

Minnesota Public Utilities Commission

Staff Briefing Papers

Meeting Date: July 13, 2017 *Agenda Item # 2

Company: All Electric Utilities Subject to Minnesota Statute §216B.1691

Docket No. **E-999/M-16-83**
E-999/PR-16-12
E-999/PR-15-12

In the Matter of Commission Consideration and Determination on Compliance with Renewable Energy Standards (RES)

In the Matter of Renewable Energy Certificate Retirement Report for Compliance Year 2015

In the Matter of Renewable Energy Certificate Retirement Report for Compliance Year 2014

Issue(s): What action should the Commission take on the RES plans filed by electric utilities?

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Relevant Documents

DOC, <i>Letter</i>	June 5, 2015
Commission, <i>Notice</i>	April 11, 2016
Dairyland Power Cooperative, <i>Compliance Filing</i>	April 19, 2016
Northwestern Wisconsin Electric Company, <i>Report</i>	April 25, 2016
L&O Power Cooperative, <i>Compliance Filing</i>	April 29, 2016
Heartland Consumers Power District, <i>Compliance Filing</i>	May 11, 2016
Otter Tail Power, <i>Report</i>	May 20, 2016
Southern Minnesota Energy Cooperative (SMEC), <i>Report</i>	May 24, 2016
Interstate Power and Light, <i>Report</i>	May 25, 2016
Interstate Power and Light [for Southern Minnesota Energy Cooperative (SMEC)], <i>Report -- Attachment A</i>	May 25, 2016
Basin Electric Power Cooperative, <i>Report</i>	May 26, 2016
Minnkota Power Cooperative, <i>Compliance Filing</i>	May 26, 2016
East River Electric Power Cooperative, <i>Report</i>	May 27, 2016
Missouri River Energy Services, <i>Compliance Filing</i>	May 27, 2016
Central Minnesota Municipal Power Agency, <i>Compliance Filing</i>	May 31, 2016
Minnesota Municipal Power Agency, <i>Compliance Filing</i>	May 31, 2016
Xcel Energy, <i>Report</i>	June 1, 2016
Minnesota Power, <i>Compliance Filing</i>	June 1, 2016

Great River Energy, <i>Compliance Filing - Revised Report</i>	June 13, 2016
DOC, <i>Comments</i>	November 30, 2016
DOC, <i>Corrected Renewable Energy Standards Report</i>	February 2, 2017
Xcel Energy, <i>Compliance Filing</i>	March 10, 2017

The attached materials are work papers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

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I. Statement of the Issues

What action should the Commission take on the Renewable Energy Standard (RES) plans filed by electric utilities?

II. Background

The current docket represents the Commission's process to document its responsibilities to regularly investigate compliance with Minnesota's RES, Minnesota Statute §216B.1691.

In 2001, Minnesota's renewable energy objective statute, Minnesota Statute §216B.1691, was passed. Modifications to the statute were made in later years. In 2003, a requirement was added that utilities must file reports with the Commission and that the Commission detail the standards and criteria for judging a utility's good faith effort to meet the objective. The Commission began setting those criteria in a June 1, 2004 Order, which set reporting requirements for utilities to demonstrate their efforts to comply with the statute. Significant modifications were made to the statute in 2007, including the addition of a RES to accompany the already existing Renewable Energy Objective (REO). At that time, the following renewable energy goals were established for the end of the year indicated:

2012	12 percent
2016	17 percent
2020	20 percent
2025	25 percent.

For utilities that owned a nuclear generating facility as of January 1, 2007, their requirements are:

2012	18 percent
2016	25 percent
2020	30 percent. ¹

Changes were also made to eligible energy technologies that included a higher threshold for hydroelectric capacity of 100 MW or less and biomass generation was modified to include landfill gas and anaerobic digester systems.² Three years later, in 2010, amendments were made to the RES Statute to clarify the definition of total retail electric sales that barred power supplied by a federal power marketing administration or other federal agency to be regarded as RES compliance.³

The statute in its current form requires all 16 utilities subject to the RES to file with the Commission a report showing its compliance with the statute and its plans for complying in the future.⁴ By statute,

¹ Minnesota Statute §216B.1691, Subd 2 a(a) and 2 a(b).

² Minnesota Statute §216B.1691, Subd. 1 (a)(5).

³ Minnesota Statute §216B.1691, Subd. 1 (c) and Department Comments, Page 3.

⁴ Based upon the statutory definition of an electric utility, the following entities are subject to the RES:

- Basin Electric Power Cooperative
- Central Minnesota Municipal Power Agency (CMMMPA)
- Dairyland Power Cooperative
- East River Electric Cooperative
- Great River Energy (GRE)
- Heartland Consumer Power District
- 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 (SMEC) (filed by Interstate Power and Light)
- Southern Minnesota Municipal Power Agency (SMMPA)
- Xcel Energy

these plans must be submitted to the Commission every two years.⁵ The statute further states that the Commission must investigate utilities' compliance.⁶

Beginning in 2008, the Commission memorialized its process for receiving these biennial reports and fulfilling its statutory duty to investigate compliance with the statute.⁷ The Commission required utilities to file a report with specific content to satisfy the reporting requirement under statute.⁸ The Commission made findings of compliance in its 2008, 2010, 2012, and 2014 biennial compliance dockets. This docket represents the Commission's fifth biennial renewable energy compliance docket.

III. Attachments

Attachments to this report include:

Attachments 1: Historical REC Purchases and Sales (TRADE SECRET and Public Versions)

IV. Biennial RES Reports

There are no disputes present with this docket. Following the close of the PUC-issued comment period, only the Department of Commerce (the Department) submitted comments.⁹

After reviewing and verifying compliance, the Department recommends the Commission find that all utilities are in compliance with the 2014 and 2015 RES requirements.

V. Staff Analysis

Finding of Compliance

Staff agrees with the Department that the utilities have retired the correct number of RECs for years 2014 and 2015. Staff also believes, based upon the reports of each utility, that the utilities have reasonable plans to comply in the future. Please see tables at the end of the papers for more specific information related to purchases and sales of RECs.

REC Prices and Availability

As with the previous biennial process, staff has compiled an attachment listing the prices for REC purchases and sales. Tracking REC prices can be useful because it may assist the Commission and stakeholders in knowing whether there is a functioning REC market, whether utilities are relying on decoupled REC purchases to meet RES requirements, and how many surplus RECs are in the market. REC prices also help the Commission understand how utilities are managing their REC portfolios. As noted in the attachments, REC prices reported by the utilities range from between \$0.30 to \$1.80 per REC.

Reported Concerns with Meeting the RES Requirements

Nine utilities expressed having no obstacles now or in the future with meeting RES compliance. However, other utilities provided obstacles they have confronted or will encounter with future RES compliance.

⁵ Minnesota Statute §216B.1691, Subd. 3(a).

⁶ Minnesota Statute §216B.1691, Subd. 7.

⁷ "Making findings on compliance status is the most effective way to ensure individual utility compliance and to achieve the statewide renewable energy goals set by the Legislature." See also Order Paragraph 6 requiring biennial compliance filing from each of the 16 utilities subject to the RES. ORDER SETTING FILING REQUIREMENTS AND CLARIFYING PROCEDURES, Docket E-999/CI-03-869, Issued November 12, 2008, pages 7 and 9, respectively.

⁸ Beginning in 2012, utilities were asked to use a standard reporting format that was created by Commission staff in coordination with Department staff.

⁹ The open comment period for this docket was issued February 13 and closed March 6, 2017.

Impacts to Ratepayers

East River stated that renewable energy projects may indirectly create cost shifts among consumers, particularly if renewable energy projects are not required to pay infrastructure costs including generation, transmission, and distribution. Therefore, it is believed that consumers may pay higher rates with special concern on how the elderly and lower-income groups will be affected.¹⁰ Meanwhile, Dairyland Power reports they control costs by signing long term renewable energy contracts, which also helps to minimize any undesirable economic impacts.¹¹ SMEC (Southern Minnesota Energy Cooperative) purchases RECs to maintain compliance and stated that “this is an economic path considering REC prices have fallen significantly since 2008.”¹² Staff notes that any generation project may have an impact on rates.

Cost and Cost-Effectiveness

Two utilities stated that existing renewable energy agreements to meet the RES continue to be higher than MISO (Midcontinent Independent System Operator) market prices.¹³ As a result, some utilities believe consumers are paying more for renewable energy than for energy that could be purchased from the market.¹⁴ At the same time, staff observes that there is price volatility in the MISO market and purchased power agreements provide some stability. There are also growing concerns over the cost of wind and future wind energy projects, especially if tax credits such as the Production Tax Credit (PTC) and/or Investment Tax Credit (ITC) expire.¹⁵ For biomass, one utility noted the key driver in developing new competitively priced biomass generation is a sufficient supply of reasonably priced fuel to support the expenditure of the large scale capital required to build facilities.¹⁶

Infrastructure Improvements – Transmission, Integration & Technology

As renewable generation increases, the costs of both transmission and integration will continue to be a concern.¹⁷ The costs associated with securing a transmission path and historically long delays also greatly contribute to the affordability of renewable energy generation.¹⁸ Having adequate and reliable transmission capacity as well as the consideration of future transmission upgrades are both important in assuring that the system may reliably and economically accommodate the intermittency of renewable energy generation.¹⁹ While there are many considerations with interconnection applications that may create delays, there have been some efforts to address the lags as it was stated that MISO reformed its interconnection queue process. This has resulted in substantially less time between making an interconnect request and executing a signed interconnection agreement.²⁰

Additionally, significant advancements in wind turbine technology and wind resource assessments has enabled the identification of potential sites to cultivate more wind potential.²¹ These technological improvements – and others not found in the reports – are helping utilities meet the RES standard.

Solar Energy Standard Compliance (SES)

The Minnesota Legislature adopted the Solar Energy Standard (SES) in 2014. Minnesota Statute section 216B.1691, subd. 2f requires 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

¹⁰ See East River Electric Power Cooperative *Compliance Report*, May 27, 2016.

¹¹ Dairyland Power Cooperative *Compliance Filing*, April 19, 2016.

¹² Interstate Power and Light [for Southern Minnesota Energy Cooperative (SMEC)] *Report -- Attachment A*, May 25, 2016.

¹³ See Great River Energy *Compliance Filing - Revised Report*, June 13, 2016 and Xcel Energy *Report*, June 1, 2017.

¹⁴ See Great River Energy *Compliance Filing - Revised Report*, June 13, 2016.

¹⁵ See Xcel Energy, *Report*, June 1, 2017.

¹⁶ See Minnesota Power *Compliance Filing*, June 1, 2016.

¹⁷ See Minnesota Power *Compliance Filing*, June 1, 2016 and Southern Minnesota Energy Cooperative (SMEC) *Report*, May 24, 2016.

¹⁸ *Id.*

¹⁹ See Great River Energy *Compliance Filing - Revised Report*, June 13, 2016 and Xcel Energy *Report*, June 1, 2017.

²⁰ See Xcel Energy *Report*, June 1, 2017.

²¹ See Minnesota Power *Compliance Filing*, June 1, 2016.

facilities with a nameplate capacity of 20 kilowatts or less.²² The three utilities subject to the SES – Minnesota Power, Ottertail Power Company, and Xcel Energy – submitted annual reports detailing their advancements. The utilities estimated they must add approximately 368 MW in solar capacity to meet the 2020 requirement.²³ Docket E999/M-17-283 is assigned to the three utilities’ statutorily-required annual reports on their efforts to meet the SES, and staff assumes more detail will be provided there, giving the Commission another opportunity this year to review efforts to meet the SES.

Future Renewable Energy Generation

Below is a chart of the reported renewable generation facilities which utilities expect to become operational. Because of the date of these utility filings, some of the Commercial Operation Dates have now passed.

Name	Type	Capacity	Capacity Factor	Expected Commercial Operation Date	Utility
Dickinson Solar	Solar	2.25 MW	13.50%	7/30/2016	Great River Energy
Oliver 3	Wind	100 MW	50%	12/31/2016	Minnkota Power Cooperative, Inc.
Black Oak Getty Wind Farm	Wind	78 MW	44%	Last quarter of 2016	Minnesota Municipal Power Agency
Buffalo Solar	Solar	7.25 AC MW	22%	Last quarter of 2017	Minnesota Municipal Power Agency
Camp Ripley	Solar	10 MW	19%	11/30/2016	Minnesota Power
Community Solar Garden Pilot	Solar	1.04 MW	15%	1/31/2017	Minnesota Power
Odell Wind	Wind	200 MW	37%	8/8/2016	Xcel dba Northern States Power
Courtenay Wind	Wind	200 MW	39%	12/31/2016	Xcel dba Northern States Power
Aurora Solar	Solar	100 MW	23%	Partially in-service	Xcel dba Northern States Power
Marshall Solar	Solar	62 MW	23%	12/6/2016	Xcel dba Northern States Power
North Star Solar	Solar	100 MW	23%	10/31/2016	Xcel dba Northern States Power
Sunflower Wind	Wind	104 MW	51%	12/31/2016	Basin Electric Power Cooperative
Lemond Solar Center	Solar	5 MW	20%	Second quarter of 2017	Southern Minnesota Municipal Power Agency

Overall, the reports and the Department’s comments can assist the Commission in continuing to fulfill its statutory obligation to monitor compliance with the RES.

Additional Information as Part of Next Biennial Report

One recommendation to the reporting structure brought by staff is to request utilities to include additional information on the source of the REC purchased or sold on ‘A.6 REC Purchases & Sales’ of the compliance report. At this time, utilities list their REC purchases and sales, and the price of those RECs, but not the type of REC. Tracking the price of solar RECs that are purchased or sold will aid the Commission in this docket and other dockets where solar REC pricing has come up. This information will be helpful to the Commission in better understanding the evolving renewable energy market. Other

²² DOC, *Corrected Renewable Energy Standards Report*, February 2, 2017 at page 10.

²³ Id at 5.

than this, staff recommends findings similar to those it made in the past two biennial RES filings, as outlined below.

VI. Decision Options

I. Modification of Biennial RES Reporting Form

- A. Delegate authority to the Executive Secretary to modify the Commission's biennial RES reporting form to include the price of solar RECs, when disclosing REC purchases and sales.
- B. Make some other finding.

II. Compliance with the 2014 and 2015 Renewable Energy Standard

- A. Find that the utilities enumerated above and subject to Minnesota Statute §216B.1691 have complied with the 2014 and 2015 standards of 12% percent of annual retail sales (18% for Xcel) OR
- B. Make some other finding.

III. Future Compliance

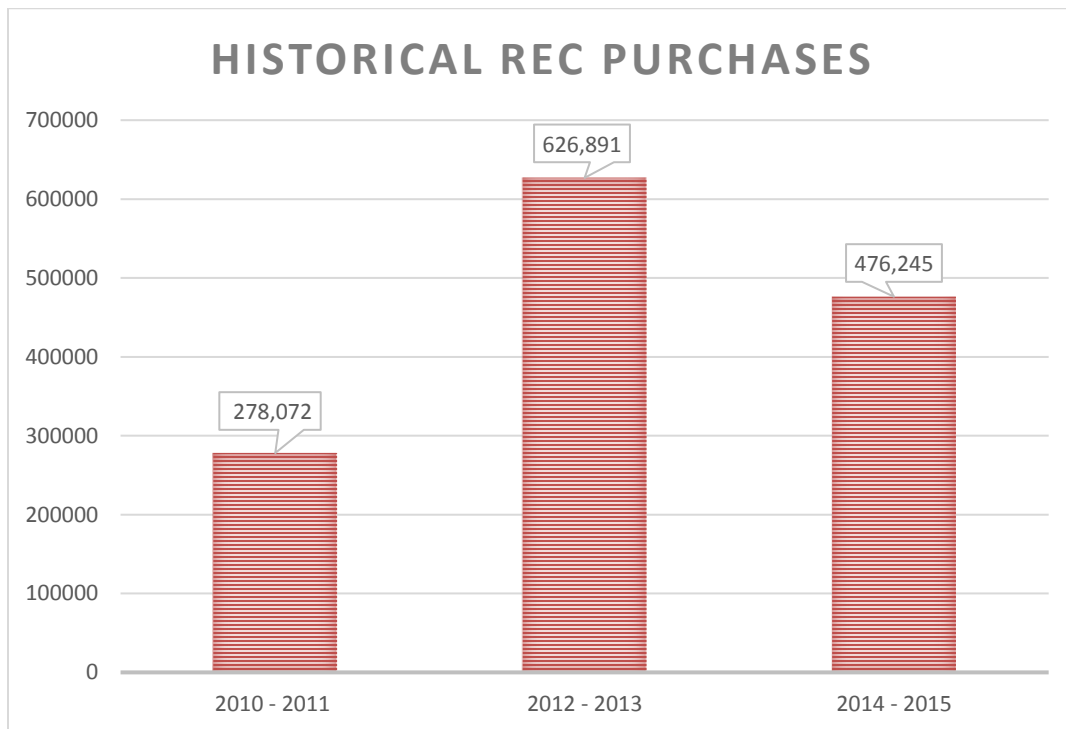
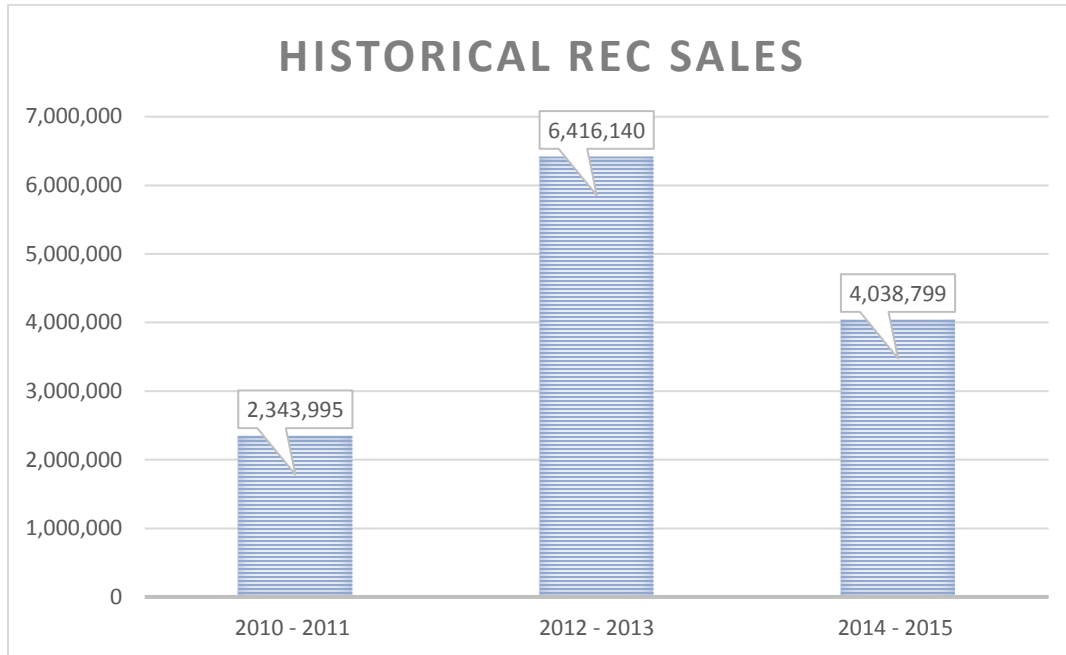
- A. Find that the utilities subject to Minnesota Statute §216B.1691 have submitted what appear to be reasonable plans to meet the renewable energy standards for 2016-2017 OR
- B. Make some other finding.

VII. Staff Recommendation

Staff recommends I. A, II. A, and III. A.

Other than the additional compliance details requested in Decision Option I, these options are consistent with the decisions made by the Commission in previous biennial dockets.

Tables of Historical REC Sales and Purchases



Tables were created using REC data collected from compliance filings in the following dockets: 12-958 for 2010-2011, 14-237 for 2012-2013, and 16-83 for 2014-2015.