



**MONTANA-DAKOTA**

**UTILITIES CO.**

*A Division of MDU Resources Group, Inc.*

400 North Fourth Street  
Bismarck, ND 58501  
(701) 222-7900

June 14, 2013

Executive Secretary  
North Dakota Public Service  
Commission  
State Capitol Building  
Bismarck, ND 58505-0480

Re: Ten-Year Plan

Montana-Dakota Utilities Co. (Montana-Dakota), a Division of MDU Resources Group, Inc., herewith submits ten (10) copies of its North Dakota Ten-Year Plan in accordance with NDCC 49-22-04. Notice of the filing of this plan is given, pursuant to Article 69-06-02-02 of the North Dakota Administrative Code, to the state agencies and officers as designated in Article 69-06-01-05 of the Administrative Code and denoted on the attached Service List.

Please acknowledge receipt by stamping or initialing the duplicate copy of this letter attached hereto and returning the same in the enclosed self-addressed, stamped envelope.

Sincerely,

A handwritten signature in black ink that reads "Tamie A. Aberle".

Tamie A. Aberle  
Director of Regulatory Affairs

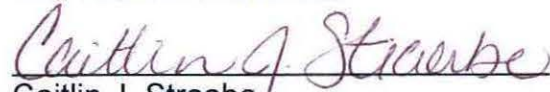
Enclosure  
cc: Service List (without enclosure)

Montana-Dakota Utilities Co., a Division of )  
MDU Resources Group, Inc. Ten-Year Plan ) CERTIFICATE OF SERVICE  
Submitted on June 14, 2013 )

I, Caitlin J. Straabe, being first duly sworn on oath, certifies that the following list contains the names and last address of each designated state agency and/or state official given notice of filing of Montana-Dakota Utilities Co.'s (Montana-Dakota) Ten-Year Plan pursuant to the Rules and Regulations of the North Dakota Public Service Commission. I hereby certify that I have, by depositing this Certificate of Service with the United States Postal Service, caused notice to be given all such required state agencies and state officials that Montana-Dakota has filed its Ten-Year Plan for North Dakota Electric Properties with the North Dakota Public Service Commission.

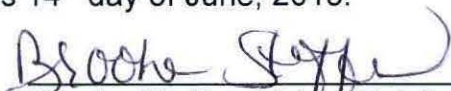
Name  
See Exhibit A Attached

Last Known Address  
See Exhibit A Attached

  
Caitlin J. Straabe

Subscribed and sworn to before me this 14<sup>th</sup> day of June, 2013.



  
\_\_\_\_\_  
Brooke Steffes, Notary Public  
Burleigh County, North Dakota  
My Commission Expires: 09/27/2017

---

---

**Montana-Dakota Utilities Co.**  
**2013 North Dakota Ten-Year Plan For North Dakota Electric Properties**  
**Service List – Notice of Filing**

---

---

Department of Labor  
600 East Boulevard Avenue Dept 406  
Bismarck, ND 58505

Department of Human Services  
State Capitol Judicial Wing  
600 East Boulevard Avenue  
Bismarck, ND 58505

North Dakota Department of Transportation  
608 East Boulevard Avenue  
Bismarck, ND 58505-0700

Energy Development Impact Office  
P.O. Box 5523  
Bismarck, ND 58506-5523

Department of Agriculture  
State Capitol Building  
600 East Boulevard Avenue  
Bismarck, ND 58505

Department of Vocational Education  
State Capitol Building, 15<sup>th</sup> Floor  
600 East Boulevard Avenue  
Bismarck, ND 58505

North Dakota Department of Commerce  
Economic Development & Finance  
1600 East Century Avenue, Suite 2  
Bismarck, ND 58503

Governor's Office  
State Capitol Building  
600 East Boulevard Avenue  
Bismarck, ND 58505

ND State Land Department  
P.O. Box 5523  
Bismarck, ND 58506-5523

Game & Fish Department  
100 North Bismarck Expressway  
Bismarck, ND 58501

State Historical Society  
Heritage Center  
612 East Boulevard Avenue  
Bismarck, ND 58505

Attorney General  
State Capitol Building  
600 East Boulevard Avenue  
Bismarck, ND 58505

Indian Affairs Commission  
State Capitol Judicial Wing  
600 East Boulevard Avenue  
Bismarck, ND 58505

North Dakota Department of Commerce  
P.O. Box 5523  
1600 East Century Avenue, Suite 2  
Bismarck, ND 58503

State Water Commission  
900 East Boulevard Avenue  
Bismarck, ND 58502

North Dakota Parks & Recreation Department  
1600 East Century Avenue, Suite 3  
Bismarck, ND 58505

Job Service of North Dakota  
P.O. Box 5507  
Bismarck, ND 58502

Aeronautics Commission  
P.O. Box 5020  
Bismarck, ND 58502

Soil Conservation Committee  
State Capitol Building  
600 East Boulevard Avenue  
Bismarck, ND 58505

North Dakota Department of Mineral Resources  
Geological Survey  
600 East Boulevard Avenue  
Bismarck, ND 58505

Department of Health  
State Capitol Building  
600 East Boulevard Avenue  
Bismarck, ND 58505

**MONTANA-DAKOTA UTILITIES CO.**  
**TEN YEAR PLAN**  
**FOR NORTH DAKOTA ELECTRIC PROPERTIES**

For Planning Years July 1, 2013 through June 30, 2023

Submitted to  
NORTH DAKOTA PUBLIC SERVICE COMMISSION  
June 14, 2013



**MONTANA-DAKOTA  
UTILITIES CO.**

A Division of MDU Resources Group, Inc.

**MONTANA-DAKOTA UTILITIES CO.  
TEN YEAR PLAN  
FOR NORTH DAKOTA ELECTRIC PROPERTIES**

For Planning Years July 1, 2013 through June 30, 2023

Submitted to  
NORTH DAKOTA PUBLIC SERVICE COMMISSION  
June 14, 2013

**MONTANA-DAKOTA UTILITIES CO.**  
A Division of MDU Resources Group, Inc.  
400 North 4th Street  
Bismarck, North Dakota 58501

## INTRODUCTION

Enclosed are data comprising the Montana-Dakota Utilities Co. (Montana-Dakota) "Ten Year Plan" for North Dakota Electric Properties filed in compliance with NDCC §49-22-04 and NDAC §69-06-02-01 and 02.

	<u>Page</u>	
SCHEDULE A	EXISTING ENERGY CONVERSION FACILITIES	2
SCHEDULE B	ENERGY CONVERSION FACILITIES UNDER CONSTRUCTION	2
SCHEDULE C	PROPOSED ENERGY CONVERSION FACILITIES ON WHICH CONSTRUCTION IS INTENDED WITHIN THE ENSUING FIVE YEARS	3
SCHEDULE D	PROPOSED ENERGY CONVERSION FACILITIES DURING THE NEXT TEN-YEAR TIME PERIOD	3
SCHEDULE E	EXISTING TRANSMISSION FACILITIES (ELECTRIC)	3
SCHEDULE G	PROPOSED TRANSMISSION FACILITIES ON WHICH CONSTRUCTION IS INTENDED WITHIN THE ENSUING FIVE YEARS (ELECTRIC)	4
SCHEDULE I	PROPOSED TRANSMISSION FACILITIES DURING THE NEXT TEN YEAR TIME PERIOD (ELECTRIC)	4
SCHEDULE J	REGIONAL COORDINATION	5
SCHEDULE K	ENVIRONMENTAL INFORMATION	6
SCHEDULE L	PROJECTED DEMAND FOR SERVICE	8
EXHIBIT A	NORTH DAKOTA ELECTRIC SYSTEM MAP	12

## SCHEDULE A

### EXISTING ENERGY CONVERSION FACILITIES

The existing energy conversion facilities subject to this filing and located in North Dakota are the 427 MW Coyote Station near Beulah in which Montana-Dakota has a 25 percent ownership interest, the 103 MW Heskett Station in Mandan, which is wholly owned by Montana-Dakota, a 5.3 MW waste heat recovery unit located near Glen Ullin, and the 19.5 MW Cedar Hills wind project located near Rhame. Otter Tail Power Company of Fergus Falls, Minnesota operates the Coyote Station and reports all information required by Schedule A.

No energy conversion facilities are committed to be retired in the next ten years.

## SCHEDULE B

### ENERGY CONVERSION FACILITIES UNDER CONSTRUCTION

Montana-Dakota received the required permits and approvals to begin construction of the 88 MW Combustion Turbine Project (“Project”) at the R.M. Heskett Station site, near Mandan, North Dakota, on April 29, 2013. The Project consists of the construction of a simple cycle combustion turbine (“Unit 3”), the necessary transmission interconnection facilities for the turbine, and approximately 24 miles of natural gas pipeline (“Pipeline”) to supply fuel to the turbine.

Per NDCC Chapter 49-22, Montana-Dakota submitted an application to the North Dakota Public Service Commission (“Commission”) for a Certificate of Site Compatibility for Unit 3 on September 18, 2012. The public hearing was held on December 4, 2012, and the Certificate of Site Compatibility for the Combustion Turbine was issued by the Commission on December 21, 2012. On February 13, 2013, Montana-Dakota submitted an application to the Commission for a Certificate of Corridor Compatibility and an Energy Transmission Facility Route Permit for the Pipeline necessary to supply Unit 3. A public hearing was held on May 3, 2013.

On May 4, 2012, Montana-Dakota submitted an application to the North Dakota Department of Health (NDDH) for a Prevention of Significant Deterioration Permit to Construct

(“Air Permit”) for the Project. The application for the Project was updated on October 8, 2012 and November 28, 2012, and the Air Permit was issued by the NDDH on February 25, 2013.

Unit 3 is a natural gas-fired heavy-duty (Frame) type combustion turbine equipped with dry low nitrogen oxide (NO<sub>x</sub>) combustion for emissions control and evaporative inlet air cooling for power augmentation as depicted below. Unit 3 is primarily a capacity resource that will be utilized during peak load conditions and is expected to have relatively low annual capacity factors. Favorable permitting activities, equipment procurement and deliveries schedules, and contracting conditions have allowed the Project to remain ahead of schedule. Montana-Dakota has awarded all but a few of the required equipment and construction contracts. It is anticipated that commercial operation will begin in July 2014.

### SCHEDULE C

PROPOSED ENERGY CONVERSION FACILITIES ON WHICH  
CONSTRUCTION IS INTENDED WITHIN THE ENSUING FIVE YEARS

NONE

### SCHEDULE D

PROPOSED ENERGY CONVERSION FACILITIES DURING THE  
NEXT TEN-YEAR TIME PERIOD

Montana-Dakota routinely studies additional resource options to meet its customer needs. These options are addressed in Montana-Dakota’s Integrated Resource Plan (2011 IRP) filed with the Commission on May 12, 2011 and designated as Case No. PU-11-158.

### SCHEDULE E

EXISTING TRANSMISSION FACILITIES

(ELECTRIC)

Exhibit A is a system map of North Dakota showing the location of existing transmission facilities.

There are no retirements of any North Dakota transmission facilities planned within the next ten years.

SCHEDULE G

PROPOSED TRANSMISSION FACILITIES ON WHICH CONSTRUCTION  
IS INTENDED WITHIN THE ENSUING FIVE YEARS (ELECTRIC)

The Midcontinent Independent System Operator, Inc. (MISO) has established a classification of transmission expansion projects called Multi-Value Projects (MVPs). Cost allocation for MVPs will be shared across the entire MISO footprint on a per MWh basis. There is currently one approved MVP project that will connect to Montana-Dakota's transmission system. This MVP project consists of a new substation near the existing Ellendale Junction Substation and a 345 KV line extending from Ellendale which will interconnect to a substation near the Big Stone Plant in South Dakota. Montana-Dakota will be a 50 percent owner of this MVP line which is scheduled to be placed in-service by December, 2019.

Montana-Dakota is currently planning a 35 mile 115 kV line from the existing Kenmare Junction substation to a new substation near Lignite, ND. This line is being developed to support continuing load growth in the area. This project is expected to be completed by the end of 2014.

SCHEDULE I

PROPOSED TRANSMISSION FACILITIES DURING THE  
NEXT TEN YEAR TIME PERIOD (ELECTRIC)

NONE

## SCHEDULE J

### REGIONAL COORDINATION

Montana-Dakota has been coordinating planning, construction, and operation of electric facilities with other utilities and agencies serving North Dakota since 1945. Montana-Dakota has agreements for joint planning and common use of area facilities with Basin Electric Power Cooperative (Basin Electric) and Western Area Power Administration (Western).

Montana-Dakota and Western have an agreement that provides for mutual wheeling and coordinates construction of transmission facilities. The agreement is in effect through December 31, 2015. Montana-Dakota originally entered into this agreement with Western's predecessor, the United States Bureau of Reclamation, in 1945 and the agreement has been renewed several times since then. Over the years, cooperation among Montana-Dakota, Western, and rural electric cooperatives has resulted in numerous interconnections between Montana-Dakota's and Western's systems, avoiding duplication of hundreds of miles of transmission facilities.

Montana-Dakota has an agreement with Basin Electric that provides for joint planning and common use of transmission facilities. This agreement, first signed in 1972, is perpetual until terminated by one of the parties with a five year notice required prior to termination. Joint planning involving Montana-Dakota and Basin Electric and its member cooperatives continues to provide maximum utilization and benefit of existing and new transmission facilities. Load flow studies provided for under this agreement assure that adequate facilities will be provided to meet expected long-range demands.

Montana-Dakota has interconnection agreements with Otter Tail Power Company, NorthWestern Energy Corporation, and Minnkota Power Cooperative, Inc. These agreements, along with the Basin Electric and Western agreements, provide for the interconnection of Montana-Dakota's bulk transmission facilities with the Western Integrated System (WAPA IS) and MISO bulk transmission facilities.

Montana-Dakota, Otter Tail Power Company, and NorthWestern Energy Corporation own the 475 MW Big Stone generating station near Big Stone City, South Dakota, and associated bulk transmission facilities. Montana-Dakota owns 22.7 percent of the Big Stone Plant. In addition, Montana-Dakota is a participant in another joint venture with Minnkota Power Cooperative, Inc. (agent for Northern Municipal Power Agency), Otter Tail Power Company,

and NorthWestern Energy Corporation. This is the 475 MW Coyote generating plant near Beulah, North Dakota, and associated bulk transmission facilities. Montana-Dakota currently owns 25 percent of the Coyote Station. These cooperative efforts permit Montana-Dakota to realize economic benefits from ownership in a large generating station and to provide the electrical generation required of it and its partners using fewer facilities.

Montana-Dakota is a transmission owning member of the MISO. The MISO is a FERC-authorized Regional Transmission Organization (RTO). The MISO commenced tariff administration for the operational control of the transmission systems of its members in February 2002. The MISO commenced its energy market on April 1, 2005. The MISO Ancillary Services Market started on January 6, 2009 at which time Montana-Dakota became a Local Balancing Authority within the MISO. Montana-Dakota actively participates in the planning processes performed by the MISO, which has the obligation to coordinate the planning of transmission facilities. Two of the planning processes mandated by FERC are generator interconnection and delivery service. A third process is related to expansion planning through the MISO Transmission Expansion Plan.

Montana-Dakota is a member of the MAPP Transmission Planning Committee, which develops the MAPP regional plan and is responsible for interregional coordination. Montana-Dakota has provided notification to the MAPP that it will withdraw as a member of the MAPP effective December 31, 2013, as transmission planning in the Dakotas is performed by the MISO.

Montana-Dakota is also a member of the Midwest Reliability Organization (MRO). MRO is one of eight regional entities in North America operating under authority from regulators in the United States and Canada through a delegation agreement with the North American Electric Reliability Corporation (NERC). The primary focus of MRO is developing and ensuring compliance with regional and international standards and performing assessments of the grid's ability to meet the demands for electricity.

## SCHEDULE K

### ENVIRONMENTAL INFORMATION

The Corporate Environmental Policy of MDU Resources Group, Inc., the parent

corporation of Montana-Dakota, states that:

*Our company will operate efficiently to meet the needs of the present without compromising the ability of future generations to meet their own needs. Our environmental goals are:*

- *To minimize waste and maximize resources;*
- *To support environmental laws and regulations that are based on sound science and cost-effective technology; and*
- *To comply with or exceed all applicable environmental laws, regulations and permit requirements.*

Montana-Dakota maintains good relations with local, state, and federal agencies involved with environmental protection and land use planning in its service area.

Transmission and energy conversion facilities will be designed and located in such a manner as to maximize operational efficiency and economic benefits and to minimize impacts on agriculture, extractable resources, health and safety, plant and animal life, communications, and the visual effect on the surrounding area. Transmission and energy conversion facilities will be sited in compliance with the federal, state, and local laws and with the Public Service Commission's rules and regulations.

Montana-Dakota strives to maintain compliance and operate its facilities in an environmentally proactive manner, while taking into consideration the cost to customers. Montana-Dakota actively monitors federal and state legislative and regulatory activity related to environmental issues, including air emissions, greenhouse gases (GHG), waste disposal, and water discharges.

The U.S. Environmental Protection Agency (EPA) has finalized significant air emissions regulations for coal-fired electric generating facilities and has made known that it intends to issue several other significant new air emissions, waste disposal and water discharge regulations aiming to reduce impacts from air emissions, including GHGs, from fossil-fired electric generating facilities, and pollutants in wastewater discharges and management of coal ash at coal-fired electric generating facilities. The culmination of all various pending environmental requirements may result in the retirement of existing coal-fired baseload units earlier than

otherwise would occur. Montana-Dakota will continue to monitor the impacts from proposed regulations and will take the regulations into consideration when planning for future resource needs.

## SCHEDULE L

### PROJECTED DEMAND FOR SERVICE

The load data reported in this plan are the result of Montana-Dakota’s *2013-2032 Electric Load Forecast* dated December 31, 2012.

#### 1. Projected Peak Load for 2013-2023

The demand forecast was developed using an econometric model whose methodology is documented in detail in Attachment A of the 2011 IRP.

The summer peak is the highest hourly demand value for the summer months in the given year. The winter peak is the highest hourly demand value for the winter season occurring at the end of the given year or the beginning of the following calendar year. The projected demands shown in MW below represent the load at the customer level plus the demand due to system losses. System losses include energy losses on the transmission and distribution systems and energy that is unaccounted for such as power theft or stray currents. The summer peak demand given is prior to any reduction in load due to demand response and/or demand-side management (DSM) programs including interruptible large power service.

#### a. Integrated System

#### PROJECTED PEAK DEMAND (MW)

YEAR	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
SUMMER	582.3	607.0	625.1	637.8	645.7	656.1	666.5	676.5	686.6	696.4	706.0
WINTER	582.0	612.6	633.9	648.0	655.5	666.4	677.3	687.7	698.2	708.3	718.3

#### GROWTH RATE (%)

YEAR	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
SUMMER	--	4.2	3.0	2.0	1.2	1.6	1.6	1.5	1.5	1.4	1.4
WINTER	--	5.3	3.5	2.2	1.2	1.7	1.6	1.5	1.5	1.4	1.4

Historically, for the period 2007-2012 the summer peak demand increased at an average rate of 2.5 percent per year while the winter peak demand increased at an average rate of 4.5 percent per year. The projected average growth rates for the period 2013-2023 are 1.8 percent for the summer peak and 1.9 percent for the winter peak.

b. North Dakota

PROJECTED PEAK DEMAND (MW)

YEAR	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
SUMMER	393.9	407.2	415.5	423.2	428.2	436.0	444.0	451.8	459.7	467.0	474.5
WINTER	393.7	411.0	421.4	430.0	434.7	442.8	451.1	459.3	467.4	475.0	482.8

GROWTH RATE (%)

YEAR	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
SUMMER	--	3.4	2.0	1.9	1.2	1.8	1.8	1.8	1.7	1.6	1.6
WINTER	--	4.4	2.5	2.0	1.1	1.9	1.9	1.8	1.8	1.6	1.6

2. Projected Energy for 2013-2023

The projected annual energy requirements, shown in gigawatt-hours (GWh), for Montana-Dakota's Integrated System are as follows:

Year	Annual Energy (GWh)	Year	Annual Energy (GWh)
2013	3,229.4	2019	3,849.9
2014	3,428.4	2020	3,917.1
2015	3,566.8	2021	3,985.7
2016	3,658.7	2022	4,051.6
2017	3,707.8	2023	4,116.2
2018	3,778.8		

Historically, for the period 2007-2012, Montana-Dakota experienced an average annual increase of 2.9 percent for energy consumption. The projected average growth rate for the period 2013-2023 is 2.2 percent.

### 3. Load Centers

Montana-Dakota's load centers for the Integrated System, defined as areas with 10 MW or more of load in a limited geographical area, are, in North Dakota, Bismarck-Mandan, Dickinson, Stanley, Watford City, and Williston and in Montana, Glendive, Miles City, and Sidney.



Exhibit A

North Dakota Electric System Map

