to be supported by a two- to three-member team of DNV GL (formerly KEMA, Inc.) employees who have responsibility for direct contact, face-to-face marketing of E+ Programs to commercial/small industrial customers in an effort to identify, qualify, and cultivate DSM projects for follow-up by DSM staff and the contractors listed above.

DSM Budget and Spending

The budget associated with the 2009 DSM Acquisition Plan was developed using the 2010 20-year levelized avoided cost of approximately \$70/MWh.¹ Annual spending estimates were based on a percentage of total resource value of the annual DSM target of 5.5-6.0 aMW at this level of avoided cost. NorthWestern on average has exceeded its annual DSM goal, and actual spending has been less than this budgeted amount as summarized in Table 3-1.

¹ The planning process culminating in the 2011 Electricity Supply Resource Procurement Plan produced a 20-year levelized electric avoided cost of approximately \$54/MWh for use in DSM planning and analysis; the 2013 Electricity Supply Resource Procurement Plan produced a 20-year levelized electric avoided cost of approximately \$44/MWh for use in DSM planning and analysis.

Table 3-1 DSM Acquisition Plan and Budget

NorthWestern DSM Acquisition Plan and Budget 2010-2029					
Plan Year	Tracker Year	Total (aMW) Acquisition Plan	Total (aMW) Acquisition Reported	Budget	Actual Spend
1	2010-2011	5.5	5.6	\$ 11,040,955	\$ 7,108,435
2	2011-2012	6.0	6.9	\$ 13,181,496	\$ 9,185,261
3	2012-2013	6.0	7.8	\$ 14,318,314	\$ 10,836,590
4	2013-2014	6.0	6.9	\$ 15,455,132	\$ 9,339,577
5	2014-2015	6.0	5.9	\$ 16,440,140	\$ 5,414,378
6	2015-2016	6.0		\$ 17,979,217	\$ -
7	2016-2017	6.0		\$ 19,518,294	\$ -
8	2017-2018	6.0		\$ 21,057,371	\$ -
9	2018-2019	6.0		\$ 22,596,448	\$ -
10	2019-2020	6.0		\$ 24,135,525	\$ -
11	2020-2021	6.0		\$ 25,884,476	\$ -
12	2021-2022	6.0		\$ 27,633,427	\$ -
13	2022-2023	6.0		\$ 29,382,378	\$ -
14	2023-2024	6.0		\$ 31,131,329	\$ -
15	2024-2025	0.8		\$ 4,334,800	\$ -
16	2025-2026	-		\$ -	\$ -
17	2026-2027	-		\$ -	\$ -
18	2027-2028	-		\$ -	\$ -
19	2028-2029	-		\$ -	\$ -
20	2029-2030	-		\$ -	\$ -
	Total	84.3	33.2	\$ 294,089,303	\$ 41,884,240

The upcoming review of electric avoided costs resulting from this planning cycle, the results of the 2016 Efficiency Assessment, and the effects of new avoided costs on remaining achievable cost-effective DSM potential, rebate/incentive levels, and other spending plans will necessarily include revisiting annual acquisition targets and budget levels and will likely require revision to the 2009 DSM Acquisition Plan. NorthWestern notes that a future DSM budget is a long-term estimate that may be used for long range resource planning. Each year as part of the annual electric tracker filing, NorthWestern

provides an updated short-term, next-year budget estimate for the immediately following tracker period. That one-year budget forecast is based on current year results and knowledge gained from past program operation and is likely to deviate from the values established in the long range budget forecast presented above, and as evidenced by the five years of data in the Actual Spend column of Table 3-1 above.

DSM Programs

NorthWestern continues to offer a variety of programs, services and resources to help our Montana customers to better manage energy costs. The following are electric DSM Programs funded through energy supply rates during the 2015-2016 tracker period:

- **E+ Home Lighting Rebate** – Rebates available to residential customers for ENERGY STAR® hard-wired CFL lighting fixtures and wall-switched replacement occupancy sensors in existing or new construction homes. This program also offers several other mechanisms to either distribute or encourage purchase and use of ENERGY STAR CFLs including: free CFL with mail-in home audits, in-store instant rebates with redeemed coupons, the Simple Steps Program which is a buy-down of CFL prices for residential customers at retailers through a regional campaign facilitated by the Bonneville Power Administration, and non-retailer special events (trade shows).
- **E+ Commercial Lighting Rebate Program** – Offers prescriptive and custom rebates for the replacement of less efficient lighting products with high efficiency technologies.
- **E+ Commercial Existing Electric Rebate Program** – Rebates are available to electric customers for qualifying electric measures.
- **E+ Commercial New Construction Electric Rebate Program** – Rebates are available to electric customers for qualifying electric measures.

- **E+ Business Partners Program** – Provides customized incentives to commercial and industrial customers for electric and natural gas conservation. Examples of projects include measures to improve lighting, heating, ventilating and cooling (“HVAC”) systems, refrigeration, air handling, and pumping systems. New and existing facilities are eligible.
- **Northwest Energy Efficiency Alliance (“NEEA”)** – NEEA is a regional non-profit organization supported by electric utilities, public benefits administrators, state governments, public interest groups, and energy efficiency industry representatives. Through regional leveraging, NEEA encourages “market transformation” or the development and adoption of energy efficient products and services in Montana, Washington, Idaho, and Oregon. NEEA’s regional market transformation activities target the residential, commercial, industrial and agricultural sectors.

Additional electric energy savings are produced from Universal System Benefits (“USB”) funded programs that will continue into the foreseeable future. The electric energy savings produced from these USB programs are counted toward annual DSM goals. The costs to operate these programs are not included in the energy supply resource planning process:

- **E+ Free Weatherization Program** – Provides insulation and other efficiency improvements at no cost to Low Income Energy Assistance Program (“LIEAP”) qualified space-heating customers of NorthWestern.
- **E+ Energy Audit for the Home** – Free onsite energy audit and mail-in survey audit.
- **E+ Energy Appraisal for Businesses** – Free onsite energy audit that focuses on identifying electric conservation opportunities for small commercial customers on NorthWestern’s electric distribution system. A report with recommendations

customized to the facility is provided. Some energy saving measures may be installed as appropriate.

- **E+ Irrigator Program** – Provides financial incentives for the installation of energy efficient electric conservation in irrigation systems.
- **Building Operator Certification** – Building Operator Certification is an international professional development program for managers and operating engineers of commercial and public facilities and is available to commercial customers in partnership with the Northwest Energy Efficiency Council.
- **E+ Renewable Energy Program** – Provides incentive funds to electric customers for qualifying small-scale solar photovoltaic, wind, and hydroelectric systems in Montana.

Additional information on these programs is available at NorthWestern’s web site at www.NorthWesternEnergy.com/Eplus.

Upon completion of the 2016 Efficiency Assessment, avoided cost changes, and subsequent review of all DSM Program measures, rebate levels and program designs, NorthWestern will adjust programs offered in the 2016-2017 tracker period accordingly.

DSM Program Costs & Lost Revenue Recovery

DSM Program costs have been included in annual electric tracker filings as a line item in the electric supply portfolio, and NorthWestern will continue this approach to seeking full cost recovery on an annual basis for this portion of the overall expenses associated with its electric supply DSM activity. Final Order No. 7375a issued by the MPSC in Docket No. D2014.6.53 terminated NorthWestern’s ability to recover cumulative and forecasted lost revenues through electric and natural gas supply rates effective December 1, 2015. Consequently, while NorthWestern recognizes the least-cost nature of DSM measures, they

must also be considered in the context of the future risk associated with program cost recovery by the utility.

The following DSM projects and topics are discussed in Volume 2, Chapter 3:

- Smart Grid Demonstration Project
- Battery Storage Project
- Behavior Based DSM, Time of Use (“TOU”), and Price Elasticity of Demand