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# Ten-Year Plan

NORTH DAKOTA

Prepared for the North Dakota Public Service Commission

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*June 30, 2017*

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## North Dakota Ten-Year Plan

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June 30, 2017

NorthWestern Corporation d/b/a NorthWestern Energy ("NorthWestern") submits this Ten-Year Plan for North Dakota facilities in accordance with the rules and regulations the North Dakota Public Service Commission governing the siting of energy conversion and transmission facilities pursuant to Chapter 49-22 of the North Dakota Century Code.

### Section A: Existing Energy Conversion Facilities

1. NorthWestern owns 10% of the 427-MW Coyote Generating Station, which is located near Beulah in Mercer County. This plant began commercial operation May 1, 1981. The other owners of the plant are Otter Tail Power Company (35%), Minnkota Power Cooperative, Inc. (30%), and Montana-Dakota Utilities Co. (25%). Otter Tail operates the plant. Please refer to Otter Tail's Ten-Year Plan<sup>1</sup> for additional data.
2. NorthWestern does not plan to remove any generating facilities in North Dakota from service during the next ten years.

### Section B: Proposed Energy Conversion Facilities under Construction

None.

### Section C: Proposed Energy Conversion Facilities on Which Construction is intended within the Ensuing Five Years

None.

### Section D: Proposed Energy Conversion Facilities during the Next Ten-Year Time Period

None.

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<sup>1</sup> Otter Tail's 2016 North Dakota Ten-Year Plan was filed in Docket No. PU-16-486.

**Section E: Existing Transmission Facilities (Electric)**

1. NorthWestern's transmission facilities in North Dakota are:
  - A segment of 115-kV line from Ellendale south to the South Dakota border; and
  - Approximately the first 23.1 miles of the 345-kV line from the Coyote Plant towards Center. This line was put into service in 1980.
2. NorthWestern does not project the retirement of any transmission facilities rated 115-kV or above within the next ten-year time period.

**Section F: Existing Transmission Facilities (Pipeline)**

None.

**Section G: Proposed Transmission Facilities on which Construction is intended within the Ensuing Five Years (Electric)**

None.

**Section H: Proposed Transmission Facilities on which Construction is intended within the Ensuing Five Years (Gas)**

None.

**Section I: Proposed Transmission Facilities during the Next Ten-Year Time Period (Electric and Pipeline)**

None.

**Section J: Regional Coordination**

In South Dakota, NorthWestern Energy is a transmission-owning member of the Southwest Power Pool (SPP). NorthWestern has been coordinating and planning with other systems since 1950, resulting in interconnections, interchange contracts, and the joint construction of facilities. NorthWestern transferred functional control of a large portion of its South Dakota electric transmission facilities to SPP on October 1, 2015. NorthWestern actively participates in the SPP Integrated Transmission Planning (ITP) process, which analyzes reliability, economic, and policy

needs within the region and along the seams of neighboring Regional Transmission Organizations.

In North Dakota, NorthWestern has interconnection agreements with Otter Tail Power Company and Montana-Dakota Utilities Co. NorthWestern is a co-owner of the 427-MW Coyote Generating Station and its associated bulk transmission facilities with Minnkota Power Cooperative, Inc., Otter Tail Power Company, and Montana-Dakota Utilities Co. This joint venture, and similar joint ventures in South Dakota and Iowa, permits NorthWestern and the other owners to realize economies in construction of large generation stations and to provide services required by our customers through fewer facilities with minimal environmental impact.

Montana-Dakota Utilities, Northern States Power, Otter Tail, Minnkota Power Cooperative, Minnesota Power, and NorthWestern Public Service formed the Dakotas-Montana Power Suppliers Group in 1979. The objective of the group is to provide regional planning coordination to the respective state regulatory bodies.

**Section K: Environmental Impact**

The record of Coyote's Certificate Hearing, including the Environmental Impact Statement issued by the Rural Electrification Administration for the Coyote Project, illustrates the concern and the efforts of NorthWestern to manage all impacts created by any proposed energy conversion facility and transmission facility.

**Section L: Projected Demand for Service**

*Historical Growth and Long-Range Forecast*

The ten-year historical growth of NorthWestern's loads, all of which are geographically located in eastern South Dakota, is as follows:

<b>Year</b>	<b>Demand (MW)</b>	<b>Increase (%)</b>	<b>Increase (MW)</b>
<b>2006</b>	307	3.7	11
<b>2007</b>	315	2.6	8
<b>2008</b>	284	(9.8)	(31)
<b>2009</b>	286	0.01	2
<b>2010</b>	311	8.7	25
<b>2011</b>	341	9.6	30

<b>Year</b>	<b>Demand (MW)</b>	<b>Increase (%)</b>	<b>Increase (MW)</b>
<b>2012</b>	329	(3.5)	(12)
<b>2013</b>	327	(0.01)	(2)
<b>2014</b>	302	(7.6)	(25)
<b>2015</b>	311	3.0	9
<b>2016</b>	331	6.4	20

The projected future growth for the next ten-year time period is as follows:

<b>Year</b>	<b>Demand (MW)</b>	<b>Increase (%)</b>	<b>Increase (MW)</b>
<b>2017</b>	339	2.4	8
<b>2018</b>	342	1.0	3
<b>2019</b>	353	3.2	11
<b>2020</b>	359	1.7	6
<b>2021</b>	362	1.0	3
<b>2022</b>	365	1.0	3
<b>2023</b>	368	1.0	3
<b>2024</b>	371	1.0	3
<b>2025</b>	373	1.0	2
<b>2026</b>	376	1.0	3
<b>2027</b>	379	1.0	3

These projections are based upon historical trends and known changes for a 50/50 forecast for NorthWestern's South Dakota service territory based on guidance from SPP.

#### *Description of Generation Facilities*

NorthWestern owns 23.4% of Big Stone Plant in northeast South Dakota. Other owners of the 475-MW coal-fired facility are Montana-Dakota Utilities and Otter Tail. This facility came online in May 1975.

NorthWestern owns 8.7% of Neal Electric Generating Unit 4, located near Sioux City, Iowa. NorthWestern is one of 13 owners in this 644-MW coal-fired facility. This unit came online in July 1979.

NorthWestern installed a simple-cycle 52-MW combustion turbine addition within its South Dakota service territory in Aberdeen, South Dakota. This unit came online in April 2013.

NorthWestern purchased the 80-MW Beethoven Wind Farm, located south of Tripp, South Dakota, from Beethoven Wind, LLC, on September 21, 2015. This wind farm went into commercial operation in May 2015.

### *Power Purchase Agreements*

NorthWestern entered into a PPA for 25 MWs of wind energy from the Titan I Wind Project located by Ree Heights, South Dakota. This wind farm went into commercial operation in December 2009.

NorthWestern entered into a PPA for 19.5 MWs of wind energy from the Oak Tree Wind Farm located by Clark, South Dakota. This wind farm went into commercial operation in December 2014.