



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, 1st 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 & SD¹
- Renewable Generation Capacity Owned (MW) - Total & SD-based by technology¹
- Renewable Generation with RECs Retired for SD (MWh) - Total & SD-based by technology¹
- Renewable Generation with RECs Retired for other states/purposes (MWh) - Total & SD-based by technology¹
- 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.^[1] 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. EL09-029.²

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.

¹ As Defined in SDCL 49-34-94.

^[1] 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.

² 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, reading "Steve Kolbeck". The signature is written in a dark 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@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.

- 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 - <i>Please Specify</i>	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%

Other:	Other comprises the generation produced from fossil fuel and other non-renewable fuel for multi fuel refuse derived generating facilities
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For the renewable generation listed above, please provide:	
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 ¹ :	<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.

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

Total System Energy:	47,561,011
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Fleet Generation Mix		2016 <u>Reported Mix</u>	2016 <u>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%