MINNESOTA DEPARTMENT OF COMMERCE

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March 27, 2014

Burl W. Haar
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101-2147

RE: **Comments of the Minnesota Department of Commerce, Division of Energy Resources**
Docket No. ET9/RP-13-1104

Dear Dr. Haar:

Attached are the comments of the Minnesota Department of Commerce, Division of Energy Resources (the Department) in the following matter:

> Southern Minnesota Municipal Power Agency's (SMMPA) 2014-2028 Integrated Resource Plan.

The petition was filed on November 27, 2013. The petitioner is:

> Mark S. Mitchell
> Director of Operations and Chief Operating Officer
> Southern Minnesota Municipal Power Association
> 500 First Avenue SW
> Rochester, MN 55902-3303

The Department recommends that **the Commission accept SMMPA's integrated resource plan for planning purposes**. The Department's analytical team of John Kundert, Susan Peirce, Zac Ruzycki and myself is available to answer any questions the Minnesota Public Utilities Commission may have.

Sincerely,

/s/ CHRISTOPHER T. DAVIS
Rates Analyst

CTD/ja
Attachment

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

COMMENTS OF THE MINNESOTA DEPARTMENT OF COMMERCE, DIVISION OF ENERGY SERVICES

DOCKET NO. ET9/RP-13-1104

I. INTRODUCTION

A. OVERVIEW OF THE FILING

Minnesota Rules parts 7843.0100-7843.0600 require electric utilities to file proposed integrated resource plans (IRPs) every two years. The present filing covers the period of 2014 through 2028.

B. AGENCY BACKGROUND

Southern Minnesota Municipal Power Agency is a collectively owned electric generation and transmission agency with 18 member municipalities. SMMPA's main source of electricity is its 41 percent share of the 884 megawatt (MW) Sherco 3 coal generating unit located near Becker, Minnesota. Sherco 3 generates approximately 75 to 85 percent of SMMPA's energy. SMMPA also relies on the array of intermediate and peaking units of its members as key elements in the Agency's energy mix. In addition SMMPA has more than 110 MW of renewable resources.

C. SMMPA'S PLANNING PROCESS

1. SMMPA's IRP Planning Process

SMMPA used the following approach in its 2013 IRP planning process:

a. Forecasted SMMPA's energy and demand for years 2014 to 2028.[1]

b. Evaluated current resource capabilities including thermal, renewable, purchased power agreements, and demand side management (DSM) and subtracted member curtailments to determine future resource needs.

c. Selected Navigant Consulting to conduct a DSM technical potential screening to estimate technical, economic and market / achievable potential for the SMMPA system. Given that in the past, SMMPA's modeling had shown that all DSM would be chosen as cost-effective by its capacity expansion model, for this year, SMMPA included the maximum amount of economic DSM in its Aurora model and compared the cost of that plan to a plan without DSM.

d. Hired SAIC (formerly R.W. Beck) to determine technically viable supply-side resource options for consideration in SMMPA's plan, including capital and operating costs and performance characteristics for each potential resource, including:
   - Nuclear Power
   - Pulverized Coal (supercritical boiler technology)
   - Integrated Gasification Combined Cycle (IGCC)
   - Natural Gas Combined Cycle
   - Wind
   - Solar Photovoltaic
   - Biomass Technologies/Landfill Gas
   - Reciprocating Engines
   - Combustion Turbines
   - Short Term Capacity-Only Purchases

[1] SMMPA's forecasting approach and results are explained and discussed in Section Z below.

e. SMMPA input the following data into the AURORAxmp Electric Market Model[2] to model SMMPA's least-cost plan:

- Energy and peak demand forecast;
- Operating costs and characteristics of existing resources;
- Capital, O&M costs, and operating characteristics for supply-side options;
- Capital, O&M costs, and operating characteristics for demand-side option;
- Fuel prices for various fuel types and future escalations; and
- Externality and allowance costs for various pollutant emissions.

f. SMMPA's Aurora modeling included the following base case assumptions:

- 9.3 percent minimum installed capacity reserves;[3]
- Compliance with the Minnesota Renewable Energy Standard (RES); and
- DSM averaging 1.29 percent of retail sales over the 15-year planning period.[4]

g. SMMPA conducted scenario analysis which included different combinations of DSM savings, externality costs, gas costs, and location marginal prices (LMP), and

h. SMMPA also considered several contingencies, including sudden large load additions, failure or retirement of existing facilities, and increased competitive environment.

D. SMMPA'S PROPOSED RESOURCE PLAN

SMMPA's long-term proposed action plan is illustrated in Table 1 below.

[2] AURORA is a production cost model model using market fundamentals to forecast marginal prices in market zones over long-term planning horizons. Market economics are used to determine long-term resource potential under varying future conditions including fuel prices, available technologies, environmental constraints, and future demand forecasts.

[3] SMMPA states that the capacity accreditation for all generation resources in its modeling was updated to reflect current MISO UCAP process, which derates the capability of each generator based on their historical forced outage rate. The MISO reserve was 6.4 percent for 2013 and is 7.3 percent for 2014. For the instant IRP, SMMPA assumed a reserve requirement of 9.3 percent to allow for unforeseen changes in the MISO reserve requirements or individual generator forced outage rates over time.

[4] SMMPA incorporated DSM into its modeling by mapping the energy savings of all of the different types of conservation measures against a set of load shapes by sector and end-use to build a savings production shape that was subtracted from the Agency's load shape in AURORAOxmp.

Table 1: SMMPA's Proposed Resource Plan

Year	Peaking Purchase (MW)	Combustion Turbine (MW)	Wind (MW)	New DSM (Peak MW)
2014				1.0
2015				1.0
2016				1.0
2017				0.9
2018	30		2.5	1.1
2019	30		5	1.2
2020	20	50	7.5	1.5
2021	10		23	1.5
2022	10		23	1.6
2023	10		23	1.6
2024	10		23	1.6
2025	10		23	1.6
2026	10		23	1.5
2027	20		23	1.6
2028	20		23	1.5

Table 1 shows that the Company plans to purchase capacity beginning in 2018 and continuing through the rest of the planning period. In 2020 the Company plans to construct or purchase output from 50 MW of combustion turbines. The new wind capacity shown illustrates annual nameplate contributions.

II. DEPARTMENT ANALYSIS

The Department did not conduct a separate Strategist analysis of SMMPA's 2014-2028 IRP because, even though SMMPA's proposed plan includes addition of more resources, SMMPA's long-term needs were not substantial and SMMPA does not use Strategist. It would not have been a reasonable use of limited resources for the Department to undergo the time- consuming effort to recreate SMMPA's system given that the Agency does not use Strategist, and the Commission's role in this proceeding is advisory.

The Department's primary goal was to ensure that the Agency plans to procure enough resources to ensure that its system remains reliable. Maintaining reliability is important not just for SMMPA's customers, but for all of the region. Inadequate resources can lead to higher regional prices and to reliability problems for SMMPA's surrounding utilities. In particular, the Department reviewed:

a. SMMPA's forecast
b. SMMPA's estimate of its future needs
c. Whether SMMPA's proposed plan would provide a reliable system
d. SMMPA's DSM planning
e. SMMPA's compliance with the Minnesota Renewable Energy Standard (RES)
f. SMMPA's progress in meeting Minnesota's greenhouse gas reduction goal.

Overall, the Department concludes that SMMPA used a reasonable planning approach. SMMPA identified its resource needs in the short-term and long-term, and considered a wide range of potential resources for satisfying those needs. DSM was included in the base case (business as usual) at 1.3 percent of retail sales and SMMPA conducted an additional analysis considering energy savings of 1.5 percent. SMMPA considered a variety of different scenarios including resource and capital costs, and future escalations in costs due to the market, along with environmental regulations. In addition, SMMPA explored numerous contingencies that may cause significant effects to its members, member's customers, and their electricity bills. Given these facts, the Department reached its conclusion that SMMPA's overall approach is analytically sound and presented logically.

C. ASSESSMENT OF ENERGY AND DEMAND FORECAST

1. Overview

SMMPA forecasts its energy requirements for 2013-2028 in several steps. First, SMMPA forecasted the annual retail load served across its members using econometric forecasts of customer counts and average energy use for the residential, commercial, industrial, and other customer sectors using annual data created from monthly member records.

SMMPA then adjusted these estimates to account for the historical impact of DSM programs on the growth rates of electricity demand while allowing SMMPA to estimate savings of new DSM programs on future electricity demand growth. Next, SMMPA adjusted for distribution losses, which yields the total delivered energy requirements across all of SMMPA's members. The total delivered energy requirements are then allocated to the members based on separate econometric forecasts of total delivered energy requirements for each member. These individual forecasts are basically used to determine the ratio of SMMPA's total delivered energy requirements that each member represents.

Using an econometric forecast of load factor and the forecasted energy requirements for each member, SMMPA estimated the contribution to its summer peak from each member using monthly data. This result is SMMPA's estimate of its system coincident peak.

Finally, to develop an accurate picture of what resources SMMPA will need in the coming years, resources such as conservation measures, direct load control, interruptible load, the Western Area Power Administration (WAPA) capacity and energy allocations, and generation resources

located behind the wholesale meter are netted away from the total energy requirements. In addition, SMMPA has one member, Rochester Public Utilities (Rochester), which operates under a partial requirements arrangement with SMMPA whereby Rochester agrees to a Contract Rate of Delivery (CROD) of 216 MW. Under a CROD agreement, SMMPA serves load only up to the CROD value, with the local utility covering any excess demand. In addition to the existing contract with Rochester, another CROD is set to go into effect with Austin Utilities (Austin) in 2016 with the cap equal to Austin's 2015 coincident peak demand. To provide the most accurate forecast, any load growth for these members above the CROD must be removed from SMMPA's forecasts.

SMMPA's forecast used monthly historical utility system data provided by SMMPA's member utilities and load data maintained by SMMPA. This data includes retail billing data by customer class, system metered energy requirements, system metered peak demand, the timing of peak demand, curtailment data, DSM impacts, load-side generation, and WAPA entitlements. Further, SMMPA used historical and projected economic and demographic data provided by IHS Global Insight and Woods & Poole Economics. SMMPA used historical weather data from the National Oceanic and Atmospheric Administration (NOAA).

2. SMMPA's Forecast Results

SMMPA forecasted its energy requirements, as described above, from 2013-2028 using econometric models. SMMPA then adjusted these forecasts for the impacts of DSM and transmission losses. The results indicate that SMMPA expects energy needs to grow at an annual average rate of 2.6 percent from 2013-2022, and 2.4 percent from 2013-2028. In terms of Summer Peak Demand, SMMPA estimated growth rates similar to its energy requirements forecast. These forecasts are presented in Table 2 below. This forecast shows the expected energy demand for SMMPA's system using the above stated adjustments including DSM, SMMPA's CRODs, direct load control, interruptible load, the WAPA capacity and energy allocations, generation resources located behind the wholesale meter, and transmission losses. Without the inclusion of these adjustments growth averages 1.5 percent from 2013-2022, and 1.4 percent from 2013-2028.

Table 2: Adjusted Base Case Total Energy Requirement and Peak Demand

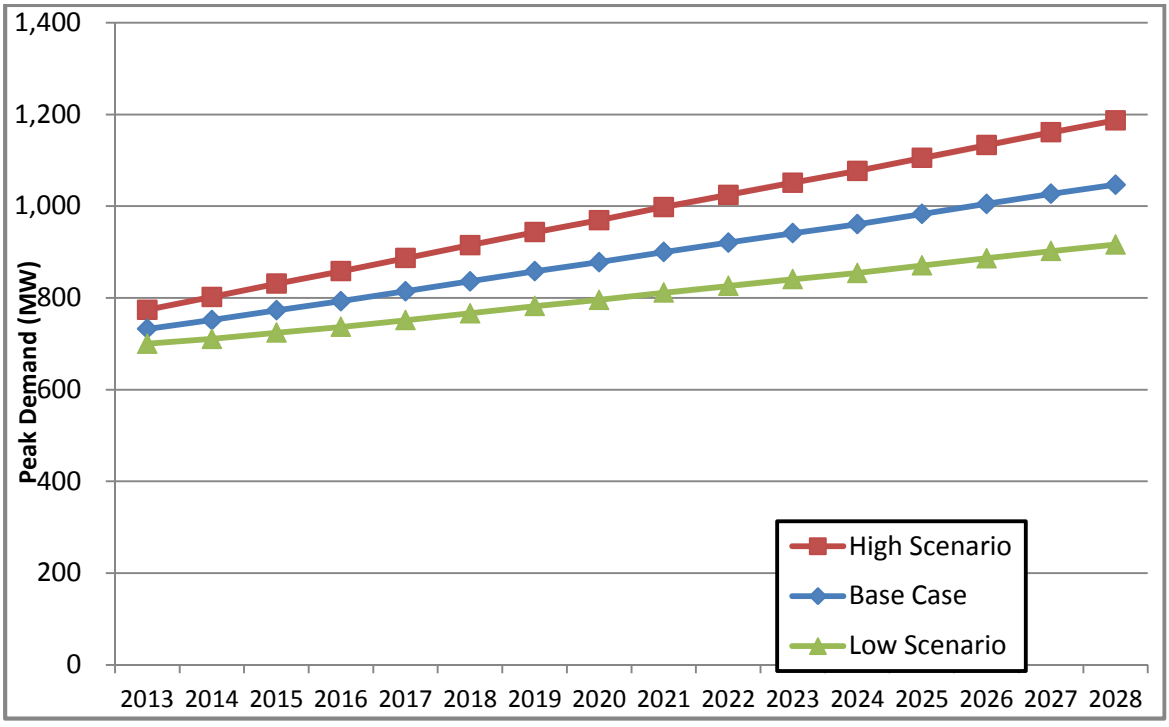
	Base Case (MWh)	High Growth Scenario (MWh)	Low Growth Scenario (MWh)	Summer Peak Demand (MW)
2013	3,280,744	3,452,724	3,108,689	732.5
2014	3,367,878	3,579,701	3,156,014	751.8
2015	3,461,546	3,709,241	3,213,962	773.1
2016	3,556,037	3,837,106	3,275,046	793
2017	3,635,342	3,946,737	3,324,109	814.6
2018	3,724,651	4,065,838	3,383,736	836.2
2019	3,822,137	4,192,806	3,451,870	858.1
2020	3,926,825	4,327,260	3,526,833	878.1
2021	4,019,239	4,447,441	3,591,459	900.1
2022	4,116,468	4,572,913	3,660,630	920.8
2023	4,211,847	4,695,975	3,728,266	941.2
2024	4,314,732	4,827,673	3,802,486	961
2025	4,402,714	4,942,018	3,864,176	983.3
2026	4,500,838	5,068,115	3,934,638	1005
2027	4,600,577	5,196,019	4,006,281	1026.9
2028	4,706,878	5,331,734	4,083,295	1047.1
Cumulative Avg. Growth Rates				
2013-2022	2.6%	3.2%	1.8%	2.6%
2013-2028	2.4%	2.9%	1.8%	2.4%

Beyond its base forecasts, SMMPA also took into account variations in its economic assumptions. SMMPA relied on statistics published by Woods & Poole on the variation from 1984 through 2009 of various economic projections from actual results, as such data was not available from IHS Global Insight. SMMPA developed ranges for these trends of economic activity and population that represented 90 percent of potential outcomes. Using these estimations, SMMPA adjusted the Base Case Assumptions through 2028 to develop High and Low Economic Scenarios as shown in Table 2. SMMPA used these new forecast scenarios to estimate new summer peak demand values for each case. Figure 1 below shows the range of adjusted Inlet to Member System (IMS)[5] peak demand forecasts using these values from Woods & Poole. Inclusion of these scenarios allows SMMPA to create contingencies in the resource

[5] Inlet to Member System (IMS) energy demand is the total energy production necessary by SMMPA to meet all member demand after accounting for transmission losses, DSM, and other Generation.

plan to allow SMMPA to react easily to different levels of growth and maintain its ability to serve its members.

Figure 1: Range of Adjusted IMS Peak Demand Forecasts



1. Department's Analysis and Recommendation

The Department concludes that SMMPA's energy and peak demand forecasts are satisfactory for planning purposes. The statistical model, input data, and the econometric models used are all reasonable.

D. RESOURCE NEEDS ASSESSMENT

Two principal reasons for integrated resource planning are to: 1) ensure that a utility will have adequate resources to cover future demand, and 2) will be able to do so in a cost-effective manner. The first objective is necessary to ensure that service is reliable for the utility's ultimate customers and to avoid negative effects on other utilities and their customers. SMMPA's resource needs are shown in Table IV-1 of SMMPA's filing (2014-2028 Base Forecast & Capability Prior to Resource Plan Information) and repeated in Table 3 below. Table 3 also shows SMMPA's resource needs after implementation of the Association's long-term plan.

Table 3: SMMPA's Estimated Resource Needs (Peak MW)*

Year	Prior to Resource Plan (MW)	After Resource Plan (MW)
2014	3.1	13.5
2015	-7.8	8.6
2016	-12.6	9.6
2017	-18.0	9.8
2018	-58.6	7.5
2019	-69.8	4.9
2020	-119.9	34.6
2021	-131.1	7.2
2022	-141.3	5.8
2023	-151.3	4.8
2024	-160.8	4.6
2025	-171.7	2.8
2026	-182.1	1.2
2027	-192.5	9.9
2028	-202.0	9.2

** A negative number indicates a capacity deficit*

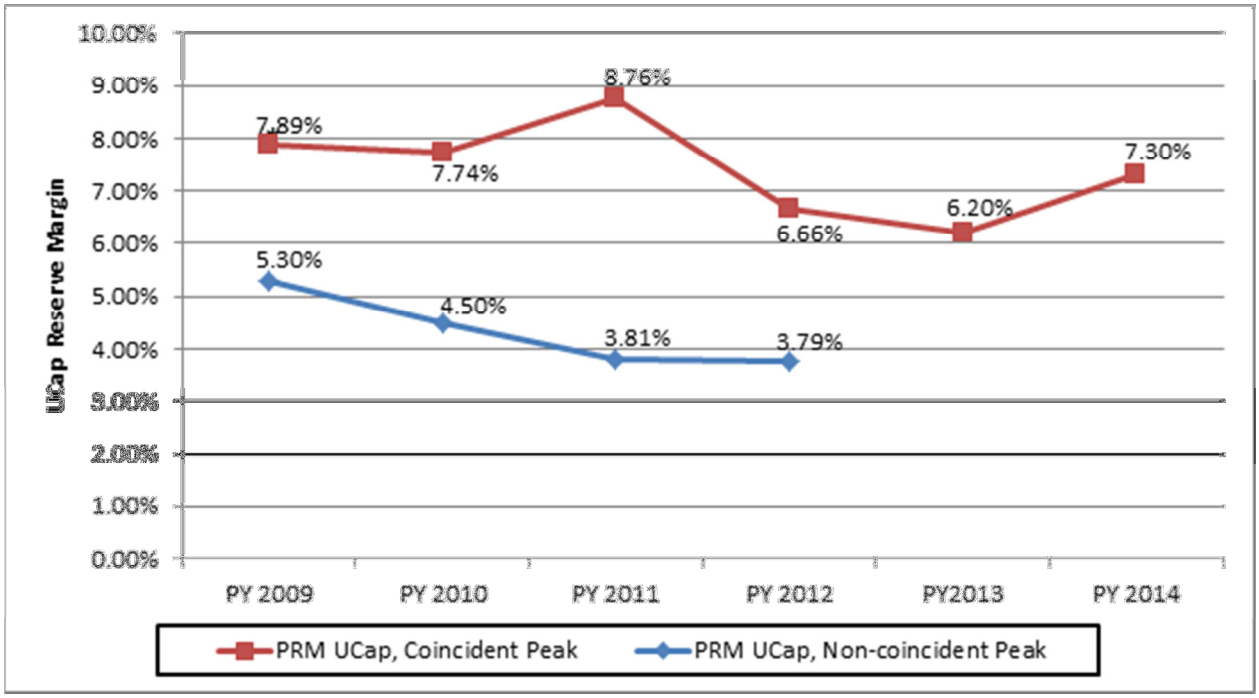
As can be seen, before adding resources, SMMPA projects a capacity deficit beginning in 2015 and has a capacity deficit of 202 MW by 2028. However, after implementing its long-term plan SMMPA would have no deficits throughout the planning period.

SMMPA's calculation of resource needs incorporated two important changes as compared to the Company's last IRP. First, SMMPA updated the capacity accreditation for all generation resources to reflect current MISO UCAP process as opposed to the previous MAPP URGE process. The MISO UCAP process derates the capability of each generator based on their historical forced outage rate.

MISO updates the capacity reserve requirement percentage annually. The MISO reserve requirement for planning year 2013 was 6.4 percent and increased to 7.3 percent for planning year 2014. SMMPA assumed a reserve requirement of 9.3 percent to allow for unforeseen changes in the MISO reserve requirements or individual generator forced outage rates over time. The Department agrees that this approach is reasonable, given current risks and uncertainty.

Figure 2 below shows the required reserve ratio as applied to the utility's own peak (non-coincident peak) and as applied to the utility's demand at the time of MISO's peak.

Figure 2: Changes in Required Reserve Ratios



The Department has been discussing internally what peak Minnesota utilities should plan for. Traditionally, the Department evaluated a utility's resource plant to ensure that the utility had adequate resources to cover its 50/50 system capacity forecast. Understandably, SMMPA incorporated changes MISO has implemented when calculating the value of its present resources and what its peak capacity needs are. However, the Department believes that the Commission should approve resource plans that ensure a reliable system. Planning for MISO's peak could result in adequate resources in the event that the assumed availability of regional resources and transmission are not available. Consequently, the Department believes it is reasonable also to examine what SMMPA's resource needs are assuming both the coincident and non-coincident peak demand. The Department asks that the Agency include in its reply comments:

- A calculation of SMMPA's annual capacity requirements based on its coincident peak demand and a reserve requirement of 7.3 percent, and

- A calculation of its resource needs based on the non-coincident (or system) peak rather than the coincident peak (or demand at time of MISO's peak).

The Department believes that these additional calculations will help inform the discussion that all parties should have with the Commission concerning planning for a reliable electric system.

F. DEMAND-SIDE MANAGEMENT

1. Introduction

One purpose of resource planning is to estimate the optimal amount of demand-side resources for meeting the Company's members' future needs. In the past, another factor used to assess the amount of DSM in a resource plan was whether it at least included the amount of energy and demand savings that would result from meeting the statutory spending requirements of the Conservation Improvement Program (CIP). The CIP statutes (Minn. Stat. §216B.2421) were changed in 2007; the statute now requires utilities to meet an energy-savings goal equal to 1.5 percent of a utility's retail sales.

In addition, Minn. Stat. §216B.2401 states:

> It is the energy policy of the state of Minnesota to achieve annual energy savings equal to 1.5 percent of annual retail energy sales of electricity and natural gas directly through energy conservation improvement programs and rate design, and indirectly through energy codes and appliance standards, programs designed to transform the market or change consumer behavior, energy savings…

In the Commission's Order accepting SMMPA's 2009 IRP, the MPUC ordered SMMPA to analyze energy savings equal to 1.5 percent of electric sales in its next filing.

2. Historical Performance

Since the creation of an energy savings goal through the 2007 Next Generation Energy Act, SMMPA's annual energy savings as a percent of total retail sales has increased significantly. From 2010 (the first year of an energy saving goal) to 2012, SMMPA averaged annual energy savings of 1.56 percent of total retail sales, as compared to energy savings approximating 0.87 percent in 2007, the year the new legislation was passed, SMMPA's historical DSM conservation savings are listed in Table 4 below.

Table 4: Historical DSM Conservation Impacts

	2006	2007	2008	2009	2010	2011	2012
Energy Savings (MWh)							
Residential	2,928	7,648	7,461	9,705	12,643	12,933	6,550
Non-residential	13,596	18,359	18,658	29,122	35,789	35,035	32,890
Total	16,524	26,008	26,119	38,827	48,431	47,969	39,441
Total Savings Percentage of Retail Sales[6]	0.56%	0.87%	0.88%	1.40%	1.69%	1.66%	1.38%
Demand Savings (non-behavioral) (kW)	6,856	10,515	10,144	13,173	14,609	14,173	11,560

SMMPA estimates its installed non-behavioral DSM conservation capacity to be approximately 76.4 MW.

3. DSM Modeling Approach

a. DSM Potential Study

SMMPA hired Navigant Consulting to estimate the technical, economic, and market potential of new DSM programs for SMMPA's members. The study evaluated a total of 65 residential measures, 81 commercial measures, and 46 industrial measures; it also accounts for changes in energy codes and for re-participation of customers in energy savings programs after the useful lifespan of conservation projects. The study's detailed findings are in Appendix A of SMMPA's IRP. The cumulative technical and economic potential energy savings levels, shown in the replicated Figure 3 below, illustrate significant opportunities for DSM by SMMPA's members.

[6] The savings percentage of retail sales is different from SMMPA's CIP savings percentages because CIP achievements are measured as a percentage three year weather-normalized sales. SMMPA's CIP savings percentages are listed in table XII-1 in its IRP.

Figure 3. Technical, Economic, and the Cumulative Base and 1.5% Scenario Market Energy Potential for All SMMPA Members (MWh)

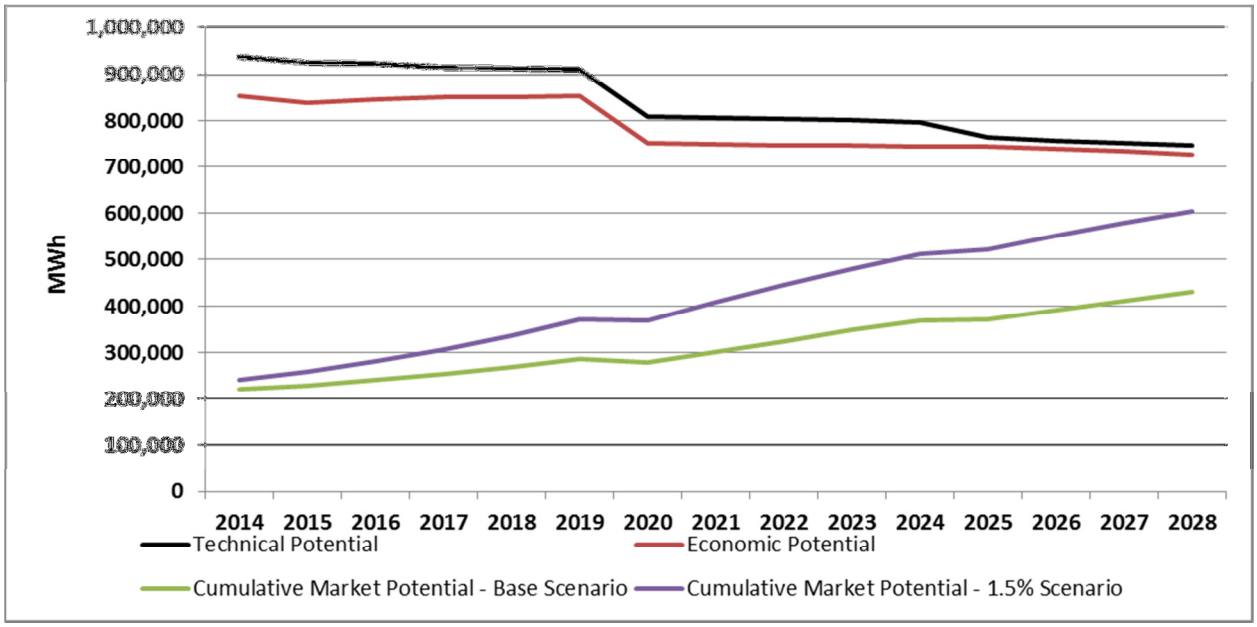


Figure 4 below shows SMMPA's incremental annual market potential by segment.

Figure 4: Incremental Annual DSM Market Potential (MWh)

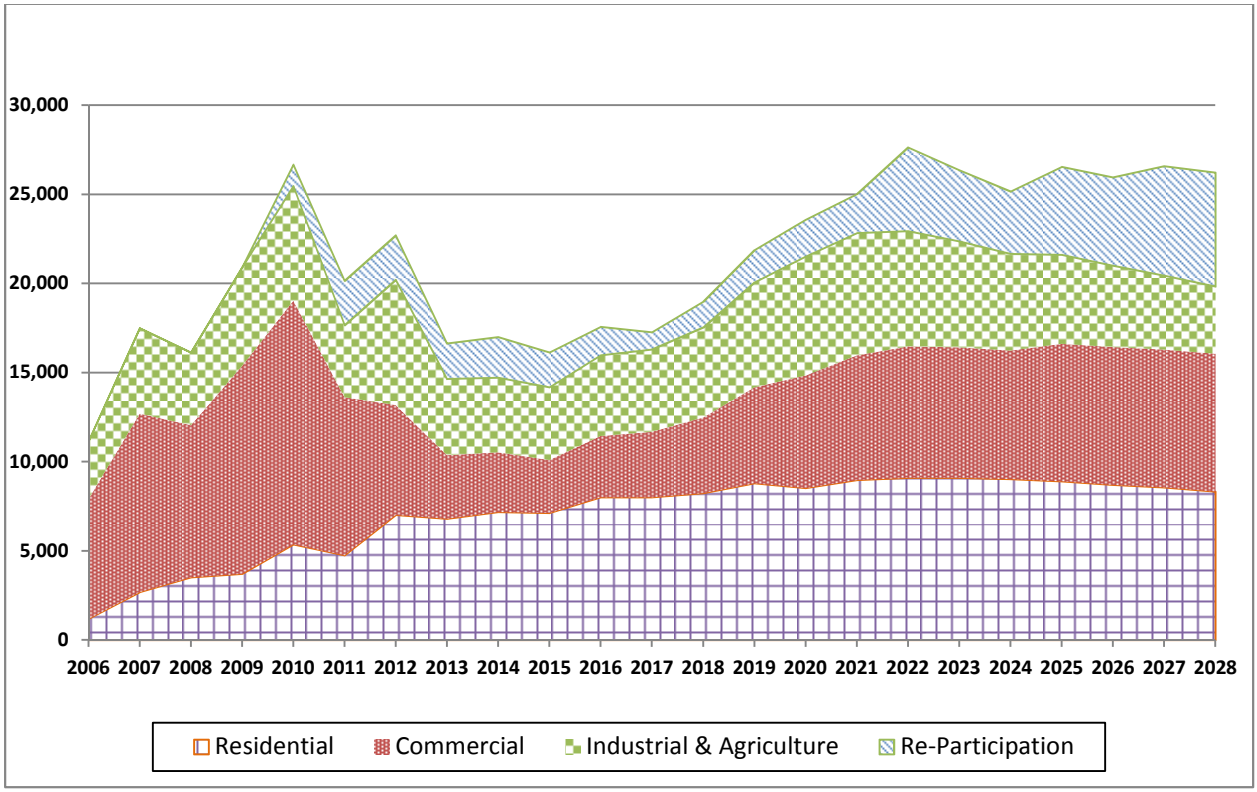


Figure 4 shows a sizable decline in incremental DSM market potential for the years 2013 through 2020. SMMPA states that changes in incremental annual savings by year are caused by the changes to codes and standards and by the addition of DSM measures as they become cost effective. If there are additional factors behind the decline in incremental savings the Department recommends that, in reply comments, SMMPA explain such factors. The Department believes that the DSM market potential study is reasonable. The Department's experience indicates that potential studies provide a way for utilities to learn about how technologies and processes will change in the future. Although they provide an estimate of potential, the Department has often seen that utilities can save higher amounts than DSM potential studies indicate.

b. Capacity Modeling and Embedded DSM

i. SMMPA's Contract Rate of Delivery (CROD)

SMMPA's Power Sales Contract with its members allows for the establishment of a Contract Rate of Delivery (CROD). After a CROD level is established (based upon the member's peak in the preceding year), the CROD Member is responsible for supplying their load each and every

hour in which it exceeds the established CROD level. SMMPA member Rochester elected a CROD beginning in 2000, and SMMPA indicates that Austin will establish a CROD in 2016.

When new efficient technology measures are installed in a CROD member system, essentially all energy savings continue to accrue to SMMPA but the capacity savings will not. Those capacity savings are realized by the CROD member. It was for this reason that SMMPA separated the current analysis into two load groups - one CROD (representing Austin and Rochester) and the other Non-CROD (representing the other 16 SMMPA members).

ii. Embedded DSM

SMMPA assumed that the average five year (2008 – 2012) DSM savings of 40,147 MWh are embedded in the forecast.[7] SMMPA made this adjustment to the retail energy forecasts to correct for the dampening effect on the load forecast equation parameters that were estimated from years where DSM programs were active. SMMPA similarly adjusted the demand forecasts through the downstream forecast process, which applies an estimate of distribution losses and forecast load factors to the energy sales forecast.

c. DSM and Supply Side Integration

SMMPA's AURORA model estimated DSM savings levels[8] for residential lighting, residential other, C&I lighting and C&I other. SMMPA used AURORA to evaluate two energy savings levels: a base case scenario that averages annual first year savings of 1.3 percent, and a full (1.5 percent) savings scenario to comply with the Commission's Order in SMMPA's last IRP.[9] SMMPA's full DSM scenario actually averages an annual savings level of 1.67 percent.

According to the Navigant DSM potential study:

> The base scenario estimated the achievable potential based on decision making response to measure payback using the current incentive levels provided by SMMPA member utilities. The current incentive levels, as expressed as a percent of incremental technology cost, vary, but in average are close to 50 percent of incremental cost. In the Minnesota Public Utility Commission (MPUC) Order accepting SMMPA's 2009 IRP, the MPUC stipulated that SMMPA analyze energy savings equal to 1.5

[7] The Department supports SMMPA's assumption and uses a similar approach when accounting for how much DSM is embedded in an econometric forecast.

[8] From Navigant's Energy Efficiency Resource Assessment Model (EERAM) model.

[9] The Commission's January 18, 2011 Order on SMMPA's 2009 IRP (ET-9/RP-09-536) states "SMMPA shall in its next resource plan include sensitivity analyses evaluating the cost-effectiveness of achieving various levels of energy conservation, including energy savings equal to 1.5 percent of retail sales."

> percent of electric sales in its next filing. That 1.5 percent scenario was based on more aggressive marketing activities starting in 2014 (designed to increase knowledge and willingness factors) and increasing the incentive levels to 75 percent of incremental cost beginning in the year 2016.[10]

The annual incremental DSM energy savings under each scenario are listed in Table 5 (base case scenario) and Table 6 (full DSM scenario) below.

Table 5: Base Case Scenario Energy Savings, Budget, and First Year Costs per kWh

Year	Forecasted Annual Energy Potential (MWh)	As a % of Forecast Load	Estimated Budget (Administration + Incentives)	Cost of First Year Savings/kWh
2014	37,438	1.23%	$ 4,303,369	$ 0.115
2015	38,060	1.23%	$ 3,680,659	$ 0.097
2016	36,144	1.14%	$ 3,588,405	$ 0.099
2017	34,734	1.08%	$ 3,573,472	$ 0.103
2018	35,566	1.09%	$ 3,695,064	$ 0.104
2019	37,897	1.14%	$ 4,186,863	$ 0.110
2020	43,980	1.31%	$ 4,441,710	$ 0.101
2021	48,876	1.43%	$ 4,790,375	$ 0.098
2022	53,234	1.54%	$ 5,032,130	$ 0.095
2023	52,047	1.48%	$ 4,859,108	$ 0.093
2024	51,214	1.43%	$ 4,890,609	$ 0.095
2025	49,501	1.36%	$ 4,655,211	$ 0.094
2026	49,125	1.33%	$ 4,644,883	$ 0.095
2027	49,049	1.31%	$ 4,717,051	$ 0.096
2028	48,579	1.28%	$ 4,708,571	$ 0.097
Average	**44,363**	**1.29%**	**$ 4,384,499**	**$ 0.099**

[10] Page 1 of IRP Appendix A.

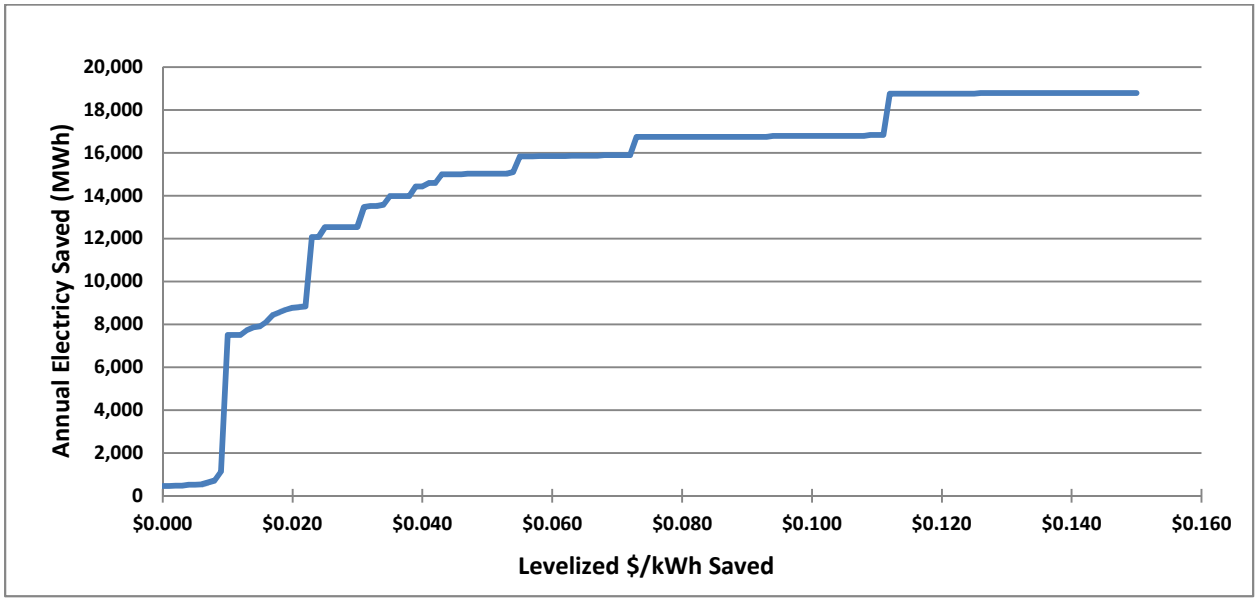
Table 6: Full DSM Scenario Energy Savings, Budget, and First Year Costs per kWh

Year	Forecasted Annual Energy Potential (MWh)	As a % of Forecast Load	Estimated Budget (Administration + Incentives)	Cost of First Year Savings/kWh
2014	45,547	1.49%	$7,310,336	$ 0.161
2015	44,795	1.41%	$6,381,912	$ 0.142
2016	47,877	1.51%	$7,127,866	$ 0.149
2017	46,655	1.45%	$7,169,933	$ 0.154
2018	49,181	1.51%	$7,827,972	$ 0.159
2019	54,591	1.65%	$8,996,789	$ 0.165
2020	62,013	1.84%	$9,687,053	$ 0.156
2021	65,775	1.93%	$9,856,814	$ 0.150
2022	68,104	1.96%	$9,655,366	$ 0.142
2023	65,537	1.86%	$8,932,142	$ 0.136
2024	62,986	1.76%	$8,540,453	$ 0.136
2025	63,561	1.75%	$8,248,611	$ 0.130
2026	61,393	1.66%	$8,004,746	$ 0.130
2027	61,893	1.65%	$8,266,557	$ 0.134
2028	60,572	1.59%	$8,120,417	$ 0.134
Average	**57,365**	**1.67%**	**$8,275,131**	**$ 0.145**

4. Conservation Energy Supply Cost Curve

As part of its DSM potential study, SMMPA developed a Conservation Energy Supply Curve that compares the levelized costs over a DSM measure's useful life per kWh saved, and the annual energy saved at different cost levels. Figure 5 below comes from files used to create the Appendix A DSM Potential Study and sent by SMMPA to the Department through an information request.

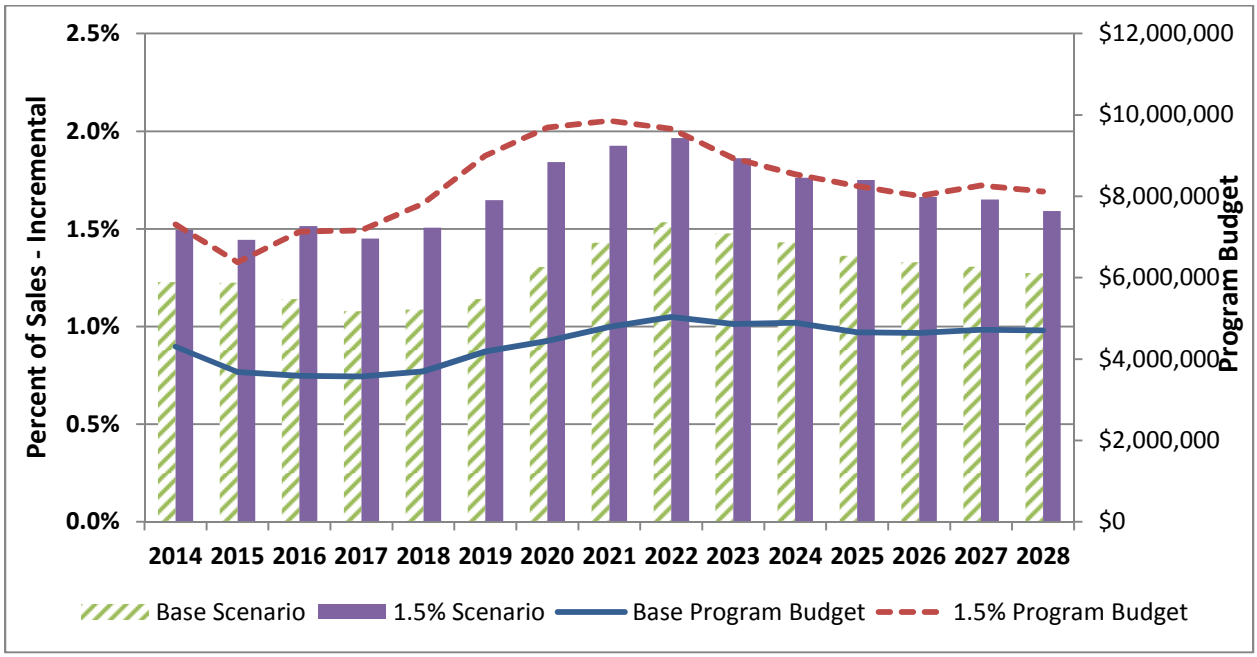
Figure 5: 2028 Conservation Energy Supply Curve (MWh)



The Department believes such supply curves could be useful in evaluating cost effective DSM levels, but it was difficult to compare the curve's levelized costs per kWh saved with the proposed DSM savings levels in the base case and full DSM scenarios proposed by SMMPA. The Department recommends that in Reply Comments, SMMPA identify the 2028 DSM Energy Savings on the Conservation Energy Supply Curve (both under the base case and full DSM scenarios).

Figure 6 below, copied from Appendix A, compares the two DSM scenarios' energy savings levels and program budgets.

Figure 6: Base and 1.5% Scenario Incremental Market Energy Potential[11]



While the full DSM scenario has a higher average budget and cost per first year kWh savings, it also has an overall plan lower net present value cost. SMMPA states that the full DSM scenario is 2.8 percent less expensive than the base case DSM with a net present value of savings of $36 million.

SMMPA supports the adoption of the base case DSM levels (represented by the green bars in figure 4 above). In support of the base case SMMPA cited the budget increase needed to achieve the full DSM scenario, and uncertainty surrounding whether SMMPA could achieve the higher level of savings of the full DSM scenario through increased marketing efforts.

5. Department DSM Recommendation

SMMPA should be commended for its historical DSM achievements and the DSM potential study it undertook to inform this IRP. The information from the potential study and SMMPA's existing DSM programs will be valuable in achieving higher levels of DSM savings for the next 15 years.

[11] Reproduced from Chart VII-3 of SMMPA's 2013 IRP.

Based on the information from Appendix A and the IRP's DSM sections the Department supports a DSM energy savings goal of at least 1.5 percent. The Department supports this higher-than-proposed energy savings goal for the following reasons:

1. Since the State 1.5 percent energy savings goal was first implemented in 2010, SMMPA has consistently increased its DSM savings as a percent of sales. In fact, for the last three years of data (2010-2012), SMMPA saved 1.64 percent to 1.70 percent of annual sales. Continuing to achieve these higher energy savings requires SMMPA to remain up to date with potential technologies and processes. SMMPA's new DSM potential study provides the Agency with some of the information that will be needed.

2. The full DSM scenario (approximating 1.68 percent of retail sales) is 2.8 percent less expensive than the base case DSM scenario plan. The lower cost of the plan based on the full DSM shows the cost-effectiveness of the higher energy savings levels.

3. Although SMMPA projects a nominal budget increase of $60 million over the planning period to achieve the higher energy savings goals, the investment will not be incurred all at once. Rather than set its sights low, on an energy savings goal of only 1.3 percent, and adjust according to how customers respond, the Agency should be at least aiming for the State's 1.5 percent energy savings goal, if not higher.

4. As discussed below, SMMPA is not on course to meet the State's greenhouse gas reduction goal. Increased energy savings is one of the most cost-effective means of reducing CO_2 emissions.

5. SMMPA's detailed DSM potential study identifies low levelized cost measures available to achieve a 1.5 percent DSM goal; these measures are included in the top 20 measures list included on pages 27 through 31 of Appendix A of the IRP.

G. COMPLIANCE WITH THE RENEWABLE ENERGY OBJECTIVE

1. Background

Prior to the 2007 Legislative Session, Minn. Stat. §216B.1691 required utilities to make a good faith effort to obtain 15 percent of their Minnesota retail sales from eligible energy technologies by 2015, and to obtain 0.5 percent renewable energy from biomass technologies. The 2007 Minnesota Legislature amended Minn. Stat. §216B.1691 to include a Renewable Energy Standard (RES) beginning in 2010. As amended, Minn. Stat. §216B.1691 sets forth the Renewable Energy Objective in place through 2010 and requires that:

> Each electric utility shall make a good faith effort to generate or procure sufficient electricity generated by an eligible energy technology to provide its retail customers or the retail customers of

> a distribution utility to which the electric utility provides wholesale electric service so that commencing in 2005, at least one percent of the electric utility's total retail electric sales to retail customers in Minnesota is generated by eligible energy technologies, and seven percent of the electric utility's total retail electric sales to retail customers in Minnesota by 2010 is generated by eligible energy technologies.

Minn. Stat. §216B.1691, Subd 2a establishes the Renewable Energy Standard utilities must meet through 2025 and specifically requires that:

> …each electric utility shall generate or procure sufficient electricity generated by an eligible energy technology to provide its retail customers in Minnesota, or the retail customers of a distribution utility to which the electric utility provides wholesale electric service, so that at least the following standard percentages of the electric utility's total retail electric sales to retail customers in Minnesota is generated by eligible energy technologies by the end of the year indicated:
>
> - 2012: 12 percent
> - 2016: 17 percent
> - 2020: 20 percent
> - 2025: 25 percent

The statute no longer requires that a portion of the renewable energy generation come from biomass technologies. An eligible energy technology is defined by Minn. Stat. §216B.1691, percent 1 as an energy technology that:

> Generates electricity from the following energy sources: (1) solar; (2) wind; (3) hydroelectric with a capacity of less than 100 megawatts; (4) hydrogen, provided that after January 1, 2010, the hydrogen must be generated from the resources listed in this clause; or (5) biomass, which includes without limitation, landfill gas, an anaerobic digester system, and an energy recovery facility used to capture the heat value of mixed municipal solid waste or refuse-derived fuel from mixed municipal solid waste as a primary fuel.

Minn. Stat. §216B.1691, subd. 2(d) directs the Commission to "issue necessary orders detailing the criteria and standards by which it will measure an electric utility's efforts to meet the renewable energy objectives of subdivision 2 to determine whether the utility is making the required good faith effort."

The Commission set forth the criteria for determining compliance with the RES Statute after taking comments from effected parties in a number of Orders.[12] Among the resources the Commission has determined to be ineligible for meeting the RES are resources used for green pricing, resources that do not meet the statutory definition of eligibility, and generation assigned to compliance for other regulatory purposes such as another state's Renewable Portfolio Standard Requirements (RPS)

The 2007 amendment to Minn. Stat. §216B.1691, required the Commission to establish a program for tradable Renewable Energy Credits (RECs) by January 2008, and to require all electric utilities to participate in a Commission-approved REC tracking system once such a system was in operation.

The Commission subsequently adopted the use of the Midwest Renewable Energy Tracking System (M-RETS), a multi-state REC tracking system, as the REC tracking system under Minn. Stat. §216B.1691, subd. 4(d) and required Minnesota utilities to participate.[13] Specifically, the Commission required utilities to complete the online registration process and sign the Terms of Use agreement with the M-RETS system administrator APX, Inc, and receive account approval from APX by January 1, 2008. In addition, the Commission directed utilities to make a substantial and good faith effort to create a system account and sub-accounts for its organization, and to register its generation units/facilities in the M-RETS system by March 1, 2008.

In its December 18, 2007 *Order Establishing Initial Protocols for Trading Renewable Energy Credits,* the Commission adopted a four-year shelf life for all renewable energy credits to be used for compliance with the Minnesota RES. A four-year shelf life allows a REC to be retired towards MN RES compliance in the year of generation and during the four years following the year of generation.

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[12] *In the Matter of Detailing Criteria and Standards for Measuring an Electric Utility's Good Faith Efforts in Meeting the Renewable Energy Objectives Under Minn. Stat. §216B.1691,* Docket No. E999/CI-03-869, Initial Order Detailing Criteria and Standards for Determining Compliance with Minn. Stat. §216B.1691 and Requiring Customer Notification by Certain Cooperative, Municipal, and Investor-Owned Distribution Utilities. (June 1, 2004)
In the Matter of Detailing Criteria and Standards for Measuring an Electric Utility's Good Faith Efforts in Meeting the Renewable Energy Objectives Under Minn. Stat. §216B.1691, Docket No. E999/CI-03-869; *In the Matter of a Commission Investigation into a Multi-State Tracking and Trading System for Renewable Energy Credits,* Docket No. E999/CI-04-1616, Second Order Implementing Minn. Stat. §216B.1691, Opening Docket to Investigate Multi-State Program for Tracking and Trading Renewable Credits and Requesting Periodic Updates from Stakeholder Group; (October 19, 2004)
In the Matter of Detailing Criteria and Standards for Measuring an Electric Utility's Good Faith Efforts in Meeting the Renewable Energy Objectives Under Minn. Stat. §216B.1691, Docket No. E999/CI-03-869, Order After Reconsideration (August 13, 2004)

[13] *In the Matter of a Commission Investigation into a Multi-State Tracking and Trading System for Renewable Energy Credits,* Docket No. E999/CI-04-1616, Order Approving Midwest Renewable Energy Tracking System (M-RETS) Under Minn. Stat. §216B.1691, subd.4(d), and Requiring Utilities to Participate in M-RETS (October 9, 2007)

Finally, in its December 3, 2008 *Third Order Detailing Criteria and Standards for Determining Compliance under Minn. Stat. §216B.1691 and Setting Procedures for Retiring Renewable Energy Credits*, the Commission directed utilities to begin retiring RECs equivalent to one percent of their Minnesota annual retail sales for the 2008 and 2009 compliance year by May 1st of the following year. Upon retirement, RECs are transferred into a specific Minnesota RES retirement account and, once retired, are not available to meet other state or program requirements, thus addressing the statutory prohibition against double counting the RECs and promoting the environmental benefits of renewable energy. The Commission further directed the utilities to submit a compliance filing demonstrating their compliance with the RES by June 1st.

In addition to amending the RES Statute, Minn. Stat. §216B.241subd. 1c(b) was added to establish an energy-savings goal as part of a utility's conservation improvement plan (CIP), and states:

> Each individual utility and association shall have an annual energy-savings goal equivalent to 1.5 percent of gross annual retail energy sales unless modified by the commissioner under paragraph (d). The savings goals must be calculated based on the most recent three-year weather normalized average.

The attainment of the 1.5 percent energy savings goal will reduce a utility's forecasted retail sales, and consequently lower the amount of renewable generation required to meet RES obligations.

2. SMMPA's Renewable Obligation

Table 7, below, summarizes SMMPA's RES requirement in MWh's over the forecast period. SMMPA's forecasted retail sales adjusted to reflect a 1.25 percent energy savings goal. If SMMPA fully complies with the energy-savings goal of 1.5 percent set forth in Minn. Stat. §216B.241 its RES requirement would be slightly reduced.

Table 7: SMMPA's Renewable Energy Objective

Year	MN Retail Sales	RES Percentage	RES Requirement (MWhs)
2013	2,865,441	12	343,853
2014	2,908,407	12	349,009
2015	2,957,605	12	354,913
2016	3,007,588	17	511,290
2017	3,043,085	17	517,324
2018	3,088,126	17	524,981
2019	3,140,967	17	533,964
2020	3,200,678	20	640,136
2021	3,248,680	20	649,736
2022	3,301,275	20	660,255
2023	3,352,106	20	670,421
2024	3,410,097	20	682,019
2025	3,453,872	25	863,468
2026	3,507,322	25	876,831
2027	3,562,312	25	890,578
2028	3,623,561	25	905,890

Over the forecast period, SMMPA's RES requirement increases from 343,853 MWhs in 2013 to 905,890 MWhs in 2028.

3. Generation Resources

a. Existing Resources

SMMPA has registered its renewable generation facilities in M-RETS. Table 8 summarizes SMMPA's ability to meet its future RES obligations with its existing resources. At present, SMMPA has approximately 376,000 MWh in annual renewable generation, which represents sufficient annual generation to meet its RES requirement through 2015. As noted above, RECs have a four year shelf life for compliance use. Currently, SMMPA has an unretired REC balance of approximately 1,439,000 MWh that may be carried forward and used for future RES compliance. With the unretired REC balance, SMMPA has sufficient renewable generation to meet its RES requirements through 2022. The Department reviewed SMMPA's unretired REC balance, and determined that the agency does not have unretired RECs exceeding the four year shelf life.

Table 8: REO Compliance with Existing Resources

Year	REO/RES Requirement MWh	SMMPA Existing Renew. Generation (MWh)	Existing Generation less RES Surplus/ (Deficit) MWh	Cumulative Surplus/ (Deficit)
				1,438,988 Beg. Balance
2013	343,853	376,283	32,431	1,471,419
2014	349,009	376,283	27,275	1,498,693
2015	354,913	376,283	21,371	1,520,064
2016	511,290	376,283	(135,007)	1,385,057
2017	517,324	376,283	(141,041)	1,244,017
2018	524,981	376,283	(148,698)	1,095,319
2019	533,964	376,283	(157,681)	937,638
2020	640,136	376,283	(263,852)	673,785
2021	649,736	376,283	(273,453)	400,333
2022	660,255	376,283	(283,972)	116,361
2023	670,421	376,283	(294,138)	(177,776)
2024	682,019	376,283	(305,736)	(483,512)
2025	863,468	376,283	(487,185)	(970,697)
2026	876,831	376,283	(500,547)	(1,471,244)
2027	890,578	376,283	(514,295)	(1,985,538)
2028	905,890	376,283	(529,607)	(2,515,145)

b. Generation from Planned Renewable Resources

4. Compliance with REO Objectives

SMMPA submitted its compliance report in Docket No. E999/PR-13-186 detailing its compliance with the 2012 RES requirements. SMMPA reports that it had Minnesota retail sales of 2,923,691 MWh, and retired 350,844 RECs in the M-RETS system to comply with its twelve percent 2012 RES requirement.

According to the IRP, SMMPA proposes to add small amounts of wind in the early years of its IRP, and 23 MWs annually beginning in 2021. Table 9 estimates SMMPA's ability to comply with its RES requirements assuming a 35 percent capacity factor for its wind additions. The Department concludes that with its proposed wind additions, SMMPA will have sufficient renewable resources to meet its RES obligations through the planning period.

Table 9: SMMPA Estimated RES Compliance – Wind at 35% Capacity Factor

Year	REO/RES Requirement MWh	Planned Additions (MWs)	35% capacity factor	Total Existing Generation + Planned Additions (MWhs)	Cumulative RES Surplus/ (Need)
					1,438,988 Beg. Balance
2013	343,853			376,283	1,471,419
2014	349,009			376,283	1,498,693
2015	354,913			376,283	1,520,064
2016	511,290			376,283	1,385,057
2017	517,324			376,283	1,244,017
2018	524,981	2.5	7,665	383,948	1,102,984
2019	533,964	5.0	15,330	399,278	968,298
2020	640,136	7.5	22,995	422,276	750,435
2021	649,736	23.0	70,518	492,791	593,491
2022	660,255	23.0	70,518	563,309	496,545
2023	670,421	23.0	70,518	633,827	459,952
2024	682,019	23.0	70,518	704,345	482,278
2025	863,468	23.0	70,518	774,863	393,673
2026	876,831	23.0	70,518	845,381	362,224
2027	890,578	23.0	70,518	915,899	387,546
2028	905,890	23.0	70,518	986,417	468,073

H. ENVIRONMENTAL ISSUES

The Department generally reviews utility resource plans for compliance with pending state and national environmental legislation that impacts the electric utility's operations. SMMPA provided information on the environmental regulations to which it is subject, and stated that it complies with these regulations.

In its IRP, SMMPA addressed several issues, including its:

- efforts to meet Clean Air Act and the Clean Air Interstate Rule on the reduction of sulfur dioxide (SO_2), nitrogen oxide (NO_x), and particulate matter;
- ongoing efforts to monitor regulations on mercury reductions;
- Greenhouse gas emissions, and
- Compliance with new standards for a reciprocating internal combustion engine.

Each of these issues is discussed below.

1. Reductions in Sulfur Dioxide (SO_2) and Nitrous Oxide (NO_x)

The Acid Rain provisions of the CAAA established fixed allowances for SO_2 and limits for emission rates on NO_x. Since its last IRP, SMMPA retired its Austin Northeast coal generating plant, one of two units subject to allowance requirements. Sherco 3 is the other unit subject to allowance limits, and is jointly owned by SMMPA (41 percent ownership) and Xcel Energy (59 percent ownership). SMMPA indicates that it expects Sherco 3 to meet SO_2 emission rates without major modifications. In 2008, low-NO_x burners were installed in Sherco 3 to bring Sherco 3 into compliance with NO_x emissions requirements.

2. Mercury

The Minnesota Mercury Emission Reduction Act of 2006 targeted reductions in mercury emissions from the largest facilities owned by Xcel Energy and Minnesota Power. Although SMMPA was not specifically subject to the Act, as part owner of Sherco 3, the agency worked with Xcel to comply with the mercury reduction requirements. Mercury reduction equipment was installed at Sherco 3 in 2010.

3. Greenhouse Gas Emissions and Greenhouse Gas Reduction Goal

While no state or federal regulation of CO_2 emissions is currently in place, SMMPA states that it continues to actively monitor potential greenhouse gas legislation, and to evaluate the potential impact of such regulation on its operations.

SMMPA states that it is in compliance with Minnesota's RES requirement, and CIP requirements for energy savings, both of which contribute to the agency's ability to reduce CO_2.

In 2013, the Minnesota Legislature passed amendments to Minnesota Statutes §216B.2422, subd. 4. The newly amended legislation now states (new language underlined):

> The commission shall not approve a new or refurbished nonrenewable energy facility in an integrated resource plan or a certificate of need, pursuant to section 216B.243, nor shall the commission allow rate recovery pursuant to section 216B.16 for such a nonrenewable energy facility, unless the utility has demonstrated that a renewable energy facility is not in the public interest. <u>The public interest determination must include whether the resource plan helps the utility achieve the greenhouse gas reduction goals under section 216H.02, the renewable energy standard under section 216B.1691, or the solar energy standard under section 216B.1691, subdivision 2f</u>.

On August 5, 2013, the Minnesota Public Utilities Commission issued a Notice of Information in Future Resource Plan Filings (Commission's Letter). The Commission Letter states, in part:

> **PLEASE TAKE NOTICE** that the Commission expects utilities to include in their resource plans filed after August 1, 2013 an explanation how the resource plan helps the utility achieve the greenhouse gas reduction goals, renewable energy standard, and solar energy standard as listed in the above-referenced legislation. Parties should also be prepared to discuss the matter in comments.

SMMPA discusses how its preferred resource plan would help the utility achieve the greenhouse gas reduction goals under 216H.02. However, the Company did not provide a quantitative analysis.

To improve the record regarding the State's greenhouse gas reduction goal, the Department sent the Company DOC IR No. 8 asking the following two questions:

a. Given SMMPA's preferred plan, what will be the percentage change in the Association's CO_2 emissions, comparing SMMPA's estimated 2015 CO_2 emissions to its 2005 CO_2 emissions?

b. Given SMMPA's preferred plan, what will be the percentage change in the Company's CO_2 emissions, comparing SMMPA's estimated 2025 CO_2 emissions to its 2005 CO_2 emissions?

The Department sent similar information requests to Otter Tail Power Company in Docket No. E017/M-13-961 and to Minnesota Municipal Power Agency in Docket No. ET6133/RP-13-1165. The Department appreciates the conversations with all three utilities on how to best present this information in a useful manner. Based on these discussions, the Department recommended that each utility calculate its CO_2 emissions the following approach:

- Start with emissions from utility-owned generation;
- Add emissions from utility purchases; and
- Subtract CO_2 emissions from sales from utility-owned generation.

Since the emissions from utility purchases is unknown (unless a bilateral contract exists), the Department recommended that utilities use the 2005 average emissions per MWh for the Midwest Reliability Organization (MRO) West region 2005 purchases, and the 2009 average emissions per MWh for the MRO West region for 2015 and 2025.

Table 10 below provides a summary of SMMPA's response to the Department's request.

Table 10: Comparing SMMPA's Projected 2015 and 2025 CO_2 Emissions to 2005 CO_2 Emissions

Year	Energy Production (GWh)	Emissions Base Case (Tons CO_2)	% Reduction From 2005 Emissions	Emissions Case 2 (Tons CO_2)	% Reduction From 2005 Emissions	Emissions Case 3 (Tons CO_2)	% Reduction From 2005 Emissions
2005	2,965,518	3,062,037		3,062,037		3,062,037	
2015	3,227,597	2,806,583	8%	2,720,996	11%	2,655,262	13%
2025	4,135,900	2,782,904	9%	2,633,346	14%	2,478,366	19%

Under the emissions base case SMMPA projects CO_2 emissions reductions, compared to 2005 CO_2 emissions, of 8 percent by 2015 and 9 percent by 2025. In the base case, SMMPA assumed that the 2015 and 2025 average emissions of purchases would be equal to the 2009 average emissions per MWh for the MRO West region. Since SMMPA forecasts that CO_2emissions from its own generation mix will fall 18 percent by 2015 and 35 percent by 2025, SMMPA reasoned that it is likely that the CO_2emissions of MISO's generation mix will also fall over the planning period. Consequently, SMMPA provided two scenario analyses based on two different assumptions at how much the average MISO CO_2 emissions will decline. In Case 2 SMMPA assumed that the stipulated emission rate for purchases in the analysis of 1,822 lbs/MWH of CO_2, will decrease by 1 percent annually between 2005 and the forecast years of 2015 and 2025. In Case 3, SMMPA assumed that that the stipulated emission rate for purchases in the analysis of 1,822 lbs/MWH of CO_2,will decline at the rates that SMMPA forecasts for its own generation—18 percent by 2015 and 35 percent by 2025.

The Department appreciates SMMPA's cooperation in exploring how best to portray the Agency's emissions over time. As SMMPA discusses in its IR response, the average emissions of MRO West generation are falling. For example, average CO_2 for MRO West in 2005 were 1,821.84 pounds per MWh and declined to 1,628.6 lbs per MWh in 2009, a decline of almost 11 percent. In its base case calculations SMMPA used an average emissions rate of 1,822 pounds per MWh. The Department recalculated MP's reductions in CO_2 emissions when comparing 2015 and 2025 to 2005 using the 2009 average MRO West emissions rate of 1,628.6 pounds per MWh. Under this scenario, SMMPA's CO_2 emissions are projected to decline 11 percent by 2015 and 12 percent by 2025. Consequently, SMMPA's assumption in its Case 2 may be reasonable. However, even if MISO's average emissions decline by the same average rate as SMMPA's generation, as depicted in SMMPA's case 3, the Agency will not be meeting the State's CO_2 reduction goal of 15 percent in 2015 and 30 percent in 2030. A big reason is that despite the significant decline in CO_2 emission rates between 2005 and 2025, SMMPA's projected energy sales are projected to increase from 2,969,518 GWh in 2005 to 4,135,900 GWh in 2025, an increase of 39 percent. This fact is another reason why SMMPA needs to strive to meet and surpass the 1.5 percent energy savings goal.

These are the first resource plan comments where the Department has explicitly evaluated progress towards meeting the greenhouse gas reduction goals. The Department invites other parties to submit comments on how to best analyze how a utility's resource plan is helping a utility meet the greenhouse gas emissions goal. One issue that the Department believes should be discussed is whether utility emissions of other greenhouse gas emissions, such as methane, should also be included in this analysis. The Department looks forward to continuing this discussion.

4. Reciprocating internal combustion engine rules

SMMPA has a number of facilities using reciprocating internal combustion engines (RICE). New standards for RICE resources have been established by the EPA. Rather than retire these facilities, SMMPA chose to implement the standards at its member "life-of-unit" RICE generators. Meeting the standards required installation of oxidation catalysts on each engine to remove in excess of 70 percent of carbon monoxide emissions. Additional changes included replacing the silencer and exhaust stacks, adding crankcase ventilation, and implementing formal operations and maintenance procedures designed to optimize operations and minimize emissions. SMMPA states that the cost of the upgrades was approximately $3.5 million.

The Department concludes that SMMPA is reasonably monitoring environmental regulations.

III. RECOMMENDATIONS

1. The Department recommends that the Commission accept SMMPA's 2014-2028 IRP for planning purposes, with the recommendation in (2).

2. The Department recommends that SMMPA adjust its IRP so that it achieves annual energy savings of approximately 1.5 percent of retail sales.

3. In its Reply Comments, the Department recommends that SMMPA submit:

   a. a calculation of SMMPA's annual capacity requirements based on its coincident peak demand and a reserve requirement of 7.3 percent; and

   b. a calculation of its resource needs based on the non-coincident (or system) peak rather than the coincident peak (or demand at time of MISO's peak).

/ja

CERTIFICATE OF SERVICE

I, Sharon Ferguson, hereby certify that I have this day, served copies of the following document on the attached list of persons by electronic filing, certified mail, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota.

Minnesota Department of Commerce
Comments

Docket No. ET9/RP-13-1104

Dated this **27th** day of **March 2014**

/s/Sharon Ferguson

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Mike	Jones	mikejones@lignite.com	Lignite Research Council	1016 E Owens Ave Ste 200 PO Box 2277 Bismarck, ND 58502	Electronic Service	No	OFF_SL_13-1104_Official
John	Knofczynski		Heartland Consumers Power District	PO Box 248 203 W. Center Street Madison, SD 570420248	Paper Service	No	OFF_SL_13-1104_Official
John	Lindell	agorud.ecf@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes	OFF_SL_13-1104_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Mark S	Mitchell	N/A	Southern Minnesota Municipal Power Agency	500 2st Ave SW Rochester, MN 55902-3303	Paper Service	No	OFF_SL_13-1104_Official
Carl	Nelson	N/A	Minnesota Project	1885 University Ave Ste 315 Saint Paul, MN 55104	Paper Service	No	OFF_SL_13-1104_Official
Mike	Rothman	mike.rothman@state.mn.us	Department of Commerce	85 7th Pl E Ste 500 Saint Paul, MN 55105	Electronic Service	No	OFF_SL_13-1104_Official
Walter	Schlink	wschlink@rpu.org	Rochester Public Utilities	4000 East River Road NE Rochester, MN 559062813	Electronic Service	No	OFF_SL_13-1104_Official
Matthew J.	Schuerger P.E.	mjsreg@earthlink.net	Energy Systems Consulting Services, LLC	PO Box 16129 St. Paul, MN 55116	Electronic Service	No	OFF_SL_13-1104_Official
Robert H.	Schulte	rhs@schulteassociates.com	Schulte Associates LLC	15347 Boulder Pointe Road Eden Prairie, MN 55347	Electronic Service	No	OFF_SL_13-1104_Official
Stan	Selander	sselander@grenergy.com	Great River Energy	12300 Elm Creek Boulevard Maple Grove, MN 553694718	Electronic Service	No	OFF_SL_13-1104_Official
William	Seuffert	Will.Seuffert@state.mn.us		75 Rev Martin Luther King Jr Blvd 130 State Capitol St. Paul, MN 55155	Electronic Service	No	OFF_SL_13-1104_Official
Mrg	Simon	mrgsimon@mrenergy.com	Missouri River Energy Services	3724 W. Avera Drive P.O. Box 88920 Sioux Falls, SD 571098920	Electronic Service	No	OFF_SL_13-1104_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Beth H.	Soholt	bsoholt@windonthewires.org	Wind on the Wires	570 Asbury Street Suite 201 St. Paul, MN 55104	Electronic Service	No	OFF_SL_13-1104_Official
Duane	Steenson	N/A	Montana Dakota Utilities	400 N 4th St Bismarck, ND 58501	Paper Service	No	OFF_SL_13-1104_Official
John Linc	Stine	john.stine@state.mn.us	MN Pollution Control Agency	520 Lafayette Rd Saint Paul, MN 55155	Electronic Service	No	OFF_SL_13-1104_Official
Mr.	Sullivan		Minnesota Planning	300 Centennial Building St. Paul, MN 55155	Paper Service	No	OFF_SL_13-1104_Official
Eric	Swanson	eswanson@winthrop.com	Winthrop Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_13-1104_Official
Steve	Thompson		Central Minnesota Municipal Power Agency	459 S Grove St Blue Earth, MN 56013-2629	Paper Service	No	OFF_SL_13-1104_Official
Toni	Volkmeier	toni.volkmeier@state.mn.us	MPCA	520 Lafayette Rd. N. St. Paul, MN 55155	Electronic Service	No	OFF_SL_13-1104_Official
Charles	Zelle	charlie.zelle@state.mn.us	Department of Transportation	MN Dept of Transportation 395 John Ireland Blvd St. Paul, MN 55155	Electronic Service	No	OFF_SL_13-1104_Official