



Minnesota Renewable Energy Standard: UTILITY COMPLIANCE

January 15, 2019

Prepared by
Minnesota Department of Commerce, Division of Energy Resources

Pursuant to Minnesota Statute 216B.1691, subd. 3(b)

Table of Contents

Introduction	3
Legislative History	4
Adoption of a Renewable Energy Objective.....	4
Adoption of a Renewable Energy Standard.....	4
RES Reporting Requirements.....	8
Table 1: 2017 RES Compliance	10
Ability to Comply with RES Requirements in the Future.....	11
Table 2: Estimated Year through which the Utility can Comply with RES.....	11
Obstacles and Potential Solutions for Meeting the RES Requirements	12
Mitigating Undesirable Economic Impacts on Ratepayers.....	12
Solar Energy Standard (SES) Compliance	12
Summary and Conclusion	13

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) submits 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 2017 RES requirements.

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, including:

- 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
- 2017 RES Compliance
- Ability to Comply with RES Requirements in the Future
- Obstacles and Potential Solutions for Meeting Future RES Requirements
- Mitigating Undesirable Economic Impacts on Ratepayers
- Solar Energy Standard (SES) Compliance
- Summary and Conclusions

Legislative History

Adoption of a Renewable Energy Objective

In 2001, the Minnesota Legislature first enacted the Minnesota Renewable Energy Objective (REO) contained in Minnesota Statute section 216B.1691 (REO Statute). As originally enacted, the REO Statute required electric utilities to “make a good faith effort” to obtain 10 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 10 percent renewable energy standard.

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 Minnesota Public Utilities Commission (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.

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 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 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 2017 Xcel Energy's RES requirement remained at 25 percent, and all other utilities remained at 17 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.

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 Energy's ability to count biomass and wind generation from its Prairie Island legislative mandates¹. The 2007

¹ 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).

amendments to the RES Statute render generation from these mandates eligible to count toward RES compliance.

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 RECs². That means the REC is eligible for use in 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 while also 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.

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:

1. The impact on customer 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 non-delivery of necessary equipment for construction of a facility;
6. Transmission constraints; and

² *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).*

7. Other statutory obligations imposed on the Commission or utility.

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.

Solar Energy Standard (SES)

In 2013, 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 a goal of obtaining 10 percent of Minnesota retail sales from solar energy by 2030. The SES also contained a small solar carve-out that requires at least 10 percent of the 1.5 percent solar energy standard come from small solar facilities. The size threshold for the small solar carve-out was later increased from 20 kW to 40 kW for all utilities subject to the SES.

Three companies are 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.

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-11-852³, 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
- discussing any impacts that renewable generation had on the utility’s indirect costs (such as the effects on baseload generation facilities).

³ *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).*

RES Reporting Requirements

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 ⁴
- L&O Power Cooperative
- Minnkota Power Cooperative
- Minnesota Municipal Power Agency (MMPA)
- Minnesota Power
- Missouri River Energy Services
- Northwestern Wisconsin Electric Company
- Ottertail Power Company
- Southern Minnesota Energy Cooperative
- 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 reporting⁵. 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

⁴ On June 8, 2015, the Commission approved the sale of Interstate Power and Light’s Minnesota electric distribution system and assets, and the transfer of its Minnesota electric service rights and obligations, to Southern Minnesota Energy Cooperative (SMEC). 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).

⁵ 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).

Electric Company the discretion to report its renewable energy compliance information as provided to the Wisconsin Public Service Commission.

2017 RES Compliance

Utilities subject to the Minnesota RES file an annual compliance filing each year on June 1st. The most recent compliance filing was made on June 1, 2018 for compliance with 2017 RES requirements (Docket No. E999/PR-18-12). Minnesota Statute section 216B.1691 currently requires Xcel Energy to obtain 25 percent of its Minnesota retail sales from renewables, and all other utilities subject to RES requirements to obtain 17 percent of their Minnesota retail sales from renewables. Table 1, below, summarizes utility compliance with the 2017 requirements. All of the utilities subject to the Minnesota RES have demonstrated compliance with the 2017 RES requirements.

Table 1: 2017 RES Compliance

Utility	2017 Minnesota Retail Sales (MWhs)	Total RECs Retired (for MN Retail Sales)	Percent
Basin Electric	648,716	77,846	17.0%
Central MN Municipal Power Agency	315,168	37,823	17.0%
Dairyland Power Cooperative	810,828	97,300	17.0%
East River Power Cooperative	425,078	51,106	17.0%
Great River Energy	10,859,935	1,303,193	
Heartland Power District	646,112	77,535	17.0%
Interstate Power & Light (IPL)	486,176	58,523	17.0%
L & O Power Cooperative	245,674	29,481	17.0%
Minnesota Municipal Power Agency (MMPA)	1,434,696	172,164	17.0%
Minnesota Power	9,208,645	1,105,038	17.0%
Minnkota Power Cooperative	1,534,364	184,124	17.0%
Missouri River Energy Services (MRES)	1,273,126	152,776	17.0%
Northwestern Wisconsin Power ⁶	519	(see footnote 6)	
Otter Tail Power Company	2,383,370	286,004	17.0%
Southern Minnesota Electric Cooperative	331,761	39,812	17.0%
Southern MN Municipal Power Agency	2,887,780	346,534	17.0%
Xcel Energy	<u>30,300,578</u>	<u>5,454,104</u>	<u>25.0%</u>
Total	63,792,007	9,476,076	

⁶ 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.

Ability to Comply with RES Requirements in the Future

As noted above, for 2017, the RES requirement was 25 percent of Minnesota retail sales for Xcel Energy, and 17 percent of Minnesota retail sales for all other utilities subject to the requirement. 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.

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

Utility	Compliance through year
Basin Electric	2030
Central MN Municipal Power Agency (CMMPA)	2028
Dairyland Power Cooperative	2030
East River Power Cooperative	2025
Great River Energy	2039
Heartland Power District	2045
L&O Power Cooperative	2025
Minnesota Municipal Power Agency (MMPA)	2020
Minnesota Power	2053
Minnkota Power Cooperative	2025
Missouri River Energy Services (MRES)	2020
Northwest Wisconsin	See footnote 6
Otter Tail Power Company	2034
Southern Minnesota Electric Cooperative (SMEC)	2019
Southern MN Municipal Power Agency	2040
Xcel Energy	2040

All of the utilities, with the exception of Southern Minnesota Electric Cooperative (SMEC) have sufficient renewable resources to meet compliance beyond 2019. 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 IPL's former Minnesota operations' 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.

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. Most 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 cost associated with integrating renewables into their energy portfolio as the share of renewable energy increases was also cited.

Mitigating Undesirable 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 \$0.20 to \$1.10 per REC, although RECs from specific, narrowly defined generation types may be higher.

Solar Energy Standard (SES) Compliance

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. Table 3 provides a summary of the estimated amount of solar capacity and solar energy needed to meet the 2020 SES requirement.

Table 3: Summary of Utility Reporting on SES

	Otter Tail	Minnesota Power	Xcel
MN retail sales (MWh)	2,584,490	8,997,352	29,739,386
Excluded Sales	69,172	5,973,804	75,306
Annual solar generation (MWh)	96	17,646	603,516
Est. solar capacity (MWs) needed to meet 2020 SES	30	30	226

Est. solar energy needed to meet 2020 SES (MWhs)	40,000	50,879	437,907
Est. solar capacity (MWs) needed to meet Small Solar carve-out	3	4	31
Est. solar energy (MWhs) needed to meet Small Solar carve-out	4,000	5,088	43,791

Otter Tail Power Company (OTP)

OTP continues to have discussions with developers regarding various possible solar projects designed to meet the utility-scale portion of the SES. OTP has purchased Solar Renewable Energy Credits (SRECs) towards meeting its initial SES requirement for 2020. The Company continues to evaluate solar projects with the goal of keeping its customer costs reasonable and balancing the different regulatory perspectives of its various operating jurisdictions.

The Company states that it expects that meeting the ten percent carve-out for systems less than 40 kW will be a challenge. In 2017, the Company had 21 customer-owned solar facilities totaling 263 kW. OTP received approval to move dollars budgeted for the Made in Minnesota program to provide additional funding for its Publicly Owned Property Solar (POP Solar) projects to expand solar benefits within various communities. OTP anticipates purchasing additional small-scale SRECs to comply with the small solar carve-out requirement.

Minnesota Power (MP)

MP currently has its 10-MW Camp Ripley Solar and a 1.04-MW company-owned Community Solar Garden in operation. Additionally, the Company has plans to purchase energy from a 10-MW solar project scheduled to come online in 2020. MP also continues to offer 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.

Xcel Energy

Xcel has 262.25 MW of large solar projects currently in operation. In addition, the Company has 435 MW of community solar gardens currently in operation, and an additional 273 MW of community solar gardens in the design and construction process. Finally, Xcel continues offering incentives to customers installing solar on their property under its various Solar*Rewards programs.

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 2017 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-18-78.