**REPORT TO THE MINNESOTA LEGISLATURE**

**Progress on Compliance by Electric Utilities with the Minnesota Renewable Energy Objective and the Renewable Energy Standard**

The Minnesota Office of Energy Security (OES) offers the following report on the progress of Minnesota's electric utilities' compliance with the Minnesota Renewable Energy Objective (REO) and the Renewable Energy Standard (RES) contained in Minn. Stat. §216B.1691.

As will be explained in the report below, while there are certainly obstacles that utilities must face in meeting their REO and RES goals and requirements, the OES found that the utilities appear to be making a good faith effort to comply with their 2007 obligations of obtaining at least 1 percent of Minnesota retail sales from renewable sources. Utilities also appear to be on track to meet their 2010 goals[1] of obtaining at least 7 percent of their Minnesota retail sales from renewables, and in the case of Xcel Energy obtaining 15 percent of their Minnesota retail sales from renewable sources.

## I. INTRODUCTION

The OES provides this report in compliance with Minn. Stat. §216B.1691, subd. 3(b) which requires a biannual 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:

(1) the status of the utility's renewable energy mix relative to the objective and standards;
(2) efforts taken to meet the objective and standards;
(3) any obstacles encountered or anticipated in meeting the objective or standards; and
(4) potential solutions to the obstacles.

This RES Report is divided into the following sections:

I. Legislative History
II. RES Reporting Requirements
III. Individual Utility Progress in Meeting the Requirements of the REO and RES
IV. Obstacles and Potential Solutions for Meeting Future RES Requirements
V. Summary and Conclusion

[1] OES uses the term "appear to" because the Public Utilities Commission, rather than OES, has the authority to determine actual REO and RES compliance.

## I. LEGISLATIVE HISTORY

### *A. ADOPTION OF A RENEWABLE ENERGY OBJECTIVE*

The Minnesota Renewable Energy Objective (REO) contained in Minnesota Stat. §216B.1691 was first enacted by the Minnesota Legislature in 2001. As originally enacted the Statute required electric utilities to "make a good faith effort" to obtain by 2015 10 percent of their Minnesota retail energy sales from eligible energy sources, and to obtain 0.5 percent of their renewable energy from biomass technologies. Xcel Energy had a stronger provision since it was mandated to meet a 10 percent renewable energy standard.

In 2003, the Legislature amended the statute to require the Minnesota Public Utilities Commission (Commission) to supervise and facilitate utilities' good faith efforts to meet their REO obligations. Specifically, 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.[2]

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[2] *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)

*B. ADOPTION OF A RENEWABLE ENERGY STANDARD*

During the 2007 Legislative session, Minn. Stat. §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.

**1. <u>The Renewable Energy Standard</u>**

Consistent with the earlier REO, the RES Statute requires that a utility generate or procure at least 1 percent of its retail electric sales from an eligible energy technology beginning in 2005, and at least 7 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 Minn. Stat. §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 5 percent by other eligible energy technologies.

### 2. Changes to the Definition of an Eligible Energy Technology

Minn. Stat. §216B.1691, subd. 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, 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.

The definition of an eligible energy technology cited above reflects a number of changes made by the 2007 Legislature when it enacted the RES. 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.[3] The 2007 amendments to the RES Statute render generation from these mandates eligible to count toward RES compliance.

### 3. The Use of Renewable Energy Certificates to Meet RES Requirements

The 2003 amendment to Minn. Stat. §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 Minn. Stat. §216B.1691, subd. 4 required the Minnesota Public Utilities Commission to establish a program for tradable Renewable Energy Credits (RECs)[4] 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.

The Commission began the process of considering a REC tracking program in 2004 by directing Commission Staff, the OES and other interested commentators and parties to participate in the Midwest Renewable Credit Workshops.[5] Through a series of workshops and meetings involving stakeholders throughout the Midwest region, a regional credit tracking and trading system, known as the Midwest Renewable Energy Tracking System or M-RETS, was developed.

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[3] As part of earlier Legislative authorization for additional storage for spend nuclear fuel at Xcel's Prairie Island nuclear facility, Xcel was require to obtain 825 MW of wind energy (Minn. Stat. §216B.2423) and 125 MW of biomass energy (Minn. Stat. §216B.2424).

[4] Another commonly used term of RECs is "green tags."

[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, 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 an October 2007 Order, the Commission approved the use of the M-RETS system as the REC tracking system under Minn. Stat. §216B.1691, subd. 4(d), and required Minnesota utilities to participate.[6] 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.

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 1 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 of each year

### 4. 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'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 non-delivery of necessary equipment for construction of a facility;
(6) Transmission constraints; and
(7) Other statutory obligations imposed on the Commission or utility.
[Minn. Stat. §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, Minn. Stat. §216B.1691, subd. 2b allows modification or delay in the implementation of a standard only if the Commission "finds that the circumstances described in

[6] *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)

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.

## II. RES REPORTING REQUIREMENTS

### *A. ENTITIES SUBJECT TO THE RES REQUIREMENTS*

Minn. Stat. §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 Consumers Power District
- Interstate Power and Light
- 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 Municipal Power Agency (SMMPA)
- Xcel Energy

The definition of an electric utility contained in Minn. Stat. §216B.1691, subd. 1(b) was amended in 2007 to include a power district. Consequently, Heartland Consumers 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.[7] 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. Further details of each utility's progress in meeting the RES requirements are contained in Section III, below.

[7] *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)

### *B. DETERMINATION OF MINNESOTA RES ELIGIBLE GENERATION*

Minn. Stat. §216B.1691, subd. 1 defines the types of renewable generation eligible for meeting the RES requirements, while 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.[8] Among the resources the Commission has determined 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).

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."[9] The renewable attributes associated with one MWh include all environmental attributes, credits, benefits, emissions 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 report having some PPAs for which the assignment of the RECs is not known: Great River Energy, Interstate Power & Light, Ottertail Power Company, and Xcel Energy. A detailed discussion of the amount of generation obtained through these PPAs, and the impact of the inclusion of such generation on the companies' progress in meeting RES standards is reflected for each affected utility in the discussion contained in Section III below.

## III. INDIVIDUAL UTILITY PROGRESS IN MEETING THE 2007 AND 2010 REQUIREMENTS

### *A. SUMMARY OF 2007 COMPLIANCE*

Until 2010, Minn. Stat. §216B.1691, subd 2 requires that:

[8] See footnote 2
[9] M-RETS Operating Procedures, page 77, at http://www.m-rets.com/resources/M-RETS-Operating-Procedures-07.02.2007.pdf

> … 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.

For 2007 a total of 3,121,257 MWh's or 4.7 percent of Minnesota retail sales were generated from sources which are eligible to count toward the Minnesota RES. Wind accounted for approximately 46.6 percent of all renewable generation, with 24 percent generated from biomass and 29.4 percent generated from hydro**.** A discussion of each utility's generation totals and mix of resources is contained below.

### *B. PROGRESS TOWARD MEETING 2010 GOALS*

Beginning in 2010, Xcel is required to obtain 15 percent of the energy it uses to serve its Minnesota retail sales from renewable sources, while the remaining utilities are required to make a good faith effort to obtain 7 percent of their Minnesota retail sales from renewable sources by 2010.

In order to assess each utility's progress towards meeting its 2010 RES goals, the OES obtained or requested information on each utility's planned capacity additions. In total, reporting utilities plan to add an estimated 2,100 MWs of renewable generation through 2010, of which approximately 1,900 MWs is expected to be wind energy.

Because the RES goals are energy goals (that is, the percentage of MWhs obtained from renewable generation), an estimate of the energy obtained from planned capacity additions was calculated using estimated capacity factors for each energy type. For example, wind energy is an intermittent resource with a typical capacity factor of between 30 and 40 percent. For the purposes of estimating expected energy generation, the calculations use a capacity factor of 35 percent. In addition, the RES compliance rates reflect 2007 retail sales amounts only. OES does not have sufficient information at this time for each utility to attempt to consider forecasting changes that could result in higher or lower energy sales levels or the impact of the energy savings requirements set forth in Minn. Stat. §216B.241 which would lower energy sales levels. Currently planned capacity additions would generate an estimated 6,698,377 MWhs of additional Minnesota RES eligible renewable generation. When combined with existing renewable generation, the total Minnesota RES eligible renewable generation would total an estimated 9,819,634 MWhs, representing 15 percent of total 2007 Minnesota retails sales.

As noted earlier in this report, beginning in 2008 utilities are required to begin retiring RECs in the M-RETS system to demonstrate compliance with their RES obligations. The Commission has determined that, for the purpose of complying with the Minnesota RES requirements, RECs will have a four-year "shelf life."[10] A four-year shelf life means a REC may be retired for

[10] *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; *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,*

compliance with Minnesota RES in the year of generation or during the following four years. Once a REC is retired, it is unavailable for other uses. A four-year shelf life for RECs is intended to provide utilities with additional flexibility in undertaking the investment necessary to meet the RES requirements, while encouraging utilities to continue to add renewable resources throughout the time period set in statute. Utilities with excess RECs may choose to hold those RECs to meet future compliance requirements, or to sell the RECs to other utilities with insufficient renewable generation to meet RES goals.[11]

Given existing renewable generation plus the planned renewable capacity additions, along with the ability to use current excess RECs for future compliance, the utilities appear well positioned to meet their 2010 RES standards.

## *C. INDIVIDUAL UTILITY COMPLIANCE WITH 2007 REO AND 2010 RES REQUIREMENTS*

This section of the report provides a discussion of each utility's progress in meeting its RES goals, a summary of the mix of generation sources, as well as plans for additional renewable generation through 2010.

### 1. Basin Electric Cooperative (Basin)

Headquartered in Bismarck, North Dakota, Basin is an electric generation and transmission cooperative serving member systems in nine states, including Minnesota. For 2007, Basin had 10,067 MWh of Minnesota RES eligible generation representing 3 percent of its 334,890 MWh's of Minnesota retail sales. The entirety of Basin's Minnesota existing RES eligible generation was from wind. Basin has plans to add 270 MWs of wind, and 22 MWs of biomass through 2010. The planned additions would result in approximately 23,906 MWhs of additional RES eligible generation. The total of existing plus additional energy would represent 10.1 percent of 2007 Minnesota retail sales. Thus, Basin is meeting its current RES obligations, and appears well positioned to meet its 2010 goals.

### 2. Central Minnesota Municipal Power Agency (CMMPA)

CMMPA is made up of fifteen municipalities across central Minnesota, including Blue Earth, Delano, Fairfax, Glencoe, Granite Falls, Janesville, Kasson, Kenyon, Mountain Lake, Sleepy Eye, Springfield and Windom. In 2007, CMMPA had 33,969 MWhs of Minnesota RES eligible generation, representing 12.1 percent of its 281,417 Minnesota retail sales. All of CMMPA's RES eligible generation came from wind. CMMPA has plans to add 2.5 MWs of biomass capacity for an additional 10,810 MWhs of RES eligible generation. With the additional biomass generation, CMMPA's RES percentage would increase to 15.9 percent of 2007 Minnesota retail sales. CMMPA is meeting its current RES obligations and its 2010 goals.

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Docket No. E999/CI-03-869, Order Establishing Initial Protocols for Trading Renewable Energy Credits (December 18, 2007)

[11] Minnesota statutes limit the amount of RECs that Xcel can sell during the initial period of the RES.

### 3. Dairyland Power Cooperative (DPC)

Headquartered in LaCrosse, Wisconsin, Dairyland serves communities in Wisconsin, Minnesota, Iowa and Illinois. Minnesota member cooperatives include the People's Cooperative of Rochester, the Freeborn-Mower Cooperative, and the Tri-County Electric Cooperative in Rushford. Minnesota sales account for approximately 17 percent of its total system sales. DPC had a total of 23,307 MWhs of Minnesota RES eligible generation in 2007 of which 66 percent was from biomass resources, and 34 percent was from wind. Existing Minnesota RES eligible generation represented 2.9 percent of DPC's 2007 Minnesota retail sales. DPC has plans to add 20 MWs of wind capacity and 41.8 MWs of biomass capacity through 2010. The resulting additions would generate approximately 42,733 MWhs of Minnesota RES eligible generation. The combination of existing and planned additional energy would increase DPC's RES percentage to 8.1 percent of its Minnesota retail sales. DPC complies with 2007 RES requirements, and with these plans appears to be on track to comply with 2010.

### 4. East River Electric Cooperative (East River)

This RES Legislative Report represents the first report to which East River is obligated to report individually. In previous years, East River's compliance was included in Basin Electric's reporting. East River obtains the bulk of its energy from Basin (which, as explained above, Basin is well in compliance,) and sells that energy to a number of distribution cooperatives in western Minnesota. Because East River serves other distribution cooperatives the Commission determined in its November 12, 2008 Order that East River was required to report its RES compliance separately from Basin. For 2007, East River reported 2.2 percent of its Minnesota retail sales were from Minnesota RES eligible sources.

Because East River obtains most of its energy from Basin Electric, it has no separate plans to add renewable capacity through 2010. Additional renewable generation, as needed to meet RES goals, will be obtained from Basin Electric, and is reflected in Basin's planned additional capacity, as discussed above. East River is in compliance with its 2007 RES requirements.

### 5. Great River Energy (GRE)

GRE is a generation and transmission cooperative serving 28 distribution cooperatives in Minnesota and Wisconsin. GRE had 195,377 MWhs of Minnesota RES eligible generation, representing 1.7 percent of its 2007 Minnesota retail sales. Wind accounted for 7 percent of GRE's total 2007 renewable generation with the remaining 93 percent from biomass generation. GRE has plans to add 100 MW of wind capacity or an estimated 306,600 MWhs of energy through 2010 which would increase its RES percentage to 4.3 percent of its 2007 Minnesota retail sales. In total, GRE complies with 2007 RES requirements, and appears to be moving towards compliance with the 2010 requirements.

### 6. Heartland Consumers Power District (Heartland)

Headquartered in Madison, South Dakota, Heartland serves municipalities across eastern South Dakota, Minnesota and Iowa. Heartland is reporting its RES compliance for the first time. With the amendment of the RES Statute by the 2007 Legislature, the definition of entities subject to the Minnesota RES was amended to include power districts. In its December 8, 2007 Order, the Commission determined the definition of affected entities contained in Minn. Stat. §216B.1691,

subd. 1(b) included Heartland. For 2007, Heartland had no reported Minnesota RES eligible generation. However, Heartland has plans in place to add 41 MWs of wind capacity or 89,481 MWhs of Minnesota RES eligible generation, representing 18 percent of its Minnesota retail sales. With the addition of this planned wind generation, Heartland should be able to comply with its 2010 RES goal.

### 7. Interstate Power & Light (IPL)

IPL is a subsidiary of Alliant Energy and serves customers in southern Minnesota. In 2007, IPL had 29,267 MWhs of Minnesota eligible RES generation, representing 3.5 percent of its 2007 Minnesota retail sales. The majority of IPL's existing renewable generation is from wind (99.6 percent) with the remaining 0.4 percent from biomass sources. IPL had an additional 1,418 MWhs of renewable generation from PPAs for which the REC assignment was unknown or silent. IPL indicated that the majority of this generation came from PPAs with small (less than 1 MW) wind producers and that it did not find it cost effective, given the small amount of energy generated, to determine REC ownership in order to pursue M-RETS registration of the facility. Were those additional 1,418 MWhs included in IPL's 2007 total generation amounts, its RES percentage would increase a slight 0.2 percent to 3.7 percent of 2007 Minnesota retail sales.

IPL has plans to add 200 MWs of wind generation through 2010. The additional wind generation would increase IPL's RES percentage to 7.3 percent of its 2007 Minnesota retail sales. Thus, IPL is in compliance with its 2007 RES objective, and appears to be on track to comply with the 2010 objective.

### 8. L&O Power Cooperative (L&O)

Like East River Power Cooperative, L&O is reporting RES compliance for the first time as a separate entity. In prior years, L&O's compliance was included as part of Basin Electric's reporting. L&O had 1,280 MWhs or 1.2 percent of its 2007 Minnesota retail sales from Minnesota RES eligible generation.

Because L&O obtains most of its energy from Basin Electric, it has no separate plans to add renewable capacity through 2010. Additional renewable generation, as needed to meet RES goals, will be obtained from Basin Electric (which is discussed above), and is reflected in Basin's planned additional capacity.

### 9. Minnkota Power Cooperative (Minnkota)

Minnkota is a generation and transmission cooperative serving a number of Minnesota distribution cooperatives in northwest Minnesota. Minnkota had a total of 8,915 MWhs of Minnesota RES eligible generation in 2007, representing 0.5 percent of its 1,784,445 MWhs of Minnesota retail sales. Minnkota began obtaining energy from a 99 MW wind farm in North Dakota in December 2007. Assuming a full year's generation from this wind facility, Minnkota's RES percentage would increase to 7.3 percent of its 2007 Minnesota retail sales. Thus, Minnkota is in compliance with its 2007 RES objective, and appears to be on track to comply with the 2010 objective.

Minnkota has plans to add an additional 247.5 MW of wind capacity through 2010. The resulting energy production would provide Minnkota with 28.5 percent of its 2007 Minnesota retail sales from RES eligible generation. All of Minnkota's current and planned renewable generation is from wind.

### 10. Minnesota Municipal Power Agency (MMPA)

MMPA is composed of the cities of Anoka, Arlington, Brownton, Buffalo, Chaska, East Grand Forks, LeSueur, North St. Paul, Olivia, Shakopee, and Winthrop. MMPA had 913 MWhs of wind generation, or 0.1 percent of its 2007 Minnesota retail sales from Minnesota RES eligible generation. MMPA has indicated that it had signed a PPA in 2005 for the output of a 47.5 MW wind project that was scheduled to come on-line in 2006; however, the developer was unable to complete the project. MMPA has plans to acquire 44 MW in additional wind capacity. The additional approximately 134,904 MWhs of wind energy would increase MMPA's RES percentage to 10 percent of its 2007 Minnesota retail sales. Thus, MMPA appears to be making a good faith effort to comply with its RES obligations.

### 11. Minnesota Power (MP)

Minnesota Power serves customers in northeast Minnesota, including Duluth. Minnesota Power had 800,783 MWhs of Minnesota RES eligible generation in 2007, or 8.9 percent of its 2007 Minnesota retail sales. Of its total 2007 renewable generation, 26 percent came from wind, 18 percent from biomass sources, and 56 percent from hydro sources.

MP has plans to add an additional 25 MWs of wind generation capacity through 2010. The additional wind generation would increase MP's RES percentage to 9.7 percent of its 2007 Minnesota retail sales. MP is currently meeting its 2007 RES goal, and is well positioned to comply with the 2010 goal.

### 12. Missouri River Energy Services (MRES)

MRES has 60 member communities in Iowa, Minnesota, North Dakota, and South Dakota. In Minnesota, the communities include Alexandria, Detroit Lakes, Hutchinson, Jackson, Marshall, Worthington, and Wadena, among others. MRES's Minnesota retail sales represent approximately 52 percent of its total system retail sales.

In 2007, MRES had 58,334 MWhs of Minnesota RES eligible generation, or 5.4 percent of its 1,072,355 MWhs of Minnesota retail sales. The entirety of MRES's existing renewable generation is from wind. MRES plans to add 20 MW of wind resources through 2010 which would raise its RES percentage to 8.5 percent of its 2007 Minnesota retail sales. Thus, MRES meets its 2007 RES goal, and is on track to comply with the 2010 objective.

### 13. Northwestern Wisconsin Electric Company

Northwestern Wisconsin Electric Company is an investor-owned electric utility serving retail customers in Burnett and Polk counties in Wisconsin. The utility has approximately 60 customers in Pine County, Minnesota.

In its November 12, 2008 Order, the Commission granted Northwestern Wisconsin Electric Company the discretion to report its renewable energy compliance information as provided to the Wisconsin Public Service Commission. Under Wisconsin law, Northwestern Wisconsin is required to provide 12.48 percent of its retail sales from renewables, and to increase this percentage by 2 percent in 2010 and 4 percent in 2015.

The Company is currently providing 12.48 percent of its retail sales from renewable sources in compliance with Wisconsin law. The Company indicates that its total 2007 Minnesota retail sales were 549 MWhs, or 0.3 percent of its total system sales. To meet its 1 percent 2007 RES goal for Minnesota, the Company would need to generate just over 5 MWhs of renewable generation. Given that its Wisconsin renewable requirements currently exceed Minnesota's RES requirement, and given the Company's ongoing compliance with Wisconsin law, the OES concludes that Northwestern Wisconsin is in compliance with Minnesota RES requirements for 2007, and likely to remain so in the future.

### 14. Otter Tail Power Company (OTP)

Headquartered in Fergus Falls, Minnesota, OTP serves customers in Western Minnesota, North Dakota and South Dakota. OTP's electric sales to Minnesota customers represent approximately 52 percent of its total company retails sales.

OTP had 46,241 MWhs of Minnesota RES eligible generation in 2007 representing 2.2 percent of its 2007 Minnesota retail sales. Of its total renewable generation, 77 percent came from wind, 0.6 percent from biomass, and the remaining 22.8 percent from hydro sources. In addition, OTP indicated that it had 117,251 MWhs from renewable contracts in which the assignment of RECs was unclear or unknown. According to OTP, the facilities for which there was not clear REC assignment were typically less than 50 kW, and the amount of generation coupled with the fees for registering those facilities in M-RETS was not cost-justified. Had OTP been able to claim the RECs for these renewables, its RES percentage would increase to 7.5 percent of 2007 Minnesota retail sales.

OTP has plans to add 102.3 MWs of wind and 12 MWs of biomass through 2010. The planned additions would increase OTP's RES percentage to 11.1 percent of its 2007 Minnesota retail sales. Thus, OTP has complied with its 2007 RES goal, and appears to be well positioned to meet its 2010 target.

### 15. Southern Minnesota Municipal Power Agency (SMMPA)

SMMPA serves communities located primarily in south central and southeastern Minnesota. SMMPA had 22,279 MWhs of Minnesota RES eligible generation in 2007, or 0.8 percent of its 2,949,971 MWhs of Minnesota retail sales. Wind represented 69 percent of SMMPA's total 2007 renewable generation with the remaining 31 percent from biomass sources. At this time, SMMPA's RES percentage does not reflect the fact that SMMPA purchased renewable energy credits or RECs of 205,210 MWh since this purchase was made prior to the implementation of the M-RETS system.[12] The Commission has not, to date, allowed previous REC purchases to count as compliance with RES. However, after reviewing the circumstances of those requests

[12] With the implementation of the M-RETS system, utilities will be able to purchase RECs through M-RETS for compliance with RES.

and the subsequent Commission Orders, SMMPA may or may not choose to pursue such a request to recognize their RECs. If SMMPA's REC purchases were included in the calculation, the percentage of retail sales from renewable sources would increase to 7.7 percent. Thus, if SMMPA's RECs are considered, the utility surpasses its 2007 goal. If the RECs are not considered, SMMPA is close to its "good faith effort" 2007 goal.

Through 2010, SMMPA has plans to add 136 MWs of wind and 50.6 MWs of biomass generation. The generation from the planned additions would increase SMMPA's RES percentage to 22.4 percent of its 2007 Minnesota retail sales. With these plans, SMMPA appears on track to meet its future RES goals.

### 16. Xcel Energy

Xcel is the largest electric utility in Minnesota serving large portions of Minnesota, including the Twin Cities and St. Cloud. Xcel had 1,882,894 MWhs of Minnesota RES eligible generation in 2007 of which 54 percent was from wind, 25 percent from hydro, and the remaining 21 percent from biomass sources. RES eligible generation represented 5.6 percent of Xcel's 2007 Minnesota retail sales. In addition, Xcel had a total of 1,280,922 MWhs of renewable generation through PPAs in which its entitlement to the RECs is silent or unknown. Xcel is pursuing its request that the Commission find that Xcel and its customers are entitled to the RECs under a total of 46 contracts signed long before the existence of RECs. The PPAs in dispute generally predate the passage of the REO Statute in 2001, and were entered into under the Federal Public Utility Regulatory Policy Act (PURPA), or to satisfy the requirements of Minn. Stat. §216B.2423 (Wind Mandate) and §216B.2424 (Biomass Mandate) enacted in 1994. Xcel's request remains pending before the Commission. If the generation from the 46 disputed PPAs is included in Xcel's 2007 generation amounts, the Company's RES percentage would increase to 9.5 percent of its Minnesota retail sales.

Xcel has plans to add 720 MWs of wind, 14.6 MWs of biomass, and 12.2 MWs of hydro through 2010. If all the generation comes to fruition as planned, planned and existing generation would represent 11.8 percent of Xcel's 2007 Minnesota retail sales. If Xcel receives clear title to the RECs for the 46 disputed contracts, its total existing and planned Minnesota RES eligible generation would represent 15.6 percent of its 2007 Minnesota retail sales. Thus, Xcel has met its 2007 requirement and appears to be on track to meet its 2010 requirement.

## IV. OBSTACLES AND POTENTIAL SOLUTIONS FOR MEETING THE RES REQUIREMENTS

The OES sought utility comment on obstacles the utilities have encountered or anticipate encountering to meeting the RES requirements. Transmission constraints and the rising cost and availability of equipment, particularly wind turbines, were the two areas repeatedly cited by the utilities as potential obstacles. With respect to transmission constraints the lack of available transmission in areas with significant wind resources was frequently cited as an obstacle. In addition, utilities expressed concerns with the size of the Midwest Independent System Operator's (MISO) queue to provide engineering studies of generation facilities, slow implementation of MISO queue reform, and general long lead times for development of

additional transmission resources from the planning to the implementation stage. Several of the smaller utilities also cited lack of developer interest in pursuing smaller (less than 100 MW) wind projects. Finally, availability of financing was also listed as a potential obstacle.

Among the potential solutions cited by the utilities was the ability to work regionally to build-out transmission. A longer-term extension of the Production tax credit was also suggested as a means of reducing the uncertainty associated with cost recovery of wind projects.

## V. SUMMARY AND CONCLUSION

While there are certainly obstacles utilities must face in meeting their RES requirements, the OES concludes that utilities appear to be making a good faith effort to comply with their 2007 RES obligations, and appear to be on track to meet 2010's goals. The OES notes that the official determination as to whether utilities are complying with Minn. Stat. §216B.1691 is the responsibility of the Commission; the OES provides this report to the Legislature and to the Commission to use in whatever capacity is chosen. The tracking and trading of Renewable Energy Certificates through the M-RETS system which the OES and the Commission helped to establish should assist utilities by providing some flexibility in their ability to meet future RES requirements. Also, the obstacle cited by the utilities of the need for additional transmission capacity to deliver renewable energy is recognized as a priority by utilities, regulators, policy makers and industry stakeholders and many actions are currently taking place to facilitate the construction of new transmission in the near future.

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