



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

June 26, 2012

Ms. Patricia Van Gerpen  
Executive Director  
South Dakota Public Utilities Commission  
State Capitol Building  
500 East Capitol  
Pierre, SD 57501

Re: Ten-Year Plan

Dear Ms. Van Gerpen:

Montana-Dakota Utilities Co. (Montana-Dakota), a Division of MDU Resources Group Inc., herewith electronically submits its Ten-Year Plan in accordance with South Dakota Administrative Rules Chapter 20:10:21.

Notice of the filing has been given to each state agency and officer entitled to notice as designated in section 20:10:21:23 (see attached service list).

If you should have any questions, please feel free to contact me at 701-222-7856.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Tamie A. Aberle', written in a cursive style.

Tamie A. Aberle  
Regulatory Affairs Manager

Attachment  
Cc: Service List (without attachment)

Montana-Dakota Utilities Co., a Division of )  
MDU Resources Group, Inc. Ten-Year Plan ) CERTIFICATE OF SERVICE  
Submitted on June 26, 2012 )

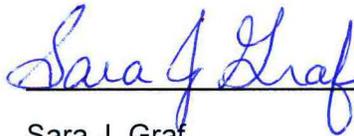
I, Sara J. Graf, being first duly sworn on oath, certifies that the following list contains the names and last address of each designated state agency and/or state official given notice of filing of Montana-Dakota Utilities Co.'s (Montana-Dakota) Ten-Year Plan pursuant to the Rules and Regulations of the South Dakota Public Utilities Commission governing Energy Facilities Plans. 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 with the South Dakota Public Utilities Commission.

Name

See Exhibit A Attached

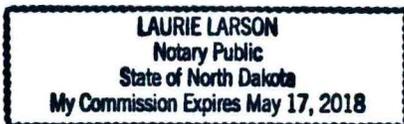
Last Known Address

See Exhibit A Attached



Sara J. Graf

Subscribed and sworn to before me this 26 day of June, 2012.



Laurie Larson, Notary Public  
Burleigh County, North Dakota  
My Commission Expires: 05/17/2018

Exhibit A

Mr. Walt Bones, Secretary  
SD Department of Agriculture  
523 East Capitol Avenue  
Pierre, SD 57501

Mr. Leroy LaPlante, Secretary  
SD Tribal Government Relations  
711 East Wells Avenue  
Pierre, SD 57501

Mr. Marty Jackly, Attorney General  
State of South Dakota  
1302 East Hwy. 14, Suite 1  
Pierre, SD 57501

Ms. Pam Roberts, Secretary  
SD Department of Labor  
700 Governors Drive  
Pierre, SD 57501

Mr. Andy Gerlach, Secretary  
SD Department of Revenue & Regulation  
445 East Capitol Avenue  
Pierre, SD 57501

Mr. James Fry, Director  
SD Legislative Research Council  
500 East Capitol Avenue  
Pierre, SD 57501

Ms. Melody Schopp, Secretary  
SD Department of Education  
800 Governors Drive  
Pierre, SD 57501

Mr. Jarrod Johnson, Commissioner  
SD Department of Schools & Public Lands  
500 East Capitol Avenue  
Pierre, SD 57501

Ms. Michele Farris, Manager  
SD Department of Energy Management  
523 East Capitol Avenue  
Pierre, SD 57501

Ms. Kristi Honeywell, State Engineer  
Joe Foss Building  
523 East Capitol Avenue  
Pierre, SD 57501

Mr. Jeff Vonk, Secretary  
SD Department of Game, Fish & Parks  
523 East Capitol Avenue  
Pierre, SD 57501

Mr. Derric Iles, State Geologist  
SD Geological Surveys  
414 East Clark Street  
Vermillion, SD 57069-2390

Ms. Laurie Gill, Secretary  
SD State Department of Health  
600 East Capitol Avenue  
Pierre, SD 57501

Mr. Jim Hagen, Secretary  
SD Department of Tourism & State  
Development  
711 East Wells Avenue  
Pierre, SD 57501

Mr. Darin Bergquist, Secretary  
SD Department of Transportation  
Becker-Hansen Building  
700 E. Broadway Avenue  
Pierre, SD 57501

Mr. Bruce Lindholm, Program Manager  
SD Office of Aeronautics  
Becker Hansen Building  
700 East Broadway Avenue  
Pierre, SD 57501

Mr. Steven Pirner, Secretary  
SD Dept. of Environment & Natural  
Resources  
Joe Foss Building  
523 East Capitol Avenue  
Pierre, SD 57501

Mr. Chris Maxwell  
SD Governor's Office of Economic  
Development  
711 East Wells Avenue  
Pierre, SD 57501

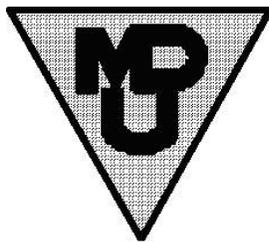
Governor Dennis Daugaard  
South Dakota Office of the Governor  
500 East Capitol Avenue  
Pierre, SD 57501

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

For Planning Years January 1, 2012 through December 31, 2021

Submitted to

SOUTH DAKOTA PUBLIC UTILITIES COMMISSION JUNE 26, 2012



**MONTANA-DAKOTA  
UTILITIES CO.**

A Division of MDU Resources Group, Inc.

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Exhibit A – South Dakota Electric System Map

#### **20:10:21:04 Existing Energy Conversion Facilities**

Montana-Dakota Utilities Co. (Montana-Dakota) has a 22.7 percent ownership in the 415 MW coal-fired Big Stone plant located near Big Stone City, South Dakota. Otter Tail Power Company of Fergus Falls, Minnesota, operates the plant and reports all information required by 20:10:21:04.

#### **20:10:21:05 Proposed Energy Conversion Facilities**

Montana-Dakota is continually studying additional resource options to meet its customer needs along with studying renewable resource options to meet the South Dakota renewable energy objective. Montana-Dakota is not currently proposing to build any new energy conversion facilities in South Dakota.

#### **20:10:21:06 Existing Transmission Facilities**

Montana-Dakota has no transmission facilities of 250 kilovolts (kV) or more in South Dakota. Exhibit A shows the 115 kV and 46 kV transmission network which serves Montana--Dakota's South Dakota customers. The Exhibit also shows 47.5 miles of 230 kV line extending northwesterly from the Big Stone Plant. This line transmits electric energy from the Big Stone Plant to Montana-Dakota's transmission network. Montana-Dakota owns this portion of the transmission line. Otter Tail Power Company owns the remaining portion of the line extending northerly.

Montana-Dakota, Basin Electric Power Cooperative (Basin Electric) of Bismarck, North Dakota, and Western Area Power Administration (Western) of Billings, Montana, own a 230 kV transmission line extending from Miles City, Montana through Baker, Montana; Bowman, North Dakota; and Hettinger, North Dakota to New Underwood, South Dakota. Western owns the South Dakota portion of this facility.

## **20:10:21:07 Proposed Transmission Facilities**

MISO has established a new classification of transmission expansion projects called Multi-Value Projects (MVPs). The cost allocation for MVPs will be shared across the entire MISO footprint on a per MWh basis. There is currently one MVP project approved by the MISO Board of Directors which is planned to be connected to Montana-Dakota's transmission system. Montana-Dakota will be a part owner in this MVP project which will consist of a new 345 kV transmission line between a new substation to be located south of the current Big Stone Substation and a new substation to be located near the existing Ellendale Junction Substation in North Dakota. The MISO Board of Directors approved the 2011 Candidate MVP portfolio, which included the Big Stone to Ellendale project, as part of the 2011 MISO Transmission Expansion Plan (MTEP11). The Big Stone to Ellendale MVP project has a planned in service date of 2019.

## **20:10:21:08 Coordination of Plans**

Montana-Dakota has been coordinating the planning, construction and operation of electric facilities with other utilities and agencies serving South Dakota since 1945. Montana-Dakota has agreements for joint planning and common use of area facilities with Basin Electric and an agreement with Western.

Montana-Dakota and Western have an agreement that provides for mutual wheeling and coordinates construction of transmission facilities. The current agreement is in effect through 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 since, 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 to terminate. 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 Mid-Continent Area Power Pool (MAPP) and the Midwest Independent Transmission System Operators (Midwest ISO or MISO) bulk transmission facilities.

Montana-Dakota, Otter Tail Power Company, and Northwestern Energy Corporation own the 415 megawatt (MW) Big Stone generating station near Big Stone, 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 415 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 construction and operation of a large generating station and to provide the service required of it and its partners through fewer facilities.

Montana-Dakota is a transmission owning member of MISO. MISO is a FERC-authorized Regional Transmission Organization (RTO). MISO commenced tariff administration for the operational control of the transmission systems of its members in February 2002. 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 MISO. Montana-Dakota is actively participating in the planning processes performed by MISO, who has the obligation to coordinate the planning of transmission facilities. Two of the planning processes mandated by FERC are generator interconnection and delivery service. The third process is related to expansion planning through the MISO Transmission Expansion Plan. As part of the market operation, Montana-Dakota's generating units are dispatched by MISO.

Montana-Dakota is a member of the MAPP Transmission Planning Committee, which coordinates the MAPP regional transmission plan for interregional coordination. However, Montana-Dakota has provided notification to MAPP that it will be withdrawing as a member of MAPP effective December 31, 2013 with MISO currently performing the transmission planning activities in the Dakotas.

Montana-Dakota is also a member of the Midwest Reliability Organization (MRO), which is a Cross-Border Regional Entity representing the upper Midwest of the United States and Canada.

MRO is organized consistent with Energy Policy Act of 2005 and the bilateral principles between the United States and Canada.

#### **20:10:21:09 Single Regional Plans**

Montana-Dakota's memberships in MISO and the MAPP provide coordination in operating facilities and assistance in developing joint facilities. If Montana-Dakota has any proposed facilities in sections 20:10:21:05 and 20:10:21:07 these facilities would be part of the MISO Transmission Expansion Plan. Montana-Dakota also submits proposed facilities to MAPP for the 10-year Transmission Plan.

#### **20:10:21:10 Submission of Regional Plan**

Montana-Dakota submits to MISO its transmission plans for inclusion into the MISO Transmission Expansion Plan, and also submits the transmission plans to MAPP to be included in the MAPP 10-Year Transmission Plan.

#### **20:10:21:11 Utility Relationships**

Montana-Dakota has several agreements with other electric utilities in its service area. These are described in Section 20:10:21:08. In addition, Montana-Dakota is a member of MISO and MAPP, which coordinates the joint operation and planning of electric facilities over the Region and permits Montana-Dakota to participate in the benefits and economics derived from large bulk electric systems. Montana-Dakota is also a member of the MRO.

## **20:10:21:12 Efforts to Minimize Adverse Effects**

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 meet or surpass all applicable environmental laws, regulations and permit requirements.*

Montana-Dakota maintains good relationships 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 federal, state, and local laws and with the Public Utilities 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 made known that it intends to issue several significant new air emissions, waste disposal, and water discharge regulations aiming to reduce impacts from air emissions, including GHGs, 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.

**20:10:21:13 Efforts Relating to Load Management**

Montana-Dakota uses an Integrated Resource Planning method that analyzes both supply-side options and demand-side management (DSM) programs. This planning method evaluates various means of providing electric energy to Montana-Dakota customers. Examples of supply-side options include central generating stations or alternate energy sources, while DSM programs include load management and conservation. Montana-Dakota first implemented Integrated Resource Planning in 1987 with the first integrated resource plan (IRP) being published in October 1989, and the most recent IRP was published in July 2011; both plans are on file with the Public Utilities Commission.

Currently, Montana-Dakota has 6.6 MW of demand response on its Integrated System which comprises the service territories in Montana, North Dakota, and South Dakota. Based on analysis presented in the IRP, Montana-Dakota has planned for additional demand reduction and energy saving programs to be implemented by 2013. The following is a list of all the DSM programs Montana-Dakota has implemented or will be implementing in the coming years:

DSM programs	Lifetime kWh Savings	2013 Peak kW Savings
<b>Residential Programs</b>		
A/C Energy Efficient Programs	1,775,714	113
Thermal Storage with ASHP	3,353,476	918
Lighting	45,140	2
A/C Cycling	0	4,466
<b>Commercial Programs</b>		
Lighting	32,210,275	928
Motors	4,401,267	48
Variable Speed Drives	8,553,136	246
A/C Energy Efficient Programs	3,358,926	263
Partnership Program	13,971,762	434
Demand Response	4,084,061	16,971
<b>Total by 2013</b>	<b>71,753,757</b>	<b>24,389</b>

The effects of load management programs in South Dakota are, however, expected to be relatively small for the reported ten-year period. This is because the number of customers served by Montana-Dakota in South Dakota is a small percentage (7.7% in 2011) of those served on the Integrated System. In addition, a high percentage of these are residential customers located in small communities with no industry and few large commercial establishments.

### **20:10:21:14 List of Reports**

The proposed transmission line in section 20:10:21:07 can be seen in the following MISO report: “Multi Value Project Portfolio Results and Analyses”, January 10, 2012. This report is available on the MISO website for public viewing at:

<https://www.midwestiso.org/Library/Repository/Study/Candidate%20MVP%20Analysis/MVP%20Portfolio%20Analysis%20Full%20Report.pdf>

### **20:10:21:15 Changes in Status of Facilities**

The Big Stone plant is required to comply with the Regional Haze Rule under the EPA Clean Air Act. The facility is required to install the Best Available Retrofit Technologies (BART) as identified in the South Dakota State Implementation Plan (SIP). The BART for the Big Stone plant are: a semi-dry flue gas desulfurization for SO<sub>2</sub>, a selective catalytic reduction with separated over-fire air for NO<sub>x</sub> control, and a baghouse for particulate matter. This project must be completed within five years of the EPA approving the SD SIP, which was approved on April 26, 2012.

**20:10:21:16 Projected Electric Demand (Megawatts)**

Year	South Dakota		Integrated System	
	Summer Peak Demand (MW)	Winter Peak Demand (MW)	Summer Peak Demand (MW)*	Winter Peak Demand (MW)
2012	30.3	31.3	531.7	488.3
2013	31.3	33.0	550.1	514.6
2014	32.1	34.1	563.6	532.1
2015	32.8	35.2	576.9	549.0
2016	33.2	35.6	584.2	555.5
2017	33.6	36.0	591.2	561.3
2018	34.1	36.5	599.7	569.7
2019	34.6	37.1	608.4	578.2
2020	35.1	37.6	617.2	587.0
2021	35.6	38.2	626.1	595.8

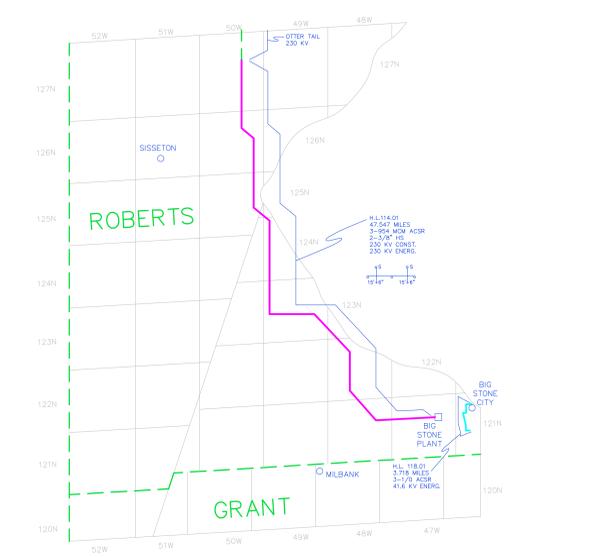
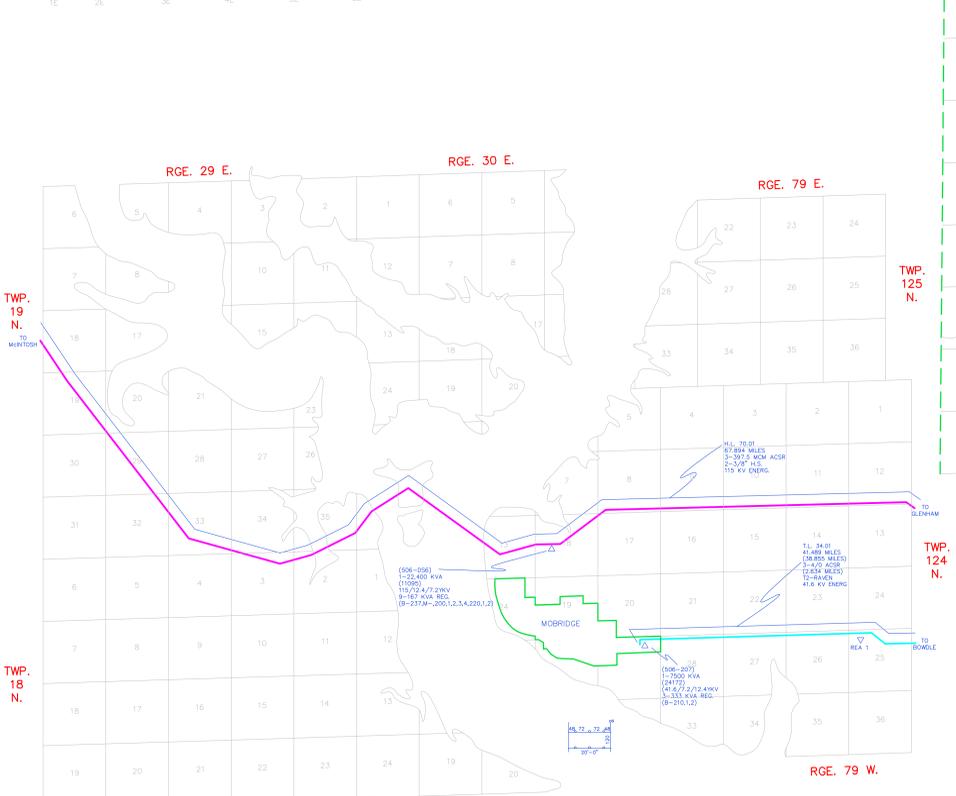
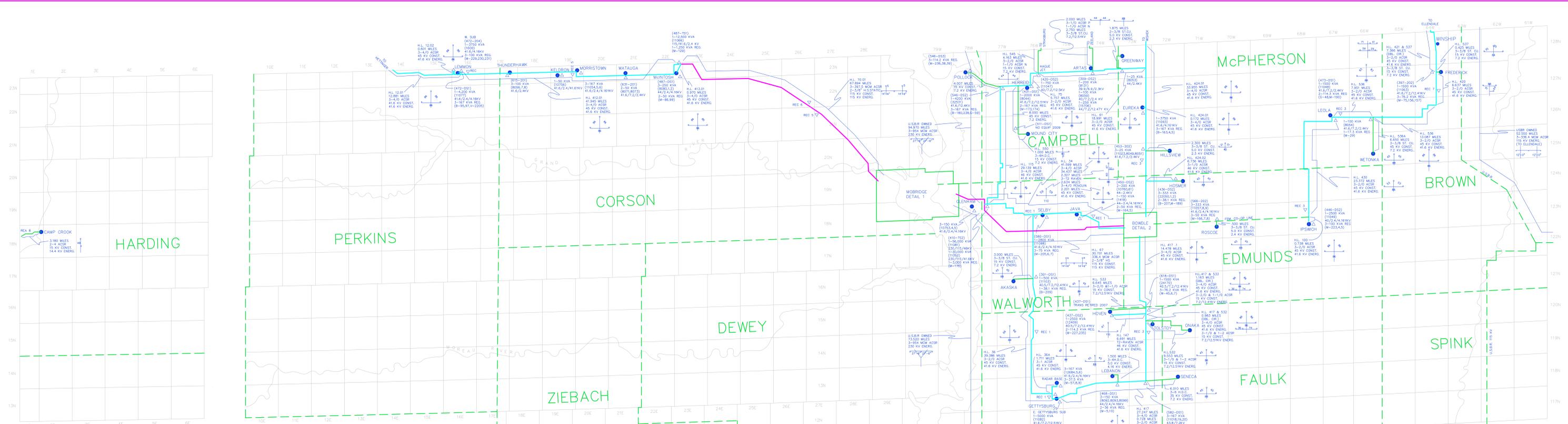
\*The Integrated System Summer Peak Demand is presented as a gross peak value, however in MISO's Module E (planning year June 2012 – May 2013) the demand is submitted as a net of Demand Response.

**20:10:21:17 Changes in Electric Energy (Megawatt-hours)**

Year	South Dakota Total Annual Energy (MWH)	Percentage of Change
2012	167,809	--
2013	172,267	2.7%
2014	175,822	2.1%
2015	179,006	1.8%
2016	180,432	0.8%
2017	182,663	1.2%
2018	185,699	1.7%
2019	188,824	1.7%
2020	192,045	1.7%
2021	195,302	1.7%

**20:10:21:18 Map of Service Area**

Attached is Exhibit A which shows Montana-Dakota's South Dakota Service Area.



**LEGEND**

- REC**
- 1 - CAM-WAL ELEC. CO-OP., INC.
  - 2 - GAHE ELEC. CO-OP., INC.
  - 3 - FEM ELEC. CO-OP., INC.
  - 4 - GRAND ELEC. CO-OP., INC.
  - 5 - MOREAU-GRAND ELEC. CO-OP., INC.
  - 6 - MOR-GRAN-SOU ELEC. CO-OP., INC.
  - 7 - NORTHERN ELEC. CO-OP., INC. (ABERDEEN)
  - 8 - SOUTHEAST ELEC. CO-OP., INC.
- SYMBOLS**
- TOWNS SERVED BY MDU CO
  - ▲ ELECTRIC SUBSTATIONS
  - ELECTRIC POWER PLANT OR SUBSTATION
  - ▽ REC TAPS

**SYSTEM MAP OF ELECTRICAL PROPERTIES IN SOUTH DAKOTA**  
**MONTANA-DAKOTA UTILITIES CO.**

DRAWN BY	DATE	APPROVED	SCALE	DRAWING NO.
RAK	3-26-92	RAK	1"=60M	SD ELEC SYS

REVISED		
K.O.P.P.	NO CHANGE	DATE
K.O.P.P.	2-8-2008	1-26-2012
K.O.P.P.	3-9-2009	
K.O.P.P.	3-1-2010	
K.O.P.P.	C.W. CORRECTIONS R-2010	
K.O.P.P.	NO CHANGE	1-24-11
K.O.P.P.	T.G. STARR	2-2011