

MINNESOTA RENEWABLE ENERGY STANDARD: UTILITY COMPLIANCE

SUBMITTED BY



DIVISION OF ENERGY RESOURCES

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TABLE OF CONTENTS

Section	.Page
I. INTRODUCTION	1
A. Legislative History	1
1. Adoption of a Renewable Energy Objective (REO).....	1
2. Adoption of a Renewable Energy Standard (RES)	2
a. The Renewable Energy Standard	2
b. Changes to the Definition of an Eligible Energy Technology	3
c. The Use of Renewable Energy Certificates to Meet RES Requirements	4
d. Criteria for Waiving or Extending the RES Requirements	4
e. Solar Energy Standard (SES).....	5
f. Reporting on the Rate Impact of RES Compliance	5
B. RES Reporting Requirements	5
1. Entities Subject to the RES Requirements	5
2. Determination of Generation Eligible for the Minnesota RES.....	6
C. 2013 RES Compliance	7
D. Ability to Comply with RES Requirements in the Future.....	8
E. Obstacles and Potential Solutions for Meeting the RES Requirements.....	9
II. SUMMARY AND CONCLUSION	10

**REPORT TO THE MINNESOTA LEGISLATURE:
PROGRESS ON COMPLIANCE BY ELECTRIC UTILITIES WITH
THE MINNESOTA RENEWABLE ENERGY OBJECTIVE AND THE RENEWABLE ENERGY STANDARD**

The Minnesota Department of Commerce, Division of Energy Resources (Commerce or the Department) offers the following report on the progress of Minnesota's electric utilities' compliance with the Minnesota Renewable Energy Standard (RES) contained in Minnesota Statute section 216B.1691.

All of the utilities subject to the Minnesota RES have demonstrated compliance with the 2015 RES requirements.

I. INTRODUCTION

Commerce provides this report in compliance with Minnesota Statute section 216B.1691, subdivision 3(b), which requires a bi-annual report to the Legislature on "the progress of utilities in the state, including the progress of each individual electric utility, in increasing the amount of renewable energy provided to retail customers," along with the compilation of the following information from each utility:

- The status of the utility's renewable energy mix relative to the objective and standards;
- Efforts taken to meet the objective and standards;
- Any obstacles encountered or anticipated in meeting the objective or standards; and
- Potential solutions to the obstacles.

This RES Report is divided into the following sections:

- Legislative History
- RES Reporting Requirements
- 2015 RES Compliance
- Ability to Comply with RES Requirements in the Future
- Obstacles and Potential Solutions for Meeting Future RES Requirements
- Summary and Conclusions

A. LEGISLATIVE HISTORY

1. Adoption of a Renewable Energy Objective

In 2001, the Minnesota Legislature first enacted the Minnesota Renewable Energy Objective (REO) contained in Minnesota Stat. section 216B.1691 (REO Statute). As originally enacted, the Statute required electric utilities to "make a good faith effort" to obtain ten percent of their Minnesota retail energy sales from eligible energy sources by 2015, and to obtain 0.5 percent of their renewable energy from biomass technologies. Under the REO Statute, Xcel Energy was required to meet a ten percent renewable energy standard.

In 2003, the REO Statute was amended to require the Commission to issue an initial Order and subsequent Orders as necessary to:

- Detail criteria and standards for measuring a utility's efforts to meet the REO, and for determining whether a utility has met the good faith requirement;

- Detail criteria and standards that protect against undesirable impacts on the reliability of the utility's system, undesirable economic impacts to a utility's ratepayers, and that consider technical feasibility;
- Provide a weighted scale that determines how energy generated by different technologies counts toward a utility's objective and that grants multiple credits for technologies and fuels the Commission finds in the public interest to encourage; and
- Consider the establishment of a program for tradeable renewable energy credits.

The Commission subsequently solicited comments from interested parties, and issued a series of Orders setting forth the criteria for measuring an electric utility's good faith efforts in meeting the REO Statute.¹

2. *Adoption of a Renewable Energy Standard*

During the 2007 Legislative session, Minnesota Statute section 216B.1691 was amended to:

- 1) Establish a Renewable Energy Standard (RES) with specified mandated renewable energy goals beginning in 2010;
- 2) Amend the definition of an eligible energy technology;
- 3) Require the Commission to establish a trading system for renewable credits; and
- 4) Establish criteria under which the Commission may waive or extend the deadline for meeting the RES targets.

a. *The Renewable Energy Standard*

Consistent with the earlier REO, the RES Statute requires that a utility generate or procure at least one percent of its retail electric sales from an eligible energy technology beginning in 2005 increasing to seven percent by 2010. However, unlike the REO, the RES mandates that electric utilities procure this level of energy. Beginning in 2010 for Xcel, and 2012 for all other utilities, the RES Statute added Minnesota Statute section 216B.1691, subd. 2(a) and (b) to require:

- (a) Except as provided in paragraph (b), 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

¹ *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 Minnesota Statute section 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 Minnesota Statute section 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).

provides wholesale 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:

- 1) 2012 12 percent
- 2) 2016 17 percent
- 3) 2020 20 percent
- 4) 2025 25 percent

(b) An electric utility that owned a nuclear generating facility as of January 1, 2007, must meet the requirements of this paragraph rather than paragraph (a). An electric utility subject to this paragraph must 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 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:

- 1) 2010 15 percent
- 2) 2012 18 percent
- 3) 2016 25 percent
- 4) 2020 30 percent

Of the 30 percent in 2020, at least 25 percent must be generated by wind energy conversion systems and the remaining five percent by other eligible energy technologies.

In its March 19, 2010 Order, the Commission clarified that the percentages of total retail sales that utilities must generate or procure from renewable energy apply for every year forward until the next step in percentages identified by the statute. Consequently, for 2013 Xcel's RES requirement remained at 18 percent, and all other utilities remained at 12 percent.

In 2010, the RES Statute definition of total retail electric sales was amended to exclude "the sale of hydroelectricity supplied by a federal power marketing administration or other federal agency, regardless of whether the sales are directly to a distribution utility or are made to a generation and transmission utility and pooled for further allocation to a distribution utility." The amendment results in the exclusion of power provided by the Western Area Power Administration from total retail sales.

b. Changes to the Definition of an Eligible Energy Technology

Minnesota Statute section 216B.1691, subdivision 1 defines an eligible energy technology as one that:

Generates electricity from the following renewable 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; the predominantly organic components of

wastewater effluent, sludge, or related by-products from publicly owned treatment works, but not including incineration of wastewater sludge to produce electricity; 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.

This definition of an eligible energy technology reflects a number of changes made by the Legislature since eligible technologies were originally defined under the REO Statute. Specifically, the capacity of hydroelectric facilities eligible for RES compliance was increased from 60 to 100 megawatts, and the definition of biomass was clarified to include landfill gas, and anaerobic digester systems. Finally, the restriction was lifted on Xcel's ability to count biomass and wind generation from its Prairie Island Legislative mandates.² The 2007 amendments to the RES Statute render generation from these mandates eligible to count toward RES compliance.

c. The Use of Renewable Energy Certificates to Meet RES Requirements

The 2003 amendment to Minnesota Statute section 216B.1691, subd. 4, provided that the Commission "may establish a program for tradable credits for electricity generated by eligible energy technology." The 2007 amendment to Minnesota Statute section 216B.1691, subd. 4 required the Commission to establish a program for tradable Renewable Energy Credits (RECs) by January 1, 2008, and to require all electric utilities to participate in a Commission-approved REC tracking system once such a system was in operation.

In an October 2007 Order, the Commission approved the use of the Midwest Renewable Energy Tracking system (M-RETS) as the REC tracking system under Minnesota Statute section 216B.1691, subd. 4(d), and required Minnesota utilities to participate. In its December 18, 2007 *Order Establishing Initial Protocols for Trading Renewable Energy Credits*, the Commission adopted a four-year shelf life for RECs.³ That means the REC is eligible for use meeting the RES requirements in the year of generation and for four years following the year of generation.

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 an annual compliance filing demonstrating their compliance with the RES by June 1st.

d. Criteria for Waiving or Extending the RES Requirements

The RES Statute was amended to include criteria under which the Commission may find it in the public interest to modify or delay implementation of the RES requirements. Among the factors the Commission must consider are:

² As part of earlier Legislative authorization for additional storage for spent nuclear fuel at Xcel's Prairie Island nuclear facility, Xcel was required to obtain 825 MW of wind energy (Minnesota Statute section 216B.2423) and 125 MW of biomass energy (Minnesota Statute section 216B.2424).

³ *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 Establishing Initial Protocols for Trading Renewable Energy Credits* (December 18, 2007).

- 1) The impact on customer's utility costs, including the economic and competitive pressure on the utility's customers;
- 2) The effects on electric system reliability;
- 3) Technical advances and concerns;
- 4) Rejection or delays in obtaining site and route permits;
- 5) Delays, cancellations or nondelivery of necessary equipment for construction of a facility;
- 6) Transmission constraints; and
- 7) Other statutory obligations imposed on the Commission or utility. [Minnesota Statute section 216B.1691, subd. 2b]

Upon a petition by a utility, the Commission may modify or delay an RES standard under numbers (1) to (3) "only if it finds implementation would cause significant rate impact, requires significant measures to address reliability, or raises significant technical issues." For the remaining items, Minnesota Statute section 216B.1691, subd. 2b allows modification or delay in the implementation of a standard only if the Commission "finds that the circumstances described in those clauses were due to circumstances beyond an electric utility's control and make compliance not feasible." To date, no utility has requested a modification or delay in the implementation of the RES requirements.

e. Solar Energy Standard (SES)

In 2014, the Minnesota Legislature adopted Minnesota Statute section 216B.1691, subd. 2f, establishing a Solar Energy Standard (SES) requiring public utilities to obtain at least 1.5 percent of their total Minnesota retail sales from solar energy by the end of 2020, with at least 10 percent of the 1.5 percent from solar facilities with a nameplate capacity of 20 kilowatts or less. The statute establishes a goal of obtaining ten percent of Minnesota retail sales from solar energy by 2030.

Three of the fifteen companies subject to the RES are also subject to the SES: Minnesota Power, Ottertail Power Company, and Xcel Energy. In addition to excluding cooperative and municipal utilities from the SES requirements, the SES statute excludes retail sales to customers that are iron mining extraction and processing facilities, or paper mills, wood products manufacturers, sawmills, or oriented strand board manufacturers from the calculation of 1.5 percent of retail sales.

Utilities subject to the SES submitted an initial report on their progress towards meeting the solar requirement by June 1, 2016. At the time their initial SES reports were filed in June, the utilities subject to the SES requirement estimated a need to add approximately 368 MW in solar capacity to meet the 2020 SES requirement. As noted below, a substantial quantity will come on-line in 2016.

f. Reporting on the Rate Impact of RES Compliance

Minnesota Statute section 216B.1691, subd. 2e, was amended to require the Commission to determine a uniform system for reporting the estimated rate impact of RES compliance. In its January 6, 2015 Order in Docket E999/CI-11-852,⁴ the Commission established reporting requirements for estimating the rate impact of RES compliance including:

- calculating the direct costs of renewable generation;
- adding the costs of any new transmission improvements needed for renewable power;
- subtracting costs of resources that would have been used in place of the renewable resources;
- and

⁴ *In the Matter of Utility Renewable Energy Cost Impact Reports Required by Minnesota Statutes Section 216B.1691, Subd. 2e*, Docket No. E999/CI-11-852, Order Establishing Uniform Reporting System for Estimating Rate Impact of Minn. Stat. §216B.1691, (January 6, 2015).

- discussing any impacts that renewable generation had on the utility's indirect costs (such as the effects on baseload generation facilities).

B. RES REPORTING REQUIREMENTS

1. Entities Subject to the RES Requirements

Minnesota Statute section 216B.1691, subd. 1(b) defines an electric utility as “a public utility providing electric service, a generation and transmission cooperative electric association, a municipal power agency, or a power district.”

Based on the statutory definition of an electric utility, the Commission has determined that the following entities are subject to the RES Statute:

- Basin Electric Power Cooperative
- Central Minnesota Municipal Power Agency (CMMPA)
- Dairyland Power Cooperative
- East River Electric Cooperative
- Great River Energy (GRE)
- Heartland Consumer Power District
- Interstate Power and Light
- Interstate Power and Light on behalf of Southern Minnesota Energy Cooperative (SMEC)⁵
- L&O Power Cooperative
- Minnkota Power Cooperative
- Minnesota Municipal Power Agency (MMPA)
- Minnesota Power
- Missouri River Energy Services
- Northwestern Wisconsin Electric Company
- Ottetail Power Company
- Southern Minnesota Municipal Power Agency (SMMPA)
- Xcel Energy

The definition of an electric utility contained in Minnesota Statute section 216B.1691, subd. 1(b) was amended in 2007 to include a power district. Consequently, Heartland Consumer Power District is now subject to the RES requirements. In its November 12, 2008 Order in Docket No. E999/CI-03-869, the Commission found that East River Electric Power Cooperative and L&O Power Cooperative were required to file separate RES reporting.⁶ Prior to this Order, L&O and East River's RES compliance reporting was aggregated with the reporting from Basin Electric. Finally, given its limited presence in Minnesota, the Commission granted Northwestern Wisconsin Electric Company the discretion to report its renewable energy compliance information as provided to the Wisconsin Public Service Commission.

⁵ *In the Matter of a Request for the Approval of the Asset Purchase and Sale Agreement Between Interstate Power and Light Company and Southern Minnesota Energy Cooperative*, Docket No. E001,115,140,105,139, 124, 126, 145, 132, 114, 6521, 142, 135/PA-14-322. Order Approving Agreement Subject to Conditions (June 8, 2015). For 2015, IPL retired RECs on behalf of itself and SMEC for each entities respective portion of 2015 sales. In the future, SMEC will retire RECs for Minnesota RES compliance on its own behalf.

⁶ *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 Setting Filing Requirements and Clarifying Procedures, (November 12, 2008).

2. *Determination of Generation Eligible for the Minnesota RES*

Minnesota Statute section 216B.1691, subd. 1 defines the types of renewable generation eligible for meeting the RES requirements, while Minnesota Statute section 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 affected parties in a number of Orders.⁷ Among the resources the Commission has determined ineligible for meeting the RES are resources used for green pricing 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).

In addition to excluding ineligible generation from the reporting, a number of utilities have Power Purchase Agreements (PPAs) with renewable generators in which the ownership of the environmental attributes is unknown or silent. The M-RETS operating procedures define a renewable energy credit or REC as “representing all of the attributes from one MWh of electricity generation from a renewable generating unit registered with the M-RETS tracking system or a certificate imported from a compatible certificate tracking system and converted to an M-RETS Certificate.”

The renewable attributes associated with one MWh include all environmental attributes, credits, benefits, emission reductions, offsets, and allowances attributable to the renewable energy generation. The purpose of requiring registration of a “whole certificate,” that is one with all the environmental attributes, is to help ensure compliance with the statutory prohibition against double counting of the environmental benefits, and to ensure that ratepayers receive the benefits of the renewable energy for which they are paying through their rates.

Four companies reported having some PPAs where the assignment of the RECs is not known: Great River Energy, Interstate Power & Light, Otter Tail Power Company, and Xcel Energy.

In a September 9, 2010 Order, the Minnesota Public Utilities Commission determined that Xcel owned the RECs for PPAs entered into pursuant to Minnesota’s wind and biomass statutory mandates, unless the generator could otherwise demonstrate that the PPA at issue is not silent as to REC ownership; and determined that for PPAs entered into pursuant to the Federal Public Utility Regulatory Policy Act (PURPA), the generators own the RECs.⁸ Xcel reports only one PPA amendment remains pending before the Commission to settle REC ownership issues.⁹

C. *2015 RES COMPLIANCE*

On June 1, 2016, utilities subject to the Minnesota RES filed their compliance reports with the Minnesota Public Utilities Commission (Docket No. E999/PR-16-12). Minnesota Statute section 216B.1691 currently requires Xcel to obtain 18 percent of its Minnesota retail sales from renewables, and all other utilities subject to RES requirements to obtain 12 percent of their Minnesota retail sales from renewables. Table 1, below, summarizes utility compliance with the 2015 requirements. All of

⁷ See footnote 1.

⁸ *In the Matter of Xcel Energy’s Petition for a Determination of Entitlement to Renewable Attributes of Energy Purchases Pursuant to Renewable Energy Requirements*, Docket No. E002/M-08-440, Order Determining Ownership of Renewable Energy Credits for Power Purchase Agreements Made Pursuant to State Wind and Biomass Statutes and the Federal Public Utility Regulatory Policy Act (September 9, 2010).

⁹ Xcel Compliance Filing in Docket E002/M-08-440 (December 12, 2012)

the utilities subject to the Minnesota RES have demonstrated compliance with the 2015 RES requirements.

Table 1: 2015 RES Compliance

Utility	2015 Minnesota Retail Sales (MWhs)	Total RECs Retired (for MN Retail Sales)	Percent
Basin Electric	648,716	77,846	12.0%
Central MN Municipal Power Agency (CMMPA)	315,168	37,823	12.0%
Dairyland Power Cooperative	810,828	97,300	12.0%
East River Power Cooperative	425,078	51,106	12.0%
Great River Energy	10,859,935	1,303,193	12.0%
Heartland Power District	646,112	77,535	12.0%
Interstate Power & Light (IPL)	486,176	58,523	12.0%
IPL on behalf of Southern Minnesota Electric Coop.	331,761	39,812	12.0%
L & O Power Cooperative	245,674	29,481	12.0%
Minnesota Municipal Power Agency (MMPA)	1,434,696	172,164	12.0%
Minnesota Power	9,208,645	1,105,038	12.0%
Minnkota Power Cooperative	1,534,364	184,124	12.0%
Missouri River Energy Services (MRES)	1,273,126	152,776	12.0%
Northwestern Wisconsin Power ¹⁰	519	(see footnote 10)	
Otter Tail Power Company	2,383,370	286,004	12.0%
Southern MN Municipal Power Agency	2,887,780	346,534	12.0%
Xcel Energy	<u>30,300,578</u>	<u>5,454,104</u>	18.0%
Total	63,792,007	9,476,076	14.9%

D. ABILITY TO COMPLY WITH RES REQUIREMENTS IN THE FUTURE

As noted above, for 2015, the RES requirement was 18 percent of Minnesota retail sales for Xcel Energy, and 12 percent of Minnesota retail sales for all other utilities subject to the requirement. The RES requirements increased for 2016 from 12 percent of Minnesota retail sales to 17 percent of Minnesota retail sales for all utilities except Xcel Energy. Xcel's RES requirement increased for 2016 from 18 to 25 percent of its Minnesota retail sales. Utilities may retire RECs towards RES compliance up to four years from the date of generation. In addition, utilities may purchase excess RECs from other utilities to meet their RES requirement, or reallocate RECs to Minnesota from their other state jurisdictions with lower RES requirements. Iowa, Wisconsin and Minnesota have Renewable Energy Standards, whereas North and South Dakota have voluntary Renewable Energy Objectives at 10 percent.

As part of their biennial reporting, utilities were asked to provide the year through which the Company can maintain its RES compliance with its current renewable portfolio. Table 2, below, summarizes the year through which the utilities expect to comply with the RES.

¹⁰ Per the Commission's November 12, 2008 Order in Docket No. E999/CI-03-869, Northwestern Wisconsin Electric is permitted to comply with the Minnesota reporting requirements by submitting its renewable energy compliance information as reported to the Wisconsin Public Service Commission. Northwestern Wisconsin submitted its Wisconsin RPS compliance report indicating it retired 24,367 RECs towards its compliance in Wisconsin.

Table 2: Estimated Year through which the Utility can comply with RES

Utility	Compliance through year
Basin Electric	2025
Central MN Municipal Power Agency (CMMPA)	2028
Dairyland Power Cooperative	2025
East River Power Cooperative	2025
Great River Energy	2026
Heartland Power District	2029
Interstate Power & Light	N/A ¹¹
L&O Power Cooperative	2025
Minnesota Municipal Power Agency (MMPA)	2020
Minnesota Power	2049
Minnkota Power Cooperative	2025
Missouri River Energy Services (MRES)	2019
Northwest Wisconsin	See footnote
Otter Tail Power Company	2025
Southern Minnesota Electric Cooperative (SMEC)	2016
Southern MN Municipal Power Agency	2021
Xcel Energy	2024

All of the utilities with the exception of Southern Minnesota Electric Cooperative (SMEC) have sufficient renewable resources to meet compliance into the 2020's. SMEC represents the former Interstate Power & Light Minnesota operations. As part of its purchase agreement with IPL for its Minnesota operations, SMEC will receive a portion of IPL's RECs reflecting the percent of IPL's system load (approximately five percent). SMEC indicates that it is evaluating opportunities to acquire renewable resources, or purchase RECs for future compliance.

The utilities reported a total of approximately 274.5 MW of solar projects coming on-line in 2016, and an additional 13.29 MW in 2017. In addition, a total of 578 MW of wind are expected to come on-line in 2016.

E. OBSTACLES AND POTENTIAL SOLUTIONS FOR MEETING THE RES REQUIREMENTS

The utilities provided comments on obstacles they have encountered or anticipate encountering to meeting the RES requirements. Nine of the utilities indicated that they had not experienced obstacles in meeting RES compliance. Transmission constraints within Minnesota as well as constraints on the ability to transport excess wind energy outside of Minnesota were among the most noted obstacles cited by utilities. In addition, the costs associated with integrating renewables into their energy portfolio as the share of renewable energy increases was also cited.

¹¹ IPL's Minnesota assets were sold to a group of Minnesota electric cooperatives, Southern Minnesota Electric Cooperative (SMEC) in 2015, and will no longer be subject to the Minnesota RES. Under the terms of the purchase agreement, IPL will supply SMEC with RECs equivalent to SMEC's share of total IPL load. SMEC will be responsible for acquiring RECs and/or renewable energy above the amount supplied by IPL that are necessary to meet its Minnesota RES requirement.

F. MITIGATING UNDESIREABLE ECONOMIC IMPACTS ON RATEPAYERS

Utilities were asked to identify efforts taken to adequately protect against undesirable economic impacts on ratepayers, including limiting rate impacts to consumers. Many of the utilities cited efforts to secure long-term contracts for renewables and transmission service as methods of limiting economic impacts. In addition, several of the utilities have sold or purchased RECs in the market as a means of limiting rate impacts to their ratepayers. Utilities purchasing RECs typically do so because they have found that option to be a reasonable cost method of meeting RES compliance, or making up the difference in REC need. A number of utilities also sold excess RECs that will not be needed in the foreseeable future for RES compliance. REC prices reported by the utilities typically ranged from between \$0.45 to \$1.10 per REC, although RECs from specific, narrowly defined generation types may be higher.

G. SOLAR ENERGY STANDARD COMPLIANCE (SES)

Minnesota Statute section 216B.1691 was amended by the 2013 Legislature to require public utilities to generate or procure 1.5 percent of their Minnesota retail electric sales from solar energy by 2020. The statute permits utilities subject to the SES to exclude retail sales to the mining and paper mill and wood products manufacturing industries from the calculation of their SES requirement. The statute further requires that at least 10 percent of the 1.5 percent SES goal be met by solar energy from facilities with a nameplate capacity of 20 kW or less. Three utilities, Minnesota Power, Otter Tail Power and Xcel Energy are subject to the SES, and are required to submit annual reports detailing their efforts to comply.

1. Otter Tail Power Company (OTP)

OTP continues to have discussions with developers regarding various possible solar projects. The Company indicated that it expects that meeting the ten percent carve out for systems less than 20 kW will be a challenge. Currently, the Company has 18 customer-owned solar facilities totaling 166 kW and total generation of 96 MWh in 2015. Four of the customer-owned facilities are located in North or South Dakota, and are on a tariff that permits the customer to retain the solar renewable energy credits (SRECs). OTP stated that it is working with a university to install 20 kW of solar, has filed for a modification of its Conservation Improvement Program to provide incentives for Publically Owned Property Solar (POP Solar) projects to expand solar benefits within various communities. OTP anticipates it will be able to provide greater detail on its potential mix of projects to meet SES requirements in its next biannual SES report.

2. Minnesota Power (MP)

MP's 10 MW Camp Ripley Solar project is expected to be in-service in 2016. In addition, the Company received approval for a 1.04 MW company-owned Community Solar Garden pilot project. MP has also filed revisions to its SolarSense program to provide outreach, education and incentives for customer solar projects, and provides Solar Energy Analysis (SEA) to help customers determine whether solar energy is appropriate for their site.

3. Xcel Energy

Xcel has 262.25 MW of large solar projects expected to come on-line by the end of 2016 or early 2017. In addition, the Company expects to have 45-55 MW of community solar gardens online by the end of 2016. The Company has 396 (5,890 kW) solar systems in its Solar*Rewards program, and 448 (5,526 kW) in its Made in Minnesota Program.

II. SUMMARY AND CONCLUSION

While some utilities faced certain obstacles in meeting their RES requirements, the Minnesota Department of Commerce concludes that utilities complied with their 2015 obligations, and appear able to comply into the future. Commerce notes that the official determination as to whether utilities are complying with Minnesota Statute section 216B.1691 is the responsibility of the Commission and will be determined in Docket E999/M-16-83.