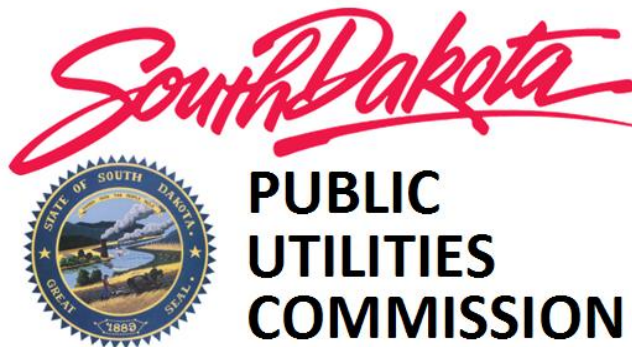


# **South Dakota's Renewable, Recycled and Conserved Energy Objective**

**Report for Calendar Year 2016**



**Submitted to the Legislature  
December 29, 2017**

## Background

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South Dakota Codified Law (SDCL) 49-34A-101 through 106 established South Dakota's Renewable, Recycled and Conserved Energy Objective (RRCEO) in 2008.<sup>1</sup> As part of the RRCEO, utilities are required to report annually to the South Dakota Public Utilities Commission (Commission) about their progress toward meeting the RRCEO of 10 percent by 2015. SDCL 49-34A-105 specifically requires the Commission to compile those reports and submit that data to the Legislature. This report is intended to satisfy that requirement.

The report released in 2009<sup>2</sup> included a detailed discussion of electric utilities in South Dakota, generation sources, renewable portfolio standards and objectives, renewable energy credits (RECs), REC tracking systems, the RRCEO statutes, and commission rules. Those seeking a deeper background on this topic may wish to review that report on the Commission's website at <http://puc.sd.gov/energy/reo/reo.aspx>.

Under current law, the electric utilities' annual reporting requirement ended on July 1, 2017.<sup>3</sup> As such, this RRCEO status report from the Commission to the Legislature will be the final report.

## Findings

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In 2016, many utilities met the RRCEO of 10 percent. The table on the next page shows the status of each retail electricity provider in relation to the RRCEO. It should be noted that the table reflects only renewable energy associated with RECs retired to comply with South Dakota's RRCEO and does not reflect the total amount of renewable energy on the retail electricity provider's system. Some of the retail electricity providers chose not to retire RECs for compliance with the voluntary objective in order to capture the value of the RECs for their ratepayers through other uses (e.g. selling RECs through the market). The flexibility granted to a retail electricity provider to decide whether to retire RECs was established through the construction of the RRCEO statute, which makes meeting the RRCEO voluntary. Annual reports required to be filed by each retail electricity provider, pursuant to SDCL 49-34A-105, are attached in Appendix A.

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<sup>1</sup> Conserved Energy was added during the 2009 Legislative Session

<sup>2</sup> <http://puc.sd.gov/commission/Energy/REO/2009-12-232008RRCEOReport1stRevision.pdf>

<sup>3</sup> SDCL 49-34A-105

<b>2016 Renewable, Recycled, and Conserved Energy Objective</b>				
	<b>SD Retail Sales<sup>1</sup></b>	<b>Renewable Energy<sup>2</sup></b>	<b>Conserved Energy</b>	<b>RRCE<sup>3</sup></b>
	<b>(MWh)</b>	<b>(MWh)</b>	<b>(MWh)</b>	<b>(%)</b>
MidAmerican Energy Co.	218,847	88,715	1,479	41.21
Butte Electric Cooperative, Inc.	81,378	10,000	0	12.29
Missouri River Energy Services	638,351	63,836	8,656	11.36
Otter Tail Power Co.	417,263	41,727	2,844	10.68
Xcel Energy	2,047,434	204,744	0	10.00
Heartland Consumers Power District	201,640	20,165	0	10.00
East River Electric Power Coop. and Membe	2,674,609	267,470	0	10.00
NorthWestern Energy	1,553,072	0	9,323	0.60
Black Hills Energy	1,444,445	0	5,527	0.38
Montana-Dakota Utilities Co.	143,195	0	0	0.00
Rushmore Electric Cooperative Inc.	946,303	0	0	0.00
Grand Electric Cooperative, Inc.	53,248	0	0	0.00
Rosebud Electric Cooperative, Inc.	24,410	0	0	0.00

1) 2016 SD baseline retail sales after deducting hydro generation with an in-service date prior to July 1, 2008 (SDCL 49-34A-103)

2) Only accounts for renewable energy that the utility retired Renewable Energy Certificates (RECs) for meeting SD's RRCEO. Some utilities sold RECs rather than retiring them in order to pass the monetary benefits to their ratepayers.

3) Renewable, Recycled, and Conserved Energy as a percent of 2016 SD baseline retail sales

Although most retail electricity providers have already integrated enough renewables to meet the 10 percent objective and identified they do not face any barriers to meeting the objective, some retail electricity providers identified the following barriers to procuring additional renewable generation:

- Transmission – Existing renewable generation projects are reducing available capacity on transmission systems for new projects.
- Physical location of retail provider's system – Quality of renewable resources depends upon the geographic location of the retail provider's system.
- Intermittency – Renewable generation is only available when the renewable resource (sun/wind) is available. Increasing renewable generation typically requires the addition of flexible back-up generating resources to offset the intermittency of renewables, which results in integration cost barriers for renewables.
- Siting – Environmental studies for both wind farms and transmission are time-consuming and expensive.
- Cost – Continuously low natural gas prices make it difficult for new renewable projects to compete economically. The extension of the Production Tax Credit for wind energy helped with wind project economics; however, even with federal tax incentives many renewable projects are unable to be competitive with other resources in certain regions.
- Policy – Some aspects of the Public Utilities Regulatory Policies Act (PURPA) may reward certain renewable generation projects that are not as price competitive as others. This can unnecessarily inflate prices creating outcomes that are not in the economic best interest of consumers.
- Awareness – Utility customers are often unaware of available energy efficiency options.

**Appendix A**  
**Utility Reports (in alphabetical order)**

## Black Hills Power, Inc. dba Black Hills Energy

### Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

Directions: Fill in each orange box, save your responses, and email the completed spreadsheet back to darren.kearney(at)state.sd.us by July 1, 2017. Your completed spreadsheet will fulfill the reporting requirements in SDCL 49-34A-105. If you wish to supplement the spreadsheet with an additional narrative report, please include that report in your submission. If you have any questions, please contact Darren Kearney at 605.773.3201 or darren.kearney(at)state.sd.us.

- 1  MWH of electricity delivered to retail customers in South Dakota (SD retail sales) in 2016
- 2  MWH of electricity obtained from a hydroelectric facility in 2016 with an inservice date before July 1, 2008 (old hydro)
- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

Black Hills Power has purchase power agreements for wind energy through 2028/2029 and a purchase power agreement for old hydro energy through 2024. The Happy Jack and Silver Sage wind energy purchase power agreements provide Black Hills Power with 35 MW. In 2016, Black Hills Power served approximately 5.88% of the total retail sales with renewable resources. 15 MW greater than 2015 and increase of approx. 1% of total retail sales.

Challenges for Black Hills Power with respect to the use of renewable resource are similar to previous years. Renewable resources remain at a competitive disadvantage to lower priced natural gas and coal. The price to deliver this renewable energy can be a barrier. In addition, the physical location of Black Hills Power's system and access to renewable opportunities continues to create a challenge for the Company.

Black Hills Power has a committed interest in adding renewable sources to the generation portfolio while simultaneously providing the lowest reasonable cost to Customers. The Company anticipates two QF solar projects to come online in the next few years that will provide an additional 40 MW of solar energy. The Company also intends to continue to pursue additional prudent renewable generation opportunities.

In addition, Black Hills Power offers customers the opportunity to reduce their electric consumption through the Energy Efficiency Solutions Program. This program portfolio provides both Residential and Commercial customers with opportunities that specifically meet their needs to reduce consumption.

If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:

6  Total amount of RECs retired for CY2016 compliance across all jurisdictions

7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

N/A

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

N/A

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

Black Hills Power Inc, did not retire any REC's in order to meet a renewable energy objective or standard during 2016.

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

N/A

If the Company is claiming conserved MWH in (4) above, please provide the following per ARSD 20:10:38:03 through 06:

12  MWH of conserved energy achieved through energy efficiency

13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).

Black Hills Power filed an annual Energy Efficiency Solutions Status Report in Docket No. EL15-044 for Program Year 2015. The energy savings as a result of the Energy Efficiency Solutions Plan is shown on Page 3 of the status report. The results of Program Year 2016 will be available in the Annual Energy Efficiency Solution Report to be filed in October 2017.

The Total Resource Cost Test ("TRC") continues to be a best practice approach to evaluating cost effectiveness of Energy Efficiency Programs. This is the primary methodology Black Hills Power uses to ensure the EESP is meeting cost-effectiveness requirements. The Status Report filed in Docket EL15-044 provides a portfolio summary and explains in greater detail the dollars spent and impact of the program.

14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spend on demand response measures for the calendar year (ARSD 20:10:38:06).

Residential customers are offered an optional demand service rate in combination with installation of a demand controller that limits their on peak energy uses. The impact is included in the cost of service through bases rates and all customers benefit from lower electric costs by shifting usage to non-peak times.

**Generation Mix Attributable to SD in 2016**

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	Other - <i>Please Specify</i>	Total Check
Black Hills Power, Inc. d/b/a Black Hills Energy	86.64%			5.88%	7.01%					0.46%		100.00%

**Other:** For any generation listed under "Other", please provide the generation source and percentage associated with each.

For the renewable generation listed above, please provide:	
RECs retired for SD RRCEO compliance in 2015	0
RECs held or "banked"	91,344
RECs sold or transferred to other parties	8,308

## Butte Electric Cooperative, Inc.

### Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

Directions: Fill in each orange box, save your responses, and email the completed spreadsheet back to darren.kearney(at)state.sd.us by July 1, 2017. Your completed spreadsheet will fulfill the reporting requirements in SDCL 49-34A-105. If you wish to supplement the spreadsheet with an additional narrative report, please include that report in your submission. If you have any questions, please contact Darren Kearney at 605.773.3201 or darren.kearney(at)state.sd.us.

- 1  MWH of electricity delivered to retail customers in South Dakota (SD retail sales) in 2016
- 2  MWH of electricity obtained from a hydroelectric facility in 2016 with an inservice date before July 1, 2008 (old hydro)
- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

Butte Electric Cooperative offers a small renewable energy program to members as part of a Basin Electric rate. Butte has also implemented a demand response program for hot water heaters and A/C units.



If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:

6  Total amount of RECs retired for CY2016 compliance across all jurisdictions

7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

Basin Electric Provides

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

Basin Electric Provides

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

If the Company is claiming conserved MWH in (4) above, please provide the following per ARSD 20:10:38:03 through 06:

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13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).

14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spend on demand response measures for the calendar year (ARSD 20:10:38:06).

Butte Electric has roughly 1400 water heaters and 130 A/C units as part of its demand response program.

Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	Other - <i>Please Specify</i>	Total Check
Basin Electric Cooperative	66.80%	0.68%	1.60%	11.33%	6.65%	0.01%	0.00%	1.11%	0.00%	11.82%	0.00%	100.00%

**Other:** For any generation listed under "Other", please provide the generation source and percentage associated with each.



E L E C T R I C

A Touchstone Energy® Cooperative 

211 South Harth Ave. | P.O. Box 227  
Madison, SD 57042-0227

Telephone: (605) 256-4536  
Fax: (605) 256-8058

June 30, 2017

Ms. Patricia Van Gerpen, Executive Director  
South Dakota Public Utilities Commission  
500 East Capitol  
Pierre, SD 57504-5070

RE: East River Electric Power Cooperative – South Dakota Renewable Energy Objective Report

Dear Ms. Van Gerpen:

Enclosed please find East River Electric Power Cooperative's Renewable Energy Objective Report per SDCL 49-34A-105. This report is filed on behalf of the following members within South Dakota:

Bon Homme-Yankton Electric Association, Inc.  
Central Electric Cooperative, Inc.  
Charles Mix Electric Association, Inc.  
City of Elk Point  
Clay Union Electric Corporation  
Codington-Clark Electric Cooperative, Inc.  
Dakota Energy Cooperative, Inc.  
Douglas Electric Cooperative, Inc.  
FEM Electric Association, Inc.  
H-D Electric Cooperative, Inc.

Kingsbury Electric Cooperative, Inc.  
Lake Region Electric Association, Inc.  
Northern Electric Cooperative, Inc.  
Oahe Electric Cooperative, Inc.  
Sioux Valley Energy  
Southeastern Electric Cooperative, Inc.  
Traverse Electric Cooperative, Inc.  
Union County Electric Cooperative, Inc.  
Whetstone Valley Electric Cooperative, Inc.

Please do not hesitate to contact me if you have any questions.

Sincerely,



Robert K. Sahr  
General Counsel

RKS/sl

Enc.

# East River Electric Power Cooperative

## South Dakota Renewable, Recycled, and Conserved Energy Objective Report

### July 1, 2017

In accordance with SDCL 49-34A-105, East River Electric Power Cooperative, Inc. (“East River”) files this Renewable, Recycled, and Conserved Energy Objective Report (RRCEO) on behalf of its nineteen South Dakota members:

East River South Dakota Members	Location
Bon Homme-Yankton Electric Association, Inc.	Tabor, South Dakota
Central Electric Cooperative, Inc.	Mitchell, South Dakota
Charles Mix Electric Association, Inc.	Lake Andes, South Dakota
City of Elk Point	Elk Point, South Dakota
Clay Union Electric Corporation	Vermillion, South Dakota
Codington-Clark Electric Cooperative, Inc.	Watertown, South Dakota
Dakota Energy Cooperative, Inc.	Huron, South Dakota
Douglas Electric Cooperative, Inc.	Armour, South Dakota
FEM Electric Association, Inc.	Ipswich, South Dakota
H-D Electric Cooperative, Inc.	Clear Lake, South Dakota
Kingsbury Electric Cooperative, Inc.	DeSmet, South Dakota
Lake Region Electric Association, Inc.	Webster, South Dakota
Northern Electric Cooperative, Inc.	Bath, South Dakota
Oahe Electric Cooperative, Inc.	Blunt, South Dakota
Sioux Valley Energy	Colman, South Dakota
Southeastern Electric Cooperative, Inc.	Marion, South Dakota
Traverse Electric Cooperative, Inc.	Wheaton, Minnesota
Union County Electric Cooperative, Inc.	Elk Point, South Dakota
Whetstone Valley Electric Cooperative, Inc.	Milbank, South Dakota

These East River members have elected to aggregate their RRCEO resources and have East River report on their behalf.

### I. EAST RIVER’S RENEWABLE ENERGY PORTFOLIO

As member owners of Basin Electric, East River and its members possess a sizeable, diverse, and growing renewable energy portfolio. This portfolio includes large wind projects, waste heat recovery units, and over one hundred small locally-owned wind and solar projects. These projects include:

- **Large Scale Wind Energy Generation: 1,360 MW**
- **Recycled Energy Generation: 44 MW (current)**
- **Locally-Owned Small Wind Generation: 664 kW (current)**
- **Locally-Owned Small Solar Generation: 1,705 kW**
- **Missouri River Hydroelectric Resources**

In addition to the two solar projects completed by East River members Central Electric Cooperative and Sioux Valley Energy in 2015, East River members Codington-Clark Electric

and H-D Electric are planning solar projects during 2017. Each project will become part of the local energy supply mix and provides a variety of educational, research, and solar production analysis opportunities.

During the past several years, Basin Electric has significantly increased the amount of new renewable energy generation and has recently executed long-term purchased power contracts for an additional 200 MW of wind resources expected to be in operation by the end of 2019. Basin Electric should report these resources on its spreadsheet as they are either under contract or owned by Basin on behalf of its members including East River, Rushmore Electric, and the South Dakota distribution cooperatives. East River has reported its member sales and the green tag retirement on the attached spreadsheet.

## **II. CONSERVED ENERGY**

East River and its members are very proud of their long track records in promoting smart energy choices, energy efficiency, and conservation. This has been achieved through substantial investment in marketing programs, public education, and one of the most successful load management programs in this country. In fact, during 2016, utilization of East River's load management system avoided a total of approximately 771,000 kW of wholesale power supply capacity requirements.

East River thanks the Commission for its leadership in adopting sensible administrative rules to implement the 2009 amendments to the South Dakota RRCEO. We believe the rules recognize two key principles supported by East River and its members: 1) the vital role load management plays in conserving energy and 2) the on-going benefits of certain historical investments. We look forward to working with the Commission staff on the reporting and accounting requirements as we develop the appropriate systems to track and verify our entire portfolio of energy efficiency and demand response measures.

## **III. REO OBSTACLES ENCOUNTERED**

East River identifies three major barriers to renewable energy expansion in South Dakota:

1. Environmental Compliance
2. Transmission
3. PURPA

As to the first point, while an important part of any major project, environmental reviews are taking more time and becoming more costly. If reviews unnecessarily stretch projects past important deadlines or become so expensive as to affect the financial viability of projects, this could have a chilling effect on renewable resource development in this state and region.

Secondly, as more projects tap existing transmission opportunities, there becomes an increasing need for new transmission solutions to enable future projects. Additionally, larger amounts of variable renewable energy production create grid integration issues. In the future, regional transmission operators may need to restrict renewables during peak production periods.

Thirdly, some aspects of the Public Utility Regulatory Policies Act (PURPA) may reward certain projects that are not as price competitive as others. This can unnecessarily inflate prices creating outcomes that are not in the economic best interest of consumers. Targeted PURPA reform may be advisable.

## Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

Directions: Fill in each orange box, save your responses, and email the completed spreadsheet back to darren.kearney(at)state.sd.us by July 1, 2017. Your completed spreadsheet will fulfill the reporting requirements in SDCL 49-34A-105. If you wish to supplement the spreadsheet with an additional narrative report, please include that report in your submission. If you have any questions, please contact Darren Kearney at 605.773.3201 or darren.kearney(at)state.sd.us.

- 1  MWH of electricity delivered to retail customers in South Dakota (SD retail sales) in 2016
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- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:

- 6  Total amount of RECs retired for CY2016 compliance across all jurisdictions
- 7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016
- 8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:
- 9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:
- 10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:
- 11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

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- 13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).
- 14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))
- 15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spent on demand response measures for the calendar year (ARSD 20:10:38:06).

Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	Other - Please Specify	Total Check
East River Electric Power Cooperative	45.81%	18.10%	1.95%	13.84%	8.12%	0.01%	0.00%	0.00%	1.35%	10.82%		100.00%
% of Non-Hydro SD Sales , sourced from SD RRCEO-eligible facilities, in MWH:				370,064			0	0	36,170			406,233

**Other:** For any generation listed under "Other", please provide the generation source and percentage associated with each.

For the renewable generation listed above, please provide:	
RECs retired for SD RRCEO compliance in 2016	267,470
RECs held or "banked"	33,138
RECs sold or transferred to other parties	4,281

Retained on behalf of three (3) East River Members for retail Green Pricing Programs  
 Sold to participating end-consumers by one (1) East River Member for a retail Green Pricing Program

Non-Hydro SD Sales In MWH:  
 2,674,609

## Grand Electric Cooperative, Inc.

### Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

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- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

As a member of Basin Electric Power Cooperative, our renewables are met through the generation mix generated by Basin Electric.



If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:

6  Total amount of RECs retired for CY2016 compliance across all jurisdictions

7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

Nexteraenergysbaldwin Wind Project, North Dakota

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

n/a

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

n/a

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

n/a

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12  MWH of conserved energy achieved through energy efficiency

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14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spent on demand response measures for the calendar year (ARSD 20:10:38:06).

Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	REG	Total Check
Grand Electric Cooperative, Inc.	66.80%	0.70%	1.60%	11.30%	6.70%					11.80%	1.10%	100.00%

**Other:** For any generation listed under "Other", please provide the generation source and percentage associated with each.

## Heartland Consumers Power District

### Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

Directions: Fill in each orange box, save your responses, and email the completed spreadsheet back to [darren.kearney@state.sd.us](mailto:darren.kearney@state.sd.us) by **July 1, 2017**. Your completed spreadsheet will fulfill the reporting requirements in SDCL 49-34A-105. If you wish to supplement the spreadsheet with an additional narrative report, please include that report in your submission. If you have any questions, please contact Darren Kearney at 605.773.3201 or [darren.kearney@state.sd.us](mailto:darren.kearney@state.sd.us).

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- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

HCPD acquires its renewable energy through a power purchase agreement (PPA) with Wessington Springs Wind Energy Center, LLC, a subsidiary of NextEra Energy Resources. The PPA entitles HCPD to purchase the entire 51 MW of nameplate wind capacity and own all of the environmental attributes associated with such generation from the Wessington Springs Wind Energy Center. (10 MW's of the project are committed to another wholesale power supplier, and in 2016, 9 MW's of the project were committed solely to one of HCPD's Minnesota Customers.) HCPD will be able to meet both the Minnesota Renewable Energy Standard (RES) and the South Dakota Renewable Energy Objective (REO) through its participation in the Wessington Springs Wind Energy Center project.

**If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:**

6  Total amount of RECs retired for CY2016 compliance across all jurisdictions

7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

Heartland did retire RECs for 2016 South Dakota load. 20,297 of the RECs were retired specifically to comply with the South Dakota renewable energy objective. For South Dakota load in 2016, Heartland retired RECs representing 10% of its South Dakota load served. These RECs were retired in M-RETS.

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

The M-RETS facility name was Wessington Wind I - Wessington Springs Energy Facility (M496): Location - Jerald County, South Dakota

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

Heartland retired 72,956 RECs for its MN load served representing 17% of MN retail load. Heartland retired 1,112 RECs for its IA load served representing 10% of IA retail load.

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

The M-RETS facility name was Wessington Wind I - Wessington Springs Energy Facility (M496): Location - Jerald County, South Dakota

**If the Company is claiming conserved MWH in (4) above, please provide the following per ARSD 20:10:38:03 through 06:**

12  MWH of conserved energy achieved through energy efficiency

13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).

[Empty text box for question 13]

14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spent on demand response measures for the calendar year (ARSD 20:10:38:06).

[Empty text box for question 15]

Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	Other - <i>Please Specify</i>	Total Check
Heartland Consumers Power District	20.42%	62.03%	0.00%	5.52%	0.00%	0.00%	0.00%	0.00%	0.00%	12.03%	0.00%	100.00%

**Other:** For any generation listed under "Other", please provide the generation source and percentage associated with each.

## MidAmerican Energy Company

### Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

Directions: Fill in each orange box, save your responses, and email the completed spreadsheet back to darren.kearney(at)state.sd.us by July 1, 2017. Your completed spreadsheet will fulfill the reporting requirements in SDCL 49-34A-105. If you wish to supplement the spreadsheet with an additional narrative report, please include that report in your submission. If you have any questions, please contact Darren Kearney at 605.773.3201 or darren.kearney(at)state.sd.us.

- 1  MWH of electricity delivered to retail customers in South Dakota (SD retail sales) in 2016
- 2  MWH of electricity obtained from a hydroelectric facility in 2016 with an inservice date before July 1, 2008 (old hydro)
- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

MidAmerican Energy began offering energy efficiency programs to South Dakota customers on May 1, 2009. MidAmerican offers a variety of energy efficiency programs aimed at helping residential, commercial, and industrial customers reduce energy use and save money.

In 2015 MidAmerican announced our 100% renewable vision for our customers. Since that announcement, MidAmerican has retained non obligated environmental benefits from our wind portfolio as Renewable Energy Credits (RECs) and retired those certificates on behalf of our customers across multiple jurisdictions. These REC retirements have resulted in MidAmerican exceeding the voluntary state renewable, recycled, and conserved objective in South Dakota.

**If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:**

6  Total amount of RECs retired for CY2016 compliance across all jurisdictions

7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

RECs were retired in MRETS and PJM GATS

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

Adair Wind Farm (Adair / Cass county); Adams Wind Farm (Adams County); Carroll Area Wind Farm (Carroll County); Carroll Wind Farm (Carroll County); Charles City Wind Farm (Floyd County); Eclipse Wind Farm (Audubon / Guthrie County); Highland Wind Farm (O'Brien county); Ida Grove Wind Farm (Ida County); Intrepid Wind Farm (Buena Vista / Sac county); Laurel Wind Farm (Marshall county); Morning Light Wind Farm (Adair county); O'Brien Wind Farm (O'Brien county); Pomeroy Wind Farm (Pocahontas / Calhoun county) / Rolling Hills Wind Farm (Adair / Adams / Cass county); Victory Wind Farm (Crawford / Carroll county); Vienna Wind Farm (Marshall / Tama county); Walnut Wind Farm (Pottawattamie county); Century Wind Farm (Wright / Hamilton county), all located in Iowa

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

Iowa Renewable Portfolio Standard: 147,830  
Iowa GreenAdvantage Objective: 10,137,082

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

Iowa Renewable Portfolio Standard: Storm Lake Wind Farm (Buena Vista county); Davenport Water Pollution Control Plant (Scott county); Des Moines Waste Management (Polk county), all located in Iowa  
Iowa GreenAdvantage Objective: Adair Wind Farm (Adair / Cass county); Adams Wind Farm (Adams County); Carroll Area Wind Farm (Carroll County); Carroll Wind Farm (Carroll County); Charles City Wind Farm (Floyd County); Eclipse Wind Farm (Audubon / Guthrie County); Highland Wind Farm (O'Brien county); Ida Grove Wind Farm (Ida County); Intrepid Wind Farm (Buena Vista / Sac county); Laurel Wind Farm (Marshall county); Morning Light Wind Farm (Adair county); O'Brien Wind Farm (O'Brien county); Pomeroy Wind Farm (Pocahontas / Calhoun county) / Rolling Hills Wind Farm (Adair / Adams / Cass county); Victory Wind Farm (Crawford / Carroll county); Vienna Wind Farm (Marshall / Tama county); Walnut Wind Farm (Pottawattamie county); Century Wind Farm (Wright / Hamilton county); Storm Lake Wind Farm (Buena Vista county), all located in Iowa

**If the Company is claiming conserved MWH in (4) above, please provide the following per ARSD 20:10:38:03 through 06:**

12  MWH of conserved energy achieved through energy efficiency

13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).

MidAmerican has not completed an energy efficiency impact evaluation specific to South Dakota. Total kWh savings by measure, along with spending by measure for 2016 was provided in Exhibits A and B of MidAmerican's 2016 South Dakota energy efficiency annual report. Savings for each measure are calculated in accordance with the formulas provided in revised Appendix A of MidAmerican's 2013-2017 South Dakota energy efficiency plan filing.

14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spend on demand response measures for the calendar year (ARSD 20:10:38:06).

Total kWh savings for demand response programs are estimated through a load research sample that measures actual hourly loads for a sample of demand response customers and estimates from those sample results the total impact for demand response across MidAmerican's service territory based on the total number of participating customers and the total amount of load for those customers. Approximate spending on demand response programs is \$17,000 per year.

Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	Other - <i>Please Specify</i>	Total Check
	40.08%	0.00%	11.90%	35.60%	1.69%	0.00%	0.00%	0.00%	0.00%	10.73%	0.00%	100.00%

**Other:** For any generation listed under "Other", please provide the generation source and percentage associated with each.



# Missouri River Energy Services

## Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

Directions: Fill in each orange box, save your responses, and email the completed spreadsheet back to darren.kearney(at)state.sd.us by July 1, 2017. Your completed spreadsheet will fulfill the reporting requirements in SDCL 49-34A-105. If you wish to supplement the spreadsheet with an additional narrative report, please include that report in your submission. If you have any questions, please contact Darren Kearney at 605.773.3201 or darren.kearney(at)state.sd.us.

- 1  MWH of electricity delivered to retail customers in South Dakota (SD retail sales) in 2016
- 2  MWH of electricity obtained from a hydroelectric facility in 2016 with an inservice date before July 1, 2008 (old hydro)
- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

MRES has developed a plan to meet the South Dakota Renewable, Recycled and Conserved Energy Objective (RRCEO) goal of 10% by 2017 as part of its overall renewable energy goals for members in Minnesota, North Dakota, and South Dakota. The SD RRCEO has been integrated into the MRES resource planning process, and MRES is committed to pursuing renewable energy as part of its balanced portfolio to supply its member communities with reliable and cost-effective power supply.

MRES acquires renewable energy resources through its exclusive power supply arrangement with Western Minnesota Municipal Power Agency (Western Minnesota), and through power purchase agreements with independent developers. At the present time, all MRES renewable resources are based on wind generation. MRES has included wind energy in its power supply program since 2002. Currently, MRES contracts for the output of the following wind generating resources:

- Worthington (MN) Wind Project, 3.7 MW
- Marshall (MN) Wind Project, 18.7 MW
- Odin (MN) Wind Project, 20.0 MW
- Rugby (ND) Wind Project, 40.0 MW
- Hancock (IA) Wind Project, 3.3 MW

MRES purchases the output of the units in each of these wind projects, and owns all of the environmental attributes associated with such generation. These resources total 85.7 MW of nameplate capacity, most of which is dedicated to meeting the Renewable Energy Objective (REO) goals of North Dakota and South Dakota, and the requirements of the Minnesota Renewable Energy Standard. MRES intends to meet its REO goals by utilizing the contracted wind generation, associated renewable attributes, and conserved/recycled energy to meet the MRES SD RRCEO benchmark for each year.

At this time, MRES does not envision any obstacles to meeting the RRCEO goals established through 2019. MRES continues to evaluate opportunities for additional renewable resources to ensure continuing compliance with the various state REOs and the Minnesota RES. In 2019 and beyond, MRES will evaluate its renewable energy portfolio and the energy market to determine cost-effective purchases or the acquisition of such resources. MRES seeks out projects that meet its needs as well as the needs of its members as part of our continuing commitment to expand the role of renewable energy used to serve our member communities.

**If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:**

6  Total amount of RECs retired for CY2016 compliance across all jurisdictions

7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

Midwest Renewable Energy Tracking System (MRETS)

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

Rugby Wind Project near Rugby, N.D., in Pierce County

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

259,197: Minnesota RES (253,186), ND RREO (6,011) and Green Pricing in Minnesota (722)

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

Marshall Wind Project near Marshall, Minn., in Lyon County  
Rugby Wind Project near Rugby, N.D., in Pierce County  
Worthington Wind Project near Worthington, Minn., in Nobles County

**If the Company is claiming conserved MWH in (4) above, please provide the following per ARSD 20:10:38:03 through 06:**

12  MWH of conserved energy achieved through energy efficiency

13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).

Energy impacts of the MRES energy efficiency measures are primarily determined by the Minnesota Technical Resource Manual (MN TRM). For prescriptive measures that are not in the MN TRM, MRES has retained Franklin Energy Services of Port Washington, WI, to research and calculate deemed savings for use in our program. Savings estimates for custom measures are typically submitted by the customer's engineer or vendor and then reviewed and approved by an MRES staff engineer and/or a consulting engineering firm such as Franklin Energy or The Weidt Group. Projects that have potential savings of 1 million kWhs or more, and select smaller projects, are pre- and post-metered, in addition to the engineering review. Post inspections are completed on minimum of 10 percent of commercial and industrial projects and on 100 percent of custom projects, with the exception of small custom lighting projects. Spending on energy efficiency measures in South Dakota in 2016 totaled \$966,275, which included \$618,416 in incentives and \$347,859 in administrative expenses.

14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spend on demand response measures for the calendar year (ARSD 20:10:38:06).

MRES collects data on the demand response efforts of our South Dakota members through a Verification Payment Program whereby members are encouraged to use direct load control of central air conditioners and electric water heaters to remove load during peak times. MRES members report the number of devices controlled and annually test a statistical sampling of the devices to ensure they are working properly. MRES pays an incentive of \$5.00 per kW per year of controlled load. The deemed kW savings, based on the MN TRM, are 1 kW per central air conditioner and .35 kW per electric water heater. In 2016, three SD members controlled 3,725 air conditioners and 1,219 water heaters for total controlled kW of 4,152 kW. To determine MWhs of conserved energy, MRES estimates that members control air conditioners an average of 80 hours per year and control water heaters an average of 150 hours per year for total savings of 362 MWhs in 2016. The number of hours controlled fluctuates greatly from year to year. At this time, all load control is done using on-way communication to the load control device, so exact savings cannot be measured. In 2016, MRES paid \$20,758 in incentives to our members to verify and report on the operation of their load control systems. We did not track administrative costs for this activity and we don't have access to the costs incurred by MRES members to operate the system.

Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	Other - <i>Please Specify</i>	Total Check
Missouri River Energy Services	25.12%	40.06%	5.54%	5.65%	0.86%	0.00%	0.00%	0.00%	0.00%	22.76%	0.00%	100.00%

**Other:** For any generation listed under "Other", please provide the generation source and percentage associated with each.

# Montana-Dakota Utilities Co.

## Montana-Dakota Utilities Co.

### Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

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- 2  MWH of electricity obtained from a hydroelectric facility in 2016 with an inservice date before July 1, 2008 (old hydro)
- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

Following is a description of the generating resources that supplied the REC's produced in 2016.

- In February 2008, Montana-Dakota commenced commercial operation of Diamond Willow, a 19.5 Megawatt facility located in Fallon County, Montana. An additional 10.5 Megawatt Diamond Willow expansion project commenced commercial operation on June 28, 2010. In calendar year 2016, the Diamond Willow facilities produced 100,017 RECs. This wind resource is registered on the Midwest Renewable Energy Tracking System (M-RETS) with a designated identifier of "M-152". The M-RETS Administrator issues one electronic Certificate for each MWh of energy generated by Diamond Willow and a unique serial number is assigned to each Certificate.
- In July 2009, Montana-Dakota began commercial operation of a 7.5 Megawatt waste heat recovery generating station on the Northern Border Pipeline near Glen Ullin, North Dakota. In calendar year 2016, the Glen Ullin facility produced 39,372 RECs. This resource is registered on the M-RETS system with a designated identifier of "M-535".
- On June 6, 2010, Montana-Dakota began commercial operation of Cedar Hills, a 19.5 MW wind facility located in Bowman County, North Dakota. In calendar year 2016, the Cedar Hills facility produced 60,971 RECs. This wind resource is registered on the M-RETS system with a designated identifier of "M-584".
- In December 2015, Montana-Dakota began commercial operation of Thunder Spirit, a 107.5 MW wind facility located near Hettinger, North Dakota. In calendar year 2016, the Thunder Spirit facility produced 427,967 RECs. This wind resource is registered on the M-RETS system with a designated identifier of "M-980".

**If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:**

6  Total amount of RECs retired for CY2016 compliance across all jurisdictions

7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

N/A

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

N/A

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

122,318 RECs were retired in 2016 to meet the state of Montana's renewable energy standard. Of these RECs, 3 were 2015 certificates.

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

Cedar Hills - Rhame, ND  
Diamond Willow - Baker, MT  
Thunder Spirit - Hettinger, ND

**If the Company is claiming conserved MWH in (4) above, please provide the following per ARSD 20:10:38:03 through 06:**

12  MWH of conserved energy achieved through energy efficiency

13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).

N/A

14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spent on demand response measures for the calendar year (ARSD 20:10:38:06).

N/A

Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	Other - <i>Please Specify</i>	Total Check
Montana Dakota Utilities Co.	49.13%			20.96%	27.10%				0.67%	2.14%		100.00%

**Other:** For any generation listed under "Other", please provide the generation source and percentage associated with each.

For the renewable generation listed above, please provide:	
RECs retired for SD RRCEO compliance in 2016	0
RECs held or "banked"	1,811
RECs sold or transferred to other parties	28,631 <sup>1/</sup>

<sup>1/</sup> Proceeds credit to South Dakota Customers through the Fuel Cost Adjustment

# NorthWestern Energy

## Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

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- 1  MWH of electricity delivered to retail customers in South Dakota (SD retail sales) in 2016
- 2  MWH of electricity obtained from a hydroelectric facility in 2016 with an inservice date before July 1, 2008 (old hydro)
- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

NorthWestern Energy owns 80 MW of wind in South Dakota and also purchases wind through the use of PPAs. Therefore, NorthWestern was able to generate or acquire enough RECs to meet the RRECO. However, NorthWestern Energy did not South Dakota's RRECO as the company decided to sell RECs in 2015 rather than retire RECs. NorthWestern determined that by selling RECs, we were able to provide a greater benefit to our customers financially.



If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:

6  Total amount of RECs retired for CY2016 compliance across all jurisdictions

7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

892,985 in Montana

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

Flint Creek Hydroelectric, LLC - Granite County; Gordon Butte Wind, LLC - Meagher County; Judith Gap Energy Center - Wheatland County; Lower South Fork, LLC - Carbon County; Turnbull Hyrdo, LLC - Teton County; Mussellshell Wind Project, LLC - Wheatland County; Mussellshell Wind Project II - Wheatland County; Spion Kop Wind, LLC - Judith Bason County, Fairfield Wind-Teton County, Two Dot Wind Farm, LLC - Wheatland County, Greenfield Wind, LLC - Teton County.

If the Company is claiming conserved MWH in (4) above, please provide the following per ARSD 20:10:38:03 through 06:

12  MWH of conserved energy achieved through energy efficiency

13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).

The SD Public Utilities Commission (SDPUC) gave its final approval to a Demand Side Management (DSM) program for our South Dakota customers on June 10, 2014 and the DSM programs rolled out October 1, 2014. NorthWestern used information gathered from an impact and process evaluation of NorthWestern Energy's Montana DSM portfolio performed by SBW Consulting Inc. in 2012. The evaluation covered the operation of 24 energy efficiency and renewable programs during the period July 1, 2006 through December 31, 2011. This evaluation also provided NorthWestern with updated unit energy savings (UES) values for many of the measures included in NorthWestern's South Dakota energy efficiency programs. NorthWestern used these updated UES values for the 2016 Calendar Year period for South Dakota. NorthWestern used a mix of electric UES values for the 2016 Calendar Year

14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spend on demand response measures for the calendar year (ARSD 20:10:38:06).

There were no demand response activities in SD or MT for the 2016 Calendar Year.

Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	Other - <i>Please Specify</i>	Total Check
	63.00%			23.00%	1.00%					13.00%		100.00%

**Other:** For any generation listed under "Other", please provide the generation source and percentage associated with each.

215 South Cascade Street  
PO Box 496  
Fergus Falls, Minnesota 56538-0496  
218 739-8200  
[www.otpco.com](http://www.otpco.com) (web site)



May 30, 2017

Ms. Patricia Van Gerpen  
Executive Director  
South Dakota Public Utilities Commission  
Capitol Building, 1st floor  
500 East Capitol Avenue  
Pierre, SD 57501-5070

**Re: In the Matter of Otter Tail Power Company's Renewable, Recycled, and Conserved Energy Objective Compliance Report to the South Dakota Public Utilities Commission**

Dear Ms. Van Gerpen:

Enclosed you will find the report of Otter Tail Power Company, to the South Dakota Public Utilities Commission on the Company's efforts and status on compliance with the South Dakota Renewable, Recycled, and Conserved Energy Objective contained in Statutes §49-34A-94 through §49-34A-96 and §49-34A-101 through §49-34A-106. This report is required annually commencing on July 1, 2009 and continuing through July 1, 2017.

If you have any questions regarding this filing, please contact me at 218-739-8883 or [cwestergard@otpco.com](mailto:cwestergard@otpco.com).

Sincerely,

/s/ CAROL WESTERGARD  
Carol Westergard  
Contract & Due Diligence Administrator

kaw  
Enclosures  
By electronic filing

## Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

Directions: Fill in each orange box, save your responses, and email the completed spreadsheet back to darren.kearney(at)state.sd.us by July 1, 2017. Your completed spreadsheet will fulfill the reporting requirements in SDCL 49-34A-105. If you wish to supplement the spreadsheet with an additional narrative report, please include that report in your submission. If you have any questions, please contact Darren Kearney at 605.773.3201 or darren.kearney(at)state.sd.us.

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- 2  MWH of electricity obtained from a hydroelectric facility in 2016 with an inservice date before July 1, 2008 (old hydro)
- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

Otter Tail has added cost-effective wind energy to it's system. Otter Tail has enough renewable resources to comply with the renewable objectives and standards that are in effect in the three states that Otter Tail operates in. Otter Tail does not anticipate any barriers in meeting the renewable objective.

**If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:**

6  Total amount of RECs retired for CY2016 compliance across all jurisdictions

7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

Tracking system is M-RETS. The retirement account used within M-RETS is SD 2016 REO-RES OTP

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

Ashtabula Wind Center, Luverne Wind Farm, UM Morris, FPL Energy North Dakota Wind II LLC, Langdon Wind Farm, Langdon Wind LLC.

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

MN - 432,789, SD - 41,727

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

Dayton Hollow Hydro 1, Dayton Hollow Hydro 2, Hoot Lake Hydro, Taplin Gorge Hydro, Pisgah Hydro, UM Morris, FPL Energy North Dakota Wind II LLC, Langdon Wind Farm, Langdon Wind LLC, Ashtabula Wind Center, Luverne Wind Farm, Ashtabula Wind III, LLC, District 45 Dairy LLP Unit #1, District 45 Dairy LLP Unit #2,

**If the Company is claiming conserved MWH in (4) above, please provide the following per ARSD 20:10:38:03 through 06:**

12  MWH of conserved energy achieved through energy efficiency

13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).

Otter Tail Power Company has filed all 2016 energy efficiency efforts, including budgets and energy savings results, in our annual Status Report. The Status Report was filed with the South Dakota PUC on May 1, 2017, docket no. EL17-022. At its meeting on November 22, 2016, the South Dakota Public Utilities Commission approved Otter Tail's Energy Efficiency Plan, which included proposed evaluation methodologies for 2017-2019 programs.

14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spent on demand response measures for the calendar year (ARSD 20:10:38:06).

N/A

Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	Other - <i>Please Specify</i>	Total Check
Otter Tail Power Company	44.01%	1.18%		17.99%	0.43%					36.39%		100.00%

**Other:** For any generation listed under "Other", please provide the generation source and percentage associated with each.

## Rosebud Electric Cooperative, Inc.

### Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

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- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

Rosebud Electric receives 6.39% (3776 mwh) of Wind energy and Renewable energy generation from Basin Electric

**If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:**

6  Total amount of RECs retired for CY2016 compliance across all jurisdictions

7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

**If the Company is claiming conserved MWH in (4) above, please provide the following per ARSD 20:10:38:03 through 06:**

12  MWH of conserved energy achieved through energy efficiency

13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).

14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spent on demand response measures for the calendar year (ARSD 20:10:38:06).



Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	Other - <i>Please Specify</i>	Total Check
Rosebud Electric Cooperative	22.51%	66.52%	0.54%	3.81%	2.24%	0.03%	0.00%	0.00%	0.00%	3.98%	0.37%	100.00%

**Other:** For any generation listed under "Other", please provide the generation source and percentage associated with each.

## Rushmore Electric Cooperative, Inc.

### Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

Directions: Fill in each orange box, save your responses, and email the completed spreadsheet back to darren.kearney(at)state.sd.us by July 1, 2017. Your completed spreadsheet will fulfill the reporting requirements in SDCL 49-34A-105. If you wish to supplement the spreadsheet with an additional narrative report, please include that report in your submission. If you have any questions, please contact Darren Kearney at 605.773.3201 or darren.kearney(at)state.sd.us.

- 1  MWH of electricity delivered to retail customers in South Dakota (SD retail sales) in 2016
- 2  MWH of electricity obtained from a hydroelectric facility in 2016 with an inservice date before July 1, 2008 (old hydro)
- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

Rushmore Electric Power Cooperative (REPC) facilitates a small renewable energy program to member cooperatives and their members. Currently, 5 REPC members and 70 Co-op members participate in the small renewable program.

REPC utilizes a demand response system.

A portion of REPC's marketing budget is allocated to energy conservation promotion.

For report year 2016 - the Rushmore Electric Board of Directors has elected to sell its RECs and to set aside proceeds from sale. The set aside will be used in a future year to fund Rushmore Electric's own renewable project.

If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:

6  Total amount of RECs retired for CY2016 compliance across all jurisdictions

7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

If the Company is claiming conserved MWH in (4) above, please provide the following per ARSD 20:10:38:03 through 06:

12  MWH of conserved energy achieved through energy efficiency

13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).

14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spend on demand response measures for the calendar year (ARSD 20:10:38:06).

REPC Demand Response system controls: 5577 water heaters, 905 central airs, 269 storage heat systems, 664 irrigations systems, and 2 other systems controlled.

Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Waste Heat	Purchases	Other - Please Specify	Total Check
Rushmore Electric Power Cooperative	66.80%	0.68%	1.60%	11.33%	6.65%	0.01%	0.00%	0.00%	1.11%	11.82%		100.00%

Other:

For the renewable generation listed above, please provide:	
RECs retired for SD RRCEO compliance in 2016	0
RECs held or "banked"	143,785
RECs sold or transferred to other parties	22,199



500 West Russell Street  
Sioux Falls, SD 57101-0988

June 29, 2017

—Via Electronic Filing—

Patricia Van Gerpen  
Executive Director  
South Dakota Public Utilities Commission  
Capitol Building, 1<sup>st</sup> Floor  
500 East Capitol Avenue  
Pierre, SD 57501

Re: 2016 REPORT OF NORTHERN STATES POWER COMPANY ON MEETING THE  
RENEWABLE, RECYCLED AND CONSERVED ENERGY OBJECTIVE

Dear Ms. Van Gerpen:

In accordance with SDCL 49-34A-105, Northern States Power Company, doing business as Xcel Energy, provides the attached report on meeting South Dakota's renewable, recycled and conserved energy objective for 2016.

Based on the jurisdictional energy allocator applicable to South Dakota, we have determined that the share of system-wide energy from renewable resources allocable to South Dakota was 456,627 MWh. This represents the energy we provided to our customers in 2016 that was generated by renewable generation facilities as defined by SDCL 49-34A-94.

As provided in Chapter 49-34A-103, we have deducted electricity obtained from hydro facilities with an in-service date before July 1, 2008 from retail sales. As a result, we calculate that approximately 22.3 percent of the energy provided to South Dakota customers in 2016 was from renewable energy resources. This percent reflects an increase from the 2015 level of 18.5 percent due to the continued addition of renewable resources and increased generation from all renewable resources except hydroelectric resources. In addition, 204,744 Renewable Energy Credits (RECs) have been retired in MRETS to comply with the South Dakota renewable energy objective (REO).

The attached reporting form includes the following information as requested by the Commission:

- Retail Sales (MWh) - Total & SD-based
- Total Renewable Generation Capacity Owned (MW) - All States & SD<sup>1</sup>
- Renewable Generation Capacity Owned (MW) - Total & SD-based by technology<sup>1</sup>
- Renewable Generation with RECs Retired for SD (MWh) - Total & SD-based by technology<sup>1</sup>
- Renewable Generation with RECs Retired for other states/purposes (MWh) - Total & SD-based by technology<sup>1</sup>
- Conserved Energy (Demand-Side Management Savings)(MWh) and Capacity (MW)
- Renewable Energy Calculations

The Company also files for approval and achieves energy efficiency and load management savings annually. DSM savings for 2016 were approved on December 16, 2016 in Docket No. EL-16-015.<sup>[1]</sup> However, the Company does not include DSM savings toward our compliance with the REO at this time.

Additionally, the Commission's Order in Docket No. EL09-029, dated February 12, 2010, directs the Company to report any sales of RECs in this report. Vintage 2016 RECs sold from transactions executed to date are shown in row 17 of Attachment A. For the reporting period, we did not sell any SD RECs which accounts for zero additional revenue allocated to the SD ratepayers; this would typically exclude 10 percent of expenses through the monthly Fuel Clause Charge consistent with the Commission's February 12, 2010 Order in Docket No. EL09-029.<sup>2</sup>

Finally, the Company continues to seek to incorporate renewables and energy efficiency measures when and where those measures are cost effective. The Company expects to continue to be able to meet the renewable energy objective in South Dakota.

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<sup>1</sup> As Defined in SDCL 49-34-94.

<sup>[1]</sup> These figures were calculated using both the deemed and measured energy savings approaches outlined in the Commission's rules, SD Admin. R. 20:10:38:04 and 20:10:38:05.

<sup>2</sup> See our February FCC report, Attachment 3, page 4.

If there are questions regarding information contained in the report, please feel free to contact me at (605) 339-8350 or Sarah Frazee at 303-571-7619.

SINCERELY,

A handwritten signature in cursive script that reads "Steve Kolbeck". The signature is written in black ink and is positioned above the printed name.

STEVEN T. KOLBECK  
PRINCIPAL MANAGER, SOUTH DAKOTA

Enclosures

## Renewable, Recycled, and Conserved Energy Objective Annual Report for 2016

Directions: Fill in each orange box, save your responses, and email the completed spreadsheet back to darren.kearney(at)state.sd.us by July 1, 2017. Your completed spreadsheet will fulfill the reporting requirements in SDCL 49-34A-105. If you wish to supplement the spreadsheet with an additional narrative report, please include that report in your submission. If you have any questions, please contact Darren Kearney at 605.773.3201 or darren.kearney(at)state.sd.us.

- 1  MWH of electricity delivered to retail customers (retail sales) in 2016
- 2  MWH of electricity obtained from a hydroelectric facility in 2016 with an inservice date before July 1, 2008 (old hydro)
- 3  MWH of electricity obtained from qualifying renewable or recycled facilities
- 4  MWH of qualifying conserved energy
- 5 Please provide a brief narrative that describes steps taken to meet the state renewable, recycled, and conserved objective over time and identifies any challenges or barriers encountered in meeting the objective.

With our current portfolio we believe that we own or have under contract sufficient renewable resources for REO compliance through at least 2030. In addition, we will be able to comply with the renewable requirements of other states in which we have service territory. However, we are paying close attention to a number of issues that may affect renewable energy development in our region. These issues include:

- Cost-effectiveness of wind energy. Natural gas prices and, correspondingly, market energy prices, have continued to stay low and are projected to continue at a lower level for a number of years to come. With those lower long-term price expectations, wind energy may not be as cost-effective as its likely alternative, natural gas generation, if the Production Tax Credit (PTC) or Investment Tax Credit (ITC) expires.
- Wind integration and baseload cycling. As the percentage of wind energy on our system and in the Midwest ISO (MISO) region continues to increase, we remain concerned about the cost and possible effects on reliability of integrating wind with our other resources. The Company continues to monitor the MISO ancillary services market costs as wind penetration levels increase.
- Transmission Infrastructure. The best wind resource areas within and adjacent to our service territory will have the necessary transmission infrastructure to support the level of wind generation needed to meet near-term REO compliance deadlines. The MISO Multi-Value Projects (MVP) and CapX transmission initiatives are substantially improving transmission from those areas into our primary load center in the Twin Cities. However, to meet the long term REO compliance, additional transmission infrastructure between the wind resource areas and the Twin Cities and other parts of the MISO footprint will be necessary to accommodate the ebb and flow of expected 2030 wind generation. It will be important to coordinate the planning of wind resources with the transmission necessary to integrate it into the electrical system. The Company is working with MISO and other stakeholders on these initiatives.



**If the Company is claiming renewable MWH in (3) above or retiring RECs in other jurisdictions, please provide the following per ARSD 20:10:38:07:**

6  Total amount of RECs retired for CY2016 compliance across all jurisdictions

7  Amount of RECs retired to meet South Dakota's renewable energy objective for CY2016

8 For RECs listed above in (7), please provide the tracking system(s) RECs were retired under:

M-RETS

9 For RECs listed above in (7), please provide the name and location of each facility that produced the retired RECs:

Please see attachment C

10 Amount of RECs that the provider retired to meet a renewable energy objective or renewable energy standard in each of the other states it provides electricity services:

Please see attachment B

11 For RECs listed above in (10), please provide the name and location of each facility that produced the retired RECs:

Please see attachment C

**If the Company is claiming conserved MWH in (4) above, please provide the following per ARSD 20:10:38:03 through 06:**

12  MWH of conserved energy achieved through energy efficiency

13 A general explanation of each energy efficiency impact evaluation or estimate, the rationale for using each energy efficiency impact evaluation or estimate, and the amount of expenditures spent on energy efficiency measures for the calendar year (ARSD 20:10:38:03).

NA

14  MWH of conserved energy achieved through demand response ((12) and (14) should sum to (4))

15 A general explanation of each demand response impact evaluation or estimate, the rationale for using each demand response impact evaluation or estimate, and the amount of expenditures spent on demand response measures for the calendar year (ARSD 20:10:38:06).

NA

Generation Mix Attributable to SD in 2016

Utility Name	Coal	Hydro	Nuclear	Wind	Natural Gas	Oil	Biomass	Solid Waste	Solar	Waste Heat	Purchases	Other - Please Specify	Total Check
Northern States Power Company	28.99%	6.68%	29.76%	15.29%	16.40%	0.05%	2.39%	0.22%	0.09%			0.13%	100.00%

<b>Other:</b>	Other comprises the generation produced from fossil fuel and other non-renewable fuel for multi fuel refuse derived generating facilities
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<b>For the renewable generation listed above, please provide:</b>	
RECs retired for SD RRCEO compliance in 2016	204,744
RECs held or "banked"	1,897,664
RECs sold or transferred to other parties	-

## Generation Mix Percentage 2016 Status Report

### System Total Generation (and Jurisdictional Allocator)

<u>State</u>	<u>State Allocators</u>
1 Minnesota	73.5559%
2 North Dakota	5.3628%
3 South Dakota	5.0562%
4 Wisconsin/Michigan	<u>16.0251%</u>
5 NSP System	100.0000%

### System Renewable Generation

<u>Source</u>	<u>M-RETS RECs</u>
6 Wind	7,635,907
7 Solar	25,220
8 Hydro (pre-7/1/2008)	1,286,676
9 Hydro (post 7/1/2008)	49,796
10 Biomass\Wood\Landfill Gas	1,061,576
11 Refuse-Derived Fuel (RDF)	<u>258,512</u>
12 NSP System	10,317,687

### SD RREO Renewable Energy

13 SD % of System Total Generation:	5.05621%
14 System RECs allocated to SD:	521,684
15 Remove Old Hydro (per SD RREO):	<u>(65,057)</u>
16 SD RREO qualifying renewable energy:	456,627
17 Vintage 2016 REC Sales <sup>1</sup> :	<u>-</u>
18 Net SD RREO qualifying renewable energy:	456,627
19 SD retail sales:	2,112,491
20 Remove SD Hydro allocation (per SD RREO):	<u>(65,057)</u>
21 SD REO adjusted retail sales:	2,047,434

22 **SD REO renewable energy %:** **22.3%**

23 **RECs retired for 2016 REO compliance** **204,744.00**

1 Vintage 2016 REC sales executed as of June 1, 2017

Attachment B is provided as part of the attached live Excel spreadsheet.

SDPUC notation:

See Attachment B on the SDPUC website at

<http://www.puc.sd.gov/energy/reo/xcelenergy.aspx>

Facility Name	County	State
Adams - Wind	Meeker County	MN
Agassiz Beach - Agassiz Beach	Clay	MN
Apple River (Unit 1)(Units 3-4) - Apple River	St Croix County	WI
Bayfront (Unit 4) - Bayfront (Unit 4)	Ashland County	WI
Bayfront (Unit 5) - Bayfront (Unit 5)	Ashland County	WI
Bayfront (Unit 6) - Bayfront (Unit 6)	Ashland County	WI
Big Blue Wind Farm - Big Blue Wind Farm, LLC	Faribault	MN
Big Falls (Units 1-3) - Big Falls	Rusk County	WI
Border Winds Wind Farm - Border Wind	Rolette	ND
Carleton College - Carleton College	Rice County	MN
Cedar Falls (Units 1-3) - Cedar Falls	Dunn County	WI
Chanarambie Power Partners (1) - Chanarambie Power Partners (1)	Murray County	MN
Chanarambie Power Partners (2) - Chanarambie Power Partners (2)	Murray County	MN
Chippewa Falls (Unit 1) - Chippewa Falls (Unit 1)	Chippewa County	WI
Chippewa Falls (Unit 2) - Chippewa Falls (Unit 2)	Chippewa County	WI
Chippewa Falls (Unit 3) - Chippewa Falls (Unit 3)	Chippewa County	WI
Chippewa Falls (Unit 4) - Chippewa Falls (Unit 4)	Chippewa County	WI
Chippewa Falls (Unit 5) - Chippewa Falls (Unit 5)	Chippewa County	WI
Chippewa Falls (Unit 6) - Chippewa Falls (Unit 6)	Chippewa County	WI
Community Wind North - North Community Turbines	Lincoln	MN
Community Wind North - North Wind Turbines	Lincoln	MN
Cornell (Unit 1-4) - Cornell (Unit 1-4)	Chippewa County	WI
Cow Poo - Cow Poo	Jackson	WI
Danielson - Danielson Wind Farms	Meeker County	MN
Dells (Units 1-7) - Dells	Eau Claire County	WI
Diamond K Dairy, Inc. - Diamond K Dairy, Inc.	Winona	MN
East Ridge - East Ridge	Murray County	MN
Ewington Energy Systems - Ewington Energy Systems	Jackson County	MN
Fenton Power Partners I (1) - Fenton Power Partners I (1)	Murray County	MN
Fenton Power Partners I (2) - Fenton Power Partners I (2)	Murray County	MN
Fey Windfarm - Fey Windfarm	Pipestone County	MN
Fibrominn LLC - Fibrominn	Swift	MN
Fibrominn LLC - Fibrominn Multi	Swift	MN
FPL Energy Mower County - FPL Energy Mower County	Mower County	MN
FreEner-g-2009-01 - FreEner-g-2009-01	Agg Group Reference	MN
FreEner-g-2010-01 - FreEner-g-2010-01	Agg Group Reference	MN
French Island (Unit 1) - French Island (Unit 1)	La Crosse County	WI
French Island (Unit 2) - French Island (Unit 2)	La Crosse County	WI
GL Bio Gas I, LLC - GL Bio Gas I	La CROSSE	WI
GL Bio Gas II, LLC - GL Bio Gas II	La CROSSE	WI
Grand Meadow Wind Farm - Grand Meadow	Mower	MN
Grant County Wind - Grant County Wind	Grant County	MN

Facility Name	County	State
GreenWhey Energy, Inc - GreenWhey Energy	Polk	WI
Hayward (Unit 1) - Hayward	Sawyer County	WI
Hibbing Public Utility - Laurentian	St. Louis	MN
Hilltop Power - Hilltop	Pipestone	MN
Holcombe (Unit 1) - Holcombe (Unit 1)	Chippewa County	WI
Holcombe (Unit 2) - Holcombe (Unit 2)	Chippewa County	WI
Holcombe (Unit 3) - Holcombe (Unit 3)	Chippewa County	WI
Hutchinson Wastewater Treatment Facility - Hutchinson WWTF Solar	McLeod	MN
Jeffers Wind 20 - Jeffers Wind 20	Cottonwood County	MN
Jim Falls (Unit 1) - Jim Falls (Unit 1)	Chippewa County	WI
Jim Falls (Unit 3) - Jim Falls (Unit 3)	Chippewa County	WI
Jim Falls (Units 2) - Jim Falls (Units 2)	Chippewa County	WI
Kas Brothers Windfarm - Kas Brothers Windfarm	Pipestone	MN
Koda 1 - Koda Energy	Scott	MN
Ladysmith (Units 1-3) - Ladysmith	Rusk County	WI
Lake Benton Power Partners II (LBII) - LB II	Pipestone	MN
Lake Benton Power Partners, LLC - Lake Benton Power Partners (LBI)	Lincoln	MN
Laurie River 1 - Laurie River 1	Manitoba	Manitoba
Laurie River 2 - Laurie River 2	Manitoba	Manitoba
LCO Band of Lake Superior Chippewa Indians - Lac Courte Oreilles (LCO)	Sawyer	WI
McArthur Falls - McArthur Falls	Manitoba	Manitoba
MCC - Solar	Hennepin	MN
McNeilus Group - McNeilus Group	Dodge County	MN
Menomonie (Units 1-2) - Menomonie	Dunn County	WI
Merrick Solar - Merrick Solar	Ramsey	MN
Metro Wind - Metro Wind	Sherburne	MN
MinnDakota Wind (1) - MinnDakota Wind (1)	Lincoln County	MN
MinnDakota Wind (1b) - MinnDakota Wind (1b)	Lincoln County	MN
MinnDakota Wind (2) - MinnDakota Wind (2)	Brookings	SD
MNRDF_DNR - MNRDF_DNR	Agg Group Reference	MN
Moraine II - Moraine II	Pipestone/Murray	MN
Moraine Wind - Moraine Wind	Murray County	MN
NAE Shaokatan Power Partners - NAE Shaokatan Power Partners	Lincoln County	MN
Neshonoc - Neshonoc	LaCrosse	WI
Nobles Wind Farm - Nobles Wind Farm I	Nobles	MN
Nobles Wind Farm - Nobles Wind Farm II	Nobles	MN
Norgaard North - Norgaard North	Lincoln County	MN
Norgaard South - Norgaard South	Lincoln County	MN
North Shaokatan Wind - Group	Lincoln/Lake Benton	MN
Olsen Windfarm LLC - Olsen Windfarm	Pipestone	MN
Pine Bend - Pine Bend	Dakota	MN
Pine Falls - Pine Falls	Manitoba	Manitoba

Facility Name	County	State
Pipestone - Pipestone	Pipestone County	MN
Pleasant Valley Wind Farm - Pleasant Valley Wind	Mower	MN
Pointe du Bois - Pointe du Bois	Manitoba	Manitoba
Prairie Rose Wind - Prairie Rose Wind, LLC	Rock & Pipestone	MN
Red Wing (Unit 1) - Red Wing (Unit 1)	Goodhue County	MN
Red Wing (Unit 2) - Red Wing (Unit 2)	Goodhue County	MN
Ridgewind - Ridgewind	Murray	MN
Riverdale (Units 1-2) - Riverdale	St. Croix County	WI
Rock Ridge Power Partners - Rock Ridge Power Partners	Pipestone County	MN
Ruthton Ridge Wind - Group	Lincoln/Murray/Pipestone	MN
SAF Hydro, LLC - SAF Hydro	Hennepin County	MN
Saxon Falls (Units 1-2) - Saxon Falls	Iron County	MI
School Sisters of Notre Dame Solar Park - School Sisters of Notre Dame Solar Park	Blue Earth	MN
Shane's Wind Machine - Shane's Wind Machine	Pipestone County	MN
Slave Falls - Slave Falls	Manitoba	Manitoba
Slayton Solar - Slayton Solar LLC	Murray	MN
South Ridge Power Partners - South Ridge Power Partners	Pipestone County	MN
SRMN2010-J-01 - SRMN2010-J-01	Agg Group Reference	MN
SRMN2011-01 - SRMN2011-01	Agg Group Reference	MN
SRMN2011-02 - SRMN2011-02	Agg Group Reference	MN
SRMN2011-03 - SRMN2011-03	Agg Group Reference	MN
SRMN2012-01 - SRMN2012-01	Agg Group Reference	MN
SRMN2012-02 - SRMN2012-02	Agg Group Reference	MN
SRMN2012-03 - SRMN2012-03	Agg Group Reference	MN
SRMN2012-04 - SRMN2012-04	Agg Group Reference	MN
SRMN2013-01 - SRMN2013-01	Agg Group Reference	MN
SRMN2013-02 - SRMN2013-02	Agg Group Reference	MN
St. Anthony (Units 1-5) - St. Anthony	Hennepin County	MN
St. Croix Falls (Unit 1-8) - St. Croix Falls (Unit 1-8)	Polk County	WI
St. John's Solar Farm - St. John's Solar Farm	Stearn	MN
St. Joseph Windfarm Inc. - St. Joseph Windfarm Inc.	Manitoba	Manitoba
St. Leon Wind Energy - St. Leon Wind Energy	Manitoba	Manitoba
St. Olaf College - St. Olaf College	Rice County	MN
St. Paul Cogeneration - St. Paul Cogeneration	Ramsey	MN
Superior Falls (Units 1-2) - Superior Falls	Iron County	MI
Tholen Transmission Inc. (North) - Tholen Transmission Inc. (North)	Pipestone County	MN
Tholen Transmission Inc. (South) - Tholen Transmission Inc. (South)	Pipestone County	MN
Thornapple (Units 1-2) - Thornapple	Rusk County	WI
Trego (Units 1-2) - Trego	Washburn County	WI
Uilk Wind Farm - Uilk Wind Farm	Pipestone County	MN
Valley View - Wind	Murray	MN
Velva Windfarm - Velva Windfarm	McHenry County	ND

Facility Name	County	State
West Ridge - West Ridge	Pipestone County	MN
Western Technical College - Western Technical College	La CROSSE	WI
White River (Units 1-2) - White River	Ashland County	WI
Wilmarth (Unit 1) - Wilmarth (Unit 1)	Blue Earth County	MN
Wilmarth (Unit 2) - Wilmarth (Unit 2)	Blue Earth County	MN
Wind Power Partners - Wind Power Partners	Lincoln	MN
Windvest Power Partners - Windvest Power Partners	Pipestone County	MN
Winona County Wind, LLC - Winona County Wind	Winona	MN
Wissota (Unit 1-3) - Wissota (Unit 1-3)	Chippewa County	WI
Wissota (Unit 4-6) - Wissota (Unit 4-6)	Chippewa County	WI
WM Renewable Energy - Burnsville - WM Renewable Energy - Burnsville	Burnsville/ Dakota	MN
Woodstock Municipal Wind - Woodstock Municipal Wind	Pipestone	MN
Zephyr Wind, LLC (CWS) - Zephyr Wind (2)	Nobles County	MN
Zephyr Wind, LLC (CWS) - Zephyr Wind (1)	Nobles County	MN



**Northern States Power Company - Minnesota  
Generation Mix Percentage**

<b>Total System Energy:</b>	<b>47,561,011</b>
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<b>Fleet Generation Mix</b>		<u>2016 Reported Mix</u>	<u>2016 SD Mix</u>
Biomass	1,134,687	2.4%	2.386%
Coal	13,786,388	29.0%	28.987%
Gas	7,799,465	16.4%	16.399%
Hydro	3,177,670	6.7%	6.681%
Nuclear	14,156,043	29.8%	29.764%
Oil	23,573	0.0%	0.050%
Other	59,782	0.1%	0.126%
Solar	42,778	0.1%	0.090%
Waste	106,752	0.2%	0.224%
Wind	7,273,873	15.3%	15.294%
	47,561,011	100.00%	100.00%