



**PUBLIC DOCUMENT
CONFIDENTIAL DATA EXCISED**

500 West Russell Street
Sioux Falls, SD 57101

July 1, 2024

—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: NORTHERN STATES POWER COMPANY
BIENNIAL 10-YEAR PLAN

Dear Ms. Van Gerpen:

In accordance with S.D. Admin. R. Chapter 20:10:21 and S.D. Codified Laws § 49-41B-3, Northern States Power Company, doing business as Xcel Energy, hereby submits its Biennial 10-Year Plan for Major Generation and Transmission Facilities in the State of South Dakota.

Pursuant to ARSD § 20:10:01:41, the Company respectfully requests confidential treatment of the information provided in this report. The Company addresses the South Dakota Public Utilities Commission (“SDPUC”) five factors for consideration of confidential data as follows:

(1) An identification of the document and the general subject matter of the materials or the portions of the document for which confidentiality is being requested:

The estimated production and purchase price of Sherco Solar 1, 2, & 3, Border Winds Repowering, and Pleasant Valley Repowering, included in the attached biennial 10-year plan is considered confidential, trade secret information.

(2) The length of time for which confidentiality is being requested and a request for handling at the end of that time. This does not preclude a later request to extend the period of confidential treatment:

The Company requests that the data contained in this report be treated as confidential forever.

(3) The name, address, and phone number of a person to be contacted regarding the confidentiality request:

Steve T. Kolbeck
Principal Manager
500 W. Russell Street
P.O. Box 988
Sioux Falls, SD 57101
(605) 339-8350
steve.t.kolbeck@xcelenergy.com

(4) The statutory or common law grounds and any administrative rules under which confidentiality is requested. Failure to include all possible grounds for confidential treatment does not preclude the party from raising additional grounds in the future:

We request confidential treatment on the grounds that the material is proprietary and trade secret information, the disclosure of which would result in material damage to the Company's financial or competitive position. The claim for confidential treatment is based on ARSD § 20:10:01:39(4) and SDCL § 1-27-30. The information contained meets the definition of "trade secret" under SDCL § 37-29-1(4)(1), the South Dakota Uniform Trade Secrets Act, which is defined as information that, "derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and ... is the subject of efforts that are reasonable under the circumstances to maintain its secrecy." The information also meets the definition of "proprietary information" under SDCL § 1-27-28, which is defined as "information on pricing, costs, revenue, taxes, market share, customers, and personnel held by private entities and used for that private entity's business purposes."

(5) The factual basis that qualifies the information for confidentiality under the authority cited:

The noted documents qualify for confidential treatment because they contain proprietary business information for which the Company does not disclose to the public. Sherco Solar 1, 2, & 3, Border Winds Repowering, and Pleasant Valley Repowering were the subject to a competitive bidding process. The disclosure of the production and pricing information related to these contracts could adversely

affect the Company's competitive position in the future to the detriment of our customers.

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).

Please feel free to contact me at steven.t.kolbeck@xcelenergy.com or 605-339-8350 if you have any questions regarding this report.

Sincerely,

/s/

STEVE KOLBECK
PRINCIPAL MANAGER

CERTIFICATE OF SERVICE

I, Joshua DePauw, hereby certify that I have this day served copies of the foregoing document on the attached list of persons.

xx by depositing a true and correct copy thereof, properly enveloped with postage paid in the United States mail at Minneapolis, Minnesota

xx electronic filing

BIENNIAL 10-YEAR PLAN FOR MAJOR GENERATION AND TRANSMISSION FACILITIES IN THE STATE OF SOUTH DAKOTA

Dated this 1st day of July 2024

/s/

Joshua DePauw
Regulatory Administrator

South Dakota Biennial 10-Year Plan Service List

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

South Dakota Department of Education and
Cultural Affairs
800 Governors Drive
Pierre, SD 57501

South Dakota Aeronautics Commission
Becker Hansen Building
700 East Broadway Avenue
Pierre, SD 57501

South Dakota State Engineer
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501

South Dakota Department of Agriculture
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501

South Dakota Department of Game, Fish, and Parks
523 East Capitol Avenue
Pierre, SD 57501

South Dakota Office of the Attorney General
1302 E Hwy 14
Suite 1
Pierre SD 57501-8501

South Dakota State Geologist
Akeley – Lawrence Science Center, USD
414 East Clark Street
Vermillion, SD 57069

South Dakota Department of Labor and Regulation
123 W. Missouri Ave.
Pierre, SD 57501-0405

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

South Dakota Governor's Office of Economic
Development
711 East Wells Avenue
Pierre, SD 57501

South Dakota Department of Health
600 East Capitol Avenue
Pierre, SD 57501

South Dakota Department of Tribal Relations
Capitol Lake Plaza
711 East Wells Avenue
Pierre, SD 57501

South Dakota Department of Environment and
Natural Resources
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501

South Dakota Legislative Research Council
500 East Capitol Avenue
Pierre, SD 57501

South Dakota Department of Transportation
Becker Hansen Building
700 East Broadway Avenue
Pierre, SD 57501

South Dakota Department of School and Public Lands
500 East Capitol Avenue
Pierre, SD 57501

**SOUTH DAKOTA
TEN YEAR PLAN**

Northern States Power Company

July 2024

**Northern States Power Company d/b/a Xcel Energy
2024 South Dakota Ten-Year Plan
Table of Contents**

	<u>Section</u>	<u>Page</u>
Existing Energy Conversion Facilities	20:10:21:04	1
Proposed Energy Conversion Facilities	20:10:21:05	3
Existing Transmission Facilities	20:10:21:06	7
Proposed Transmission Facilities	20:10:21:07	9
Coordination of Plans	20:10:21:08	9
Single Regional Plans	20:10:21:09	11
Submission of Regional Plans	20:10:21:10	12
Utility Relationships	20:10:21:11	12
Efforts to Minimize Adverse Effects	20:10:21:12	13
Load Management Efforts	20:10:21:13	14
List of Reports Related to Proposed Facilities	20:10:21:14	15
Changes in Status of Facilities	20:10:21:15	15
Projected Electric Demand	20:10:21:16	16
Changes in Electric Energy	20:10:21:17	17
Map of Service Area	20:10:21:18	21
NSP System Generating Resource Summary - Appendix A		
NSP System Map of Transmission Lines – Appendix B		

Northern States Power Company, doing business as Xcel Energy (Xcel Energy or the Company), submits its 10-year plan to the South Dakota Public Utilities Commission as required by S.D. Admin. R. § § 20:10:21:02 to 20:10:21:21 and SDCL § 49-41B-3.¹

These administrative rules and law require every utility that owns or operates, or plans within the next ten years to own or operate, energy conversion facilities to develop and submit a 10-year plan that contains the following:

- (1) A description of the general location, size, and type of energy conversion facilities or transmission facilities of two hundred fifty kilovolts or more to be owned or operated by the utility during the ensuing ten years, as well as those facilities to be removed from service during the planning period;
- (2) A description of the efforts by the utility to coordinate the plan with other utilities so as to provide a coordinated regional plan for meeting the utility needs of the region;
- (3) A statement of the projected demand for the service rendered by the utility for the ensuing ten years and the underlying assumptions for the projection, with such information being as geographically specific as possible and a description of the manner and extent to which the utility will meet the projected demand; and
- (4) Any other relevant information as may be requested by the commission.

We present the information required for our 10-year plan in sequence as provided in §§ 20:10:21:04 to 20:10:21:18 inclusive, and additionally provide any further information required by SDCL 49-41B-3 along with the closest related administrative rule requirement.

BIENNIAL REPORT

20:10:21:04 EXISTING ENERGY CONVERSION FACILITIES

This section outlines the Company's electric generation facilities. We provide the details required by S.D. Admin. R. § § 20:10:21:04 for Company generating facilities located in South Dakota and provide a list of the other generating facilities that comprise the NSP System that serves our South Dakota customers.²

Xcel Energy has two existing energy conversion facilities in South Dakota. The table below provides the required information on these facilities.

¹ The rules incorporate and put into effect the requirements outlined under S.D. Codified Laws § 49-41B-3.

² The NSP System is comprised of electric generating plants and transmission facilities located and serving customers in the states of Michigan, Minnesota, North Dakota, South Dakota, and Wisconsin.

South Dakota Electric Generating Facilities

Table 1.

		Angus Anson Plant	Crown Ridge (COD 12/16/2020)
1	Location	Minnehaha County, South Dakota	Codington, SD
2	Type Nameplate Capacity	Simple Cycle Combustion Turbine 109 MW (unit 2) 109 MW (unit 3) 168 MW (unit 4)	Wind Turbines 300 MW (135 units @ 2.3 MW)
3	Net Capacity		
	2022 Summer	90 MW (unit 2) 90 MW (unit 3) 147 MW (unit 4)	300 MW
	Winter	109 MW (unit 2) 109 MW (unit 3) 168 MW (unit 4)	300 MW
	2023 Summer	90 MW (unit 2) 90 MW (unit 3) 147 MW (unit 4)	32.5 MW
	Winter	109 MW (unit 2) 109 MW (unit 3) 168 MW (unit 4)	32.5 MW
	Annual Production (Total Site)		
	2020	91,669 MWh	43,763 MWh
	2023	131,581 MWh	776,430 MWh
4	Water Source and Annual Consumption	Ground Water	N/A
	2022:	8,938,254 gal	
	2023:	25,954,939 gal	

5	Fuel Type Source Annual Consumption	Natural Gas Northern Natural Gas Co. ³	Fuel Oil	Wind
	2020	1,33,638 MMBtu	2,039 gal	
	2021	1,414,987 MMBtu	11,785 gal	
6	Projected Retirement Date	Unit 2 & 3: 2041 Unit 4: 2045		2045

We provide a list of our other NSP System generating facilities and Power Purchase Agreements (PPA) as Appendix A to this report.

20:10:21:05 PROPOSED ENERGY CONVERSION FACILITIES

This rule requires utilities to provide the specific electric generating facilities that have been proposed but are not yet in commercial operation in the 10-year period of the biennial report. In addition to providing the details for each of these planned facilities as required by S.D. Admin. R. § § 20:10:21:04, we note that the Company’s Resource Plan proposes additional changes to its generation resources and mix. We provide a high-level summary of our resource planning process and the procedural timeline for the proceeding in our Minnesota jurisdiction below.

³ The natural gas fuel is purchased from independent third party suppliers and delivered through the Northern Natural Gas interstate pipeline system.

**PUBLIC DOCUMENT
CONFIDENTIAL DATA HAS BEEN
EXCISED**

Table 2: Proposed Generation Resources (Table 1 of 2)

		Sherco Solar 1&2	Sherco Solar 3
1	Location	Becker, MN	Becker, MN
2	Why Selected	Low Cost Renewable Resource Addition (Obtained through Competitive RFP bid) Utilizes Existing Interconnection	Low Cost Renewable Resource Addition (Obtained through Competitive RFP bid)
3	Type Nameplate Capacity	Solar 460 MW	Solar 250 MW
4	Estimated Production	[TRADE SECRET BEGINS... ...TRADE SECRET ENDS]	[TRADE SECRET BEGINS... ...TRADE SECRET ENDS]
5	Water Source	NA	NA
6	Fuel Type	Solar	Solar
7	Disposal Plans	Not Applicable	Not Applicable
8	Associated Facilities	Sherco Generating Plant Substation	Sherco Generating Plant Substation
9	Operating life with SD Fuels	Not Applicable	Not Applicable
10	Projected End of Life	2064	2042
11	Estimated Cost	[TRADE SECRET BEGINS... ...TRADE SECRET ENDS]	\$433.8 Million
12	Projected In-Service Date	2024	2025

**PUBLIC DOCUMENT
CONFIDENTIAL DATA HAS BEEN
EXCISED**

Table 2: Proposed Generation Resources (Table 2 of 2)

		Border Winds Repowering	Pleasant Valley Repowering
1	Location	Rolette County, ND	Mower County, MN
2	Why Selected	Low Cost Renewable Resource Repowering (Obtained through Competitive RFP bid)	Low Cost Renewable Resource Repowering (Obtained through Competitive RFP bid)
3	Type Nameplate Capacity	Wind 150 MW	Wind 200 MW
4	Estimated Production	[TRADE SECRET BEGINS... ...TRADE SECRET ENDS]	[TRADE SECRET BEGINS... ...TRADE SECRET ENDS]
5	Water Source	NA	NA
6	Fuel Type	Wind	Wind
7	Disposal Plans	Not Applicable	Not Applicable
8	Associated Facilities	Peace Garden Substation	Pleasant Valley Substation
9	Operating life with SD Fuels	Not Applicable	Not Applicable
10	Projected End of Life	2049	2049
11	Estimated Cost	[TRADE SECRET BEGINS... ...TRADE SECRET ENDS]	[TRADE SECRET BEGINS... ...TRADE SECRET ENDS]
12	Projected In-Service Date	2025	2025

Resource Planning is a complex and integrated process of planning for the capacity, energy, and emission requirements of the electric system. The process incorporates a number of key assumptions or industry projections that helps to inform a common vision of what the future planning environment may look like. This ongoing planning process requires utilities to examine and establish a long-term proposal for management, operation, and expansion or contraction of their generating and demand management resources to meet customer needs.

Traditionally the primary focus of resource planning has been to identify the least-cost approach to provide reliable service and meet growing demand. While these goals remain critical to the resource planning process, we have broadened the scope of planning considerations by incorporating new generation technologies, increasing renewable energy, reducing emission profiles, and evaluating the retirement of large baseload facilities, thereby positioning the NSP System for the future.

The planning landscape underlying the Resource Plan greatly informs the planning efforts. We believe that proactive leadership in the face of evolving industry, new and proposed environmental regulation, customer expectations, emerging technologies, and changes to the NSP System will allow us to affirmatively address these trends rather than being shaped by them. Our planning also calls for sufficient flexibility to allow us to adjust and react as we gain more clarity on the planning landscape.

The criteria we apply as we evaluate and propose our preferred plan in relation to a reference plan is its ability to: (1) maintain or improve the adequacy and reliability of utility service; (2) keep customers' bills and our rates as low as practicable, given regulatory and other constraints; (3) minimize adverse socioeconomic effects and adverse effects upon the environment; (4) enhance the utility's ability to respond to changes in the financial, social, and technological factors affecting its operations; and (5) limit the risk of adverse effects on the utility and its customers from financial, social, and technological factors that the utility cannot control.

The Company filed the 2024-2040 Upper Midwest Integrated Resource Plan (IRP) on February 1, 2024, with the Minnesota Public Utilities Commission (MPUC) in Docket No. E002/RP-24-67 and provided as an information filing to the SD PUC on 2/x/2024.

The proposed plan for our Upper Midwest customers continues to deliver on our obligations to provide safe, reliable, and affordable service to our customers while further accelerating our ambitious carbon-reduction strategy. It increases the pace of the carbon-reduction efforts approved in our 2019 Plan, while continuing to ensure our system maintains robust reliability.

Building on our ongoing efforts to transform our energy system, the key components of our Plan include:

- Extending the life of our nuclear fleet;
- Adding thousands of megawatts of additional renewable resources to our system, including customer-sited DERs;
- Integrating and investing in energy storage systems, including adding short-duration storage systems to our fleet;
- Ensuring reliability through additional firm dispatchable generation; and
- Continuing to increase Energy Efficiency and Demand Response resources to help reduce overall system demand.

20:10:21:06 EXISTING TRANSMISSION FACILITIES

This rule requires utilities to provide a description of its existing transmission facilities. Similar to the information we provided about our electric generating facilities, we provide the details required by S.D. Admin. R. § § 20:10:21:04 for Company transmission facilities located in South Dakota, and provide information about other transmission facilities that comprise the NSP System that serves our South Dakota customers as Appendix B.

South Dakota Transmission Facilities

Listed below are our existing transmission facilities operating at 115 kV or above in South Dakota. They are all located in the eastern portion of the state. As noted above, a map showing the location of our transmission lines is included as Appendix B. Currently none of these facilities are projected to be removed from service.

A. Type 115 kV – AC

1. Lawrence Substation in Sioux Falls to the Lincoln County Substation south of Sioux Falls – 11 miles.
2. Lincoln County Substation south of Sioux Falls to the Louise Substation (southwest side of Sioux Falls) – 3 miles.
3. Louise Substation (southwest corner of Sioux Falls) to the Cherry Creek Substation (west side of Sioux Falls) – 7 miles.
4. Cherry Creek Substation to the Grant Substation west of Sioux Falls – 24 miles.
5. Grant Substation west of Sioux Falls to Northwestern Energy (Northwestern) at Mitchell – 24 miles to Wolf Creek Interconnection owned by Xcel Energy; the remainder is owned by Northwestern.
6. Lawrence Substation in Sioux Falls to the Western Area Power Administration (WAPA) Substation in Sioux Falls – 1 mile.

7. Lawrence Substation in Sioux Falls to the Split Rock Substation approximately 5 miles northeast of Sioux Falls (circuit #1) – 2 miles.
8. Split Rock Substation to the Pathfinder Substation to the Pipestone Substation in Pipestone, Minnesota. Approximately 35.5 miles of this line are in the state of South Dakota – 44.5 miles total.
9. Lawrence Substation in Sioux Falls to the Split Rock Substation approximately 5 miles northeast of Sioux Falls (circuit #2). Approximately 1 mile of this line is double-circuited with the Split Rock-Magnolia 161 kV line; 2.2 miles total.
10. Split Rock Substation to the West Sioux Falls Substation – 17.3 miles.
11. West Sioux Falls Substation to the Great Plains Substation – 1.5 miles.
12. Great Plains Substation to the Cherry Creek Substation – 2.0 miles.
13. Split Rock Substation to South Renner Substation – 8.7 miles.
14. South Renner Substation to Cherry Creek-7.8 miles.
15. Split Rock to Angus C. Anson generating plant #1 – 0.28 miles.
16. Split Rock to Angus C. Anson generating plant # 2 – 0.43 miles.
17. Brookings County to Yankee #1 – 3.7 miles of this line is in South Dakota; 13 miles total.
18. Brookings County to Yankee #2 – 6.5 miles of this line is in South Dakota; 13 miles total.
19. West Sioux Falls to Falls Substation-3.6 miles
20. Falls Substation to Split Rock Substation-8.25 miles

B. Type 161 kV – AC

1. Split Rock Substation approximately 5 miles northeast of Sioux Falls to ITC Midwest, LLC (ITC Midwest) interconnection near Luverne, Minnesota.⁴ Approximately 1 mile of this line is double-circuited with the second Lawrence- Split Rock 115 kV line. Approximately 11 miles of this line are in the state of South Dakota - 20 miles total.

C. Type 230 kV – AC

1. Split Rock Substation to the WAPA Sioux Falls Substation – 1 mile.

D. Type 345 kV – AC

1. Split Rock Substation northeast of Sioux Falls to the WAPA’s 345 kV line to Watertown. This is a 5.1 mile line with 2.5 miles double circuit but one circuit is not energized.

⁴ In early 2008, ITC Midwest purchased all of the high voltage electric transmission facilities of Interstate Power and Light Company (Alliant Energy) in Iowa, Minnesota and Illinois.

2. Split Rock Substation northeast of Sioux Falls to the WAPA's 345 kV line to Sioux City. This is a double-circuit line – 5.1 miles with the Split Rock-Nobles line.
3. Split Rock-Nobles County-Lakefield Junction. 345 kV line approximately 10 miles of this line are in the state of South Dakota – 90.8 miles total. 5.1 miles are double circuit with the Split Rock-Sioux City line.
4. Brookings County-White 345 kV line #1. This is a 0.4 mile line.
5. Brookings County-White 345 kV line #2. This is a 0.4 mile line.
6. A 230 mile, 345 kV line between Brookings, South Dakota, and the southeast Twin Cities, plus a related 30 mile, 345 kV line between Marshall, Minnesota, and Granite Falls, Minnesota (Brookings Project).
7. Big Stone South to Brookings Co Substation is a 72 mile long line with the ownership split evenly between Xcel Energy and Otter Tail Power Company.

As noted above, a map of our total NSP System transmission facilities is provided as Appendix B to this report.

20:10:21:07 PROPOSED TRANSMISSION FACILITIES

This rule requires utilities to provide the specific transmission facilities that have been proposed but are not yet in operation in the 10-year period of the biennial report.

1. Rebuild 2 miles 115 kV Cherry Creek - Great Plains.
2. Brookings - Lyon County and Hampton - Helena 2nd circuit installation project.

The transmission system is analyzed on an annual basis and any future projects will be included when necessary.

20:10:21:08 COORDINATION OF PLANS

This rule requires utilities to describe how their plans coordinate with other utilities serving the region.

Xcel Energy is a member of the Midwest Reliability Organization (MRO). The purpose of the MRO is to ensure the reliability and security of the bulk power system covering the states of Wisconsin, Iowa, Minnesota, Nebraska, and most of South Dakota as well as the Canadian provinces of Saskatchewan and Manitoba. As such, the members of the non-profit organization meet to discuss reliability and security issues. There are numerous committees that develop standards, guidelines, and reporting procedures for everything from load shedding to vegetation management.

More information about the organization can be found at:
<http://www.midwestreliability.org>.

All major transmission planning performed by the Company is now coordinated through the MISO on a regional basis, consistent with the Federal Energy Regulatory Commission (FERC) Orders (a) dated May 19, 2000 (FERC Docket No. EC00-60-000) authorizing the transfer of functional control of our high voltage transmission system to the MISO; (b) dated December 20, 2001⁵ finding the MISO to be the first FERC-approved regional transmission organization (RTO); and dated February 15, 2007 (Order No. 890), requiring RTOs and their member utilities to use coordinated regional planning.⁶ MISO issues an annual MTEP after coordinated planning and stakeholder review. Prior to 2007, these plans were issued biennially. The current MTEP 2023 series of projects was approved by the MISO Board of Directors in December of 2023 and is available at the MISO website at

[MTEP23 Report \(misoenergy.org\)](http://misoenergy.org)

As a result of complying with the FERC Order No. 890 rules, MISO has implemented its own Sub-Regional Planning Meetings. We participate in the Western Region meetings. This group provides a forum for stakeholder input and coordination of plans and we actively participate in this. This joint planning is intended to maximize use of existing facilities and minimize the amount of new facilities.

Another example of this coordination by the utilities is the formalization of the Minnesota Transmission Owners (MTO) organization. The MTO consists of all transmission owning utilities in Minnesota. The MTO was formed to submit coordinated biennial transmission planning reports to the Minnesota Commission as required by Minn. Stat. § 216B.2425. Some MTO utilities also serve eastern North Dakota and eastern South Dakota. The MTO group is presently developing coordinated short-term regional plans and longer-term vision plans for the bulk transmission needs throughout the upper Midwest and the transmission required to meet the various states' Renewable Energy Standards. The MTO group also performs an annual 10-year assessment of the members' utility systems for compliance with the North American Electric Reliability Corporation Transmission Planning (TPL)

⁵ FERC Docket Nos. RT01-87-000, RT01-001, ER02-106-000 and ER02-108-000.

⁶ *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 72 FR 12266 (March 15, 2007), FERC Stats. & Regs. ¶ 31,241 (2007) (Order No. 890), *order on reb'g*, 73 Fed. Reg. 2984 (Jan. 16, 2008), FERC Stats. & Regs. ¶ 31,261 (2008) (Order No. 890-A); *order on reb'g* 123 FERC ¶ 61,299 (Order No. 890B) (June 23, 2008). MISO's Order No. 890 regional transmission planning process was conditionally accepted for filing in *Midwest Independent Transmission System Operator, Inc.*, 123 FERC ¶ 61,164 (May 15, 2008).

standards. The MTO utilities also coordinate their planning with the CapX2020 planning processes and the MTEP processes.

In addition, as noted previously, the Company prepares Integrated Resource Plans for the NSP System and submits a copy of those plans to the Commission consistent with the Commission's requirements in Docket No. EL08-028 and the Settlement Stipulation and Commission Order in Docket No. EL09-009.

20:10:21:09 SINGLE REGIONAL PLANS

This rule requires utilities to state whether the facilities it has proposed comprise all or part of a single regional plan. As described in the previous sections, the Company serves its South Dakota customers from an integrated NSP System that serves portions of Michigan, Minnesota, North Dakota, South Dakota, and Wisconsin. As discussed above, we periodically evaluate our customers' needs and federal and state requirements and develop Integrated Resource Plans that look 15 years into the future to ensure we continue to meet our reliability requirements and customer needs. We additionally continue to work with MISO and other coordinated regional utility groups to evaluate potential transmission needs in the future and to develop coordinated regional plans as required to meet those needs.

The Company is involved in the MISO Long-Range Transmission Plan (LRTP) which was created to study the impact of large scale decarbonization in the MISO footprint. This analysis chose three different futures to understand the impact of generation portfolio change across the system and the impacts to the transmission system. Several aspects of the system were analyzed as part of this study, reliability impacts, economic impacts, and congestion impacts were the major benefits studied.

Study and meeting materials can be found on the MISO website.

[Long Range Transmission Planning \(misoenergy.org\)](http://misoenergy.org)

Draft report can be found at:

[MTEP21 Addendum - Draft LRTP Tranche 1 Portfolio Report625790.pdf \(misoenergy.org\)](#)

20:10:21:10 SUBMISSION OF REGIONAL PLANS

This rule requires utilities proposing facilities that comprise all or part of a regional plan to submit the plan(s). As noted previously, we submit our Integrated Resource Plans to the Commission as they are developed.

Regional transmission plans, by virtue of their geographic coverage, involve a collaborative effort of multiple utilities. This analysis includes the active participation in the MTO and the MISO planning efforts. This effort is part of the MTEP regional planning process. As specific plans for additional facilities are developed, they will be submitted with subsequent 10-year plans. The MTEP is subject to review and approval by MISO's independent Board of Directors. Proposals to construct specific MTEP approved facilities in South Dakota would be submitted for Commission approval as required.

20:10:21:11 UTILITY RELATIONSHIPS

This rule requires utilities to describe any relationship of the utility to other utilities and regional associates, power pools, and networks.

Northern States Power Company-Minnesota (NSPM) is an operating company subsidiary of Xcel Energy Inc., a public utility holding company, and we are affiliated with three other regulated public utilities: Northern States Power Company-Wisconsin (NSPW), Public Service Company of Colorado, and Southwestern Public Service Company. NSPM and NSPW plan, build and operate a single integrated electric and production system (the NSP System) to meet the electrical needs of both utilities' customers under an agreement accepted by the Federal Energy Regulatory Commission, known as the Interchange Agreement.

NSPM is a member of MISO, the first FERC-approved RTO. As an RTO, MISO provides regional tariff administration services and operates a Day-ahead and Real-time regional wholesale energy market pursuant to its Open Access Transmission, Reliability Planning NERC TPL-001, and Energy and Operating Reserve Markets Tariff. MISO implemented a regional planning reserve market in 2009, pursuant to Module E of the Open Access Transmission, Energy and Operating Reserve Markets Tariff. MISO is also the Regional Reliability Coordinator for the NSPM and NSPW integrated electric generation and transmission system (NSP System).

Outside of MISO, NSPM serves a small amount of retail load in Berthold, ND. For that, NSPM is also a transmission customer and market participant under Southwest Power Pool's (SPP) Open Access Transmission Tariff.

We are also a member of the MRO, which is the Regional Entity responsible for enforcement of mandatory electric reliability standards adopted by the North American Electric Reliability Corporation.

20:10:21:12 EFFORTS TO MINIMIZE ADVERSE EFFECTS

This rule requires utilities to describe in detail its methodology used and efforts to identify, minimize, or avoid adverse environmental, social, economic, health, public safety, and historic or aesthetic preservation effects.

The Company uses a multi-step effort to minimize adverse effects resulting from siting, constructing, operating and maintaining large electric generating plants and high voltage transmission lines. These efforts relate to long-range planning and coordination, environmental site and route analysis, and to ensure the effects of construction and operation practices are minimized.

High voltage transmission facility plans are coordinated with MISO, other area power suppliers and load serving entities in order to develop, whenever possible, joint use facilities. Coordination with others can reduce the number of facilities by providing for joint ownership and operation of facilities.

Once the need for generation or transmission is identified, an initial site or route search is begun by defining a broad study area to locate the facility. A broad range of information about the physical, biological and cultural environment within the study area is then collected. As information on such factors as land use, air and water quality, plants and animals, transportation and social services, and local and regional employment becomes available, various siting criteria are used to define preferred and alternate routes and sites. We prefer to develop a project with the cooperative assistance of state and local agency officials, neighboring transmission utilities (such as Northwestern, WAPA, Missouri River Energy Services and ITC Midwest), and affected landowners in order to assure the widest possible considerations of information, concerns and options. It is our policy to ensure compliance with all local, state and federal regulatory requirements in the development and location of proposed projects.

Because of the detail involved in a major generation or transmission project, we continue to refine site and route engineering once permits have been granted. This allows us to adjust for new developments that may arise during construction, such as the need for changes in locations, land use or construction techniques, and allows any concerns to be addressed and mitigated without undue delay and expense. We are committed to working with affected landowners to mitigate environmental and land use problems which may arise as a result of construction and maintenance activities.

We discuss our other efforts to respond to the evolving utility landscape in our 2024-2040 Upper Midwest Integrated Resource Plan submitted to the Commission as an informational, non-docketed submission on February 1, 2024.

20:10:21:13 LOAD MANAGEMENT EFFORTS

This rule requires utilities to describe its efforts toward efficient load management.

The Company's load management efforts in South Dakota reduce peak demands, which can help delay or avoid more expensive electric generation and purchased power needs.

The Company has three load management programs in South Dakota:

- AC Rewards
- Saver's Switch
- Peak and Energy Control

AC Rewards and Saver's Switch allow customers to participate in direct load control with the Company, reducing load during hot summer months, and receive an incentive for participation. Peak and Energy Control is offered to any business customer that can reduce their load by at least 50 kW during control periods initiated by the Company or the Midcontinent Independent System Operator. Business customers receive a rate reduction by tariff for the committed load reduction.

Currently the Company has 20,042 residential customers and 691 commercial customers participating for approximately 25.7 MW of load reduction in our load management portfolio.

Load management is one of our many demand side management (DSM) offerings provided to customers in South Dakota. On January 1, 2012, we launched our DSM programs in South Dakota, as they were approved in the Order in Docket No. EL11-013. The DSM portfolio also includes energy efficiency and consumer education programs, as well as load management, aimed at both residential and commercial customers.

Commercial programs in the DSM portfolio include:

- Lighting Efficiency (energy efficiency)
- Business Saver's Switch (load management)
- Peak and Energy Control (load management)

Residential programs in the DSM portfolio include:

- Residential Home Lighting (energy efficiency)
- Residential Demand Response, including
 - Saver’s Switch (load management)
 - AC Rewards (load management)
- Heat Pump Water Heaters (energy efficiency)
- Consumer Education

Since their launch in 2012, these programs have reduced peak demand by about 30 MW and have conserved approximately 84.4 GWh. It is forecasted that in the next two years (2024-2025) the programs will achieve an additional 3.6 MW in peak reduction and 11.7 GWh in conservation.

Our 2023 Status Report and 2025 Demand Side Management Plan was filed on May 1, 2024, with the South Dakota Public Utilities Commission in Docket No. EL24-016. We additionally provide details regarding the Company’s DSM efforts in our Upper Midwest Integrated Resource Plan.

20:10:21:14 LIST OF REPORTS RELATED TO PROPOSED FACILITIES

This rule requires utilities to provide a list of all reports or studies filed or proposed to be filed with federal or other state agencies relating to the proposed facilities.

A. Electric Generation Facilities

At this time, we do not anticipate additional filings with federal or other state agencies for the proposed facilities listed above.

B. Transmission Facilities

2023 MISO Transmission Expansion Plan (MTEP) Report
[MTEP23 Report \(misoenergy.org\)](https://www.misoenergy.org/MTEP23-Report)

Previous MISO Transmission Expansion Plan (MTEP) Reports
[Previous MTEP Reports](#)

20:10:21:15 CHANGES IN STATUS OF FACILITIES

This rule requires utilities to list changes in the status of the utility’s facilities during the past two years, or since submission of its most recent 10-year plan.

There have been no changes in the status of Xcel Energy’s facilities in South Dakota in the past two years.

20:10:21:16 PROJECTED ELECTRIC DEMAND

The NSP System serves customers in South Dakota, North Dakota, Minnesota, Wisconsin, and Michigan. The forecast of our native energy requirements and peak demand for the State of South Dakota jurisdiction is shown in Table Xcel Energy-SD-1. We produce long-range “Base” forecasts of native energy requirements, summer peak, and winter peak demand. We plan to meet the needs of the integrated NSPM/NSPW generation and transmission system. For planning purposes, we also develop a bandwidth (called high and low sensitivities) to supplement our “base” forecasts. These two scenarios are intended to describe the uncertainty that exists in potential new large loads on the NSP system. Table Xcel Energy-1 through Table Xcel Energy-3 show the long-range system forecast of native energy requirements, summer peak, and winter peak demand for the NSP System. Table Xcel Energy-SD-1 shows the South Dakota portion of the NSP System forecast.

The forecast for the NSP System is based on forecasts of jurisdictional sales by major customer class: residential with and without space heating, small commercial and industrial, and large commercial and industrial. Each customer class is modeled independently for the five states included in the NSP System. The native energy requirements are determined by applying a loss factor on total sales.

South Dakota’s NSP-coincident peak was calculated using an 8760 modeling approach⁷, where base load by state, electric vehicles, beneficial electrification, and energy efficiency are all given hourly shapes and aggregated. The overall NSP peak is then identified as the highest point in this aggregated hourly profile for month, season, or year. The South Dakota loads shown in table SD-1 are the loads coincident with the forecast NSP peak. This “coincident” demand is appropriate for generating capacity requirement forecasting.

It is important to note, however, that a “non-coincident” peak demand must be used in evaluating transmission capacity requirements. This is because the transmission system must be able to supply the full local customer demand at all times. Due to load diversity caused by weather variations within the multi-state NSP System, peak customer demands in our South Dakota service areas can be as much as 10 percent higher than the demands registered during the hour in which the total System peak demand occurs. It is these local “non-coincident” peak demands that determine the need for transmission improvements required for load serving functions.

⁷ This process is described in the Company’s 2024-2040 Upper Midwest Integrated Resource Plan, Appendix E: Load and DER Forecasting.

20:10:21:17 CHANGES IN ELECTRIC ENERGY

Table Xcel Energy-SD-1 shows the projected volume and percentage increase in energy demand for our South Dakota service territory for each year.

Table Xcel Energy-SD-1 Northern States Power Company State of South Dakota Forecast of Electric Energy Requirements and Peak Demand					
	Summer Peak (MW)	Winter Peak (MW)	Energy Requirements (GWh)	Change In Energy (GWh)	% Change In Energy
2024	543	345	2,345		
2025	543	338	2,341	-4	-0.18%
2026	548	355	2,353	12	0.53%
2027	554	358	2,365	12	0.52%
2028	561	346	2,380	15	0.64%
2029	564	349	2,391	10	0.44%
2030	570	362	2,413	22	0.91%
2031	562	358	2,436	24	0.99%
2032	571	378	2,464	27	1.13%
2033	574	364	2,484	20	0.80%
2034	580	370	2,510	26	1.06%
2035	588	377	2,548	39	1.54%
2036	598	384	2,591	42	1.66%
2037	605	405	2,632	41	1.59%
2038	614	415	2,682	50	1.90%
2039	624	404	2,735	53	1.97%
2040	636	411	2,808	73	2.68%
2041	646	364	2,868	60	2.14%
2042	658	396	2,938	70	2.45%
Compound Annual Growth Rate (2024-2042)					
% Growth:	1.07%	0.77%	1.26%		
Notes:					
1) Peak Load is <i>coincident</i> to the NSP System peak.					
2) Winter Peak = MISO Winter Peak season, 2024 is 2024 - 2025 winter peak.					

**Table Xcel Energy- 1
Northern States Power Company
State of South Dakota
NSP System Net Energy Requirements (MWh)**

Year	Low (MWh)	Base (MWh)	High (MWh)
2024	43,777,055	43,822,758	44,602,034
2025	43,995,535	44,308,166	45,588,252
2026	45,051,018	46,523,723	48,459,524
2027	45,096,766	47,972,633	51,523,781
2028	45,163,227	48,170,107	53,231,906
2029	45,180,014	48,339,304	53,897,532
2030	45,502,964	48,865,926	55,101,911
2031	45,813,441	49,435,878	56,970,282
2032	46,336,899	50,304,675	58,844,146
2033	46,932,872	51,291,370	60,875,741
2034	47,747,299	52,554,951	62,663,421
2035	48,517,098	53,763,047	64,475,878
2036	49,694,431	55,301,635	66,352,776
2037	50,763,696	56,674,251	68,415,706
2038	51,717,893	57,933,639	70,234,338
2039	52,695,406	59,222,445	72,215,741
2040	53,369,640	60,215,433	73,662,401
2041	54,022,001	61,161,191	75,013,596
2042	54,748,875	62,174,266	76,184,339

Compound Annual Growth Rate (2024-2042)

% Growth:	1.25%	1.96%	3.02%
------------------	--------------	--------------	--------------

Notes:

- 1) High and Low load sensitivities from NSP's 2024-2040 Upper Midwest Integrated Resource Plan
- 2) NSP System Net Energy Requirements have been adjusted for DSM (Demand Side Management)

**Table Xcel Energy-2
Northern States Power Company
State of South Dakota
NSP System Net Summer Peak (MW)**

Year	Low (MW)	Base (MW)	High (MW)
2024	9,303	9,309	9,425
2025	9,315	9,328	9,517
2026	9,526	9,650	9,940
2027	9,581	9,922	10,434
2028	9,672	10,029	10,759
2029	9,734	10,112	10,923
2030	9,803	10,207	11,144
2031	9,915	10,354	11,466
2032	10,070	10,574	11,773
2033	10,168	10,748	12,058
2034	10,406	11,065	12,417
2035	10,590	11,312	12,726
2036	10,794	11,563	12,994
2037	10,959	11,768	13,273
2038	11,142	11,987	13,542
2039	11,337	12,218	13,851
2040	11,498	12,414	14,087
2041	11,543	12,489	14,195
2042	11,653	12,628	14,330

Compound Annual Growth Rate (2024-2042)

% Growth:	1.26%	1.71%	2.35%

Notes:

- 1) High and Low load sensitivities from NSP's 2024-2040 Upper Midwest Integrated Resource Plan
- 2) NSP System Peak Requirements have been adjusted for DSM (Demand Side Management)

**Table Xcel Energy-3
Northern States Power Company
State of South Dakota
NSP System Net Winter Peak (MW)**

Year	Low (MW)	Base (MW)	High (MW)
2024	6,518	6,525	6,642
2025	6,538	6,551	6,720
2026	6,668	6,798	7,125
2027	6,712	7,060	7,540
2028	6,762	7,138	7,928
2029	6,741	7,124	7,873
2030	6,801	7,215	8,010
2031	6,855	7,304	8,267
2032	6,960	7,495	8,723
2033	7,109	7,724	9,198
2034	7,176	7,794	9,364
2035	7,338	8,021	9,752
2036	7,525	8,277	9,929
2037	7,733	8,599	10,431
2038	7,873	8,785	10,721
2039	8,080	9,046	11,150
2040	7,974	8,958	11,174
2041	8,135	9,190	12,083
2042	8,483	9,639	12,897
Compound Annual Growth Rate (2024-2042)			
% Growth:	1.47%	2.19%	3.75%

Notes:

- 1) High and Low load sensitivities from NSP's 2024-2040 Upper Midwest Integrated Resource Plan
- 2) NSP System Peak Requirements have been adjusted for DSM (Demand Side Management)
- 3) Winter Peak = MISO Winter Peak season, 2024 is 2024 - 2025 winter peak.

20:10:21:18 MAP OF SERVICE AREA

This rule requires utilities to provide a map or maps showing the specific geographic location of the utility's service area or areas.

This information is available for digital viewing on the South Dakota Public Utilities Commission's website.⁸

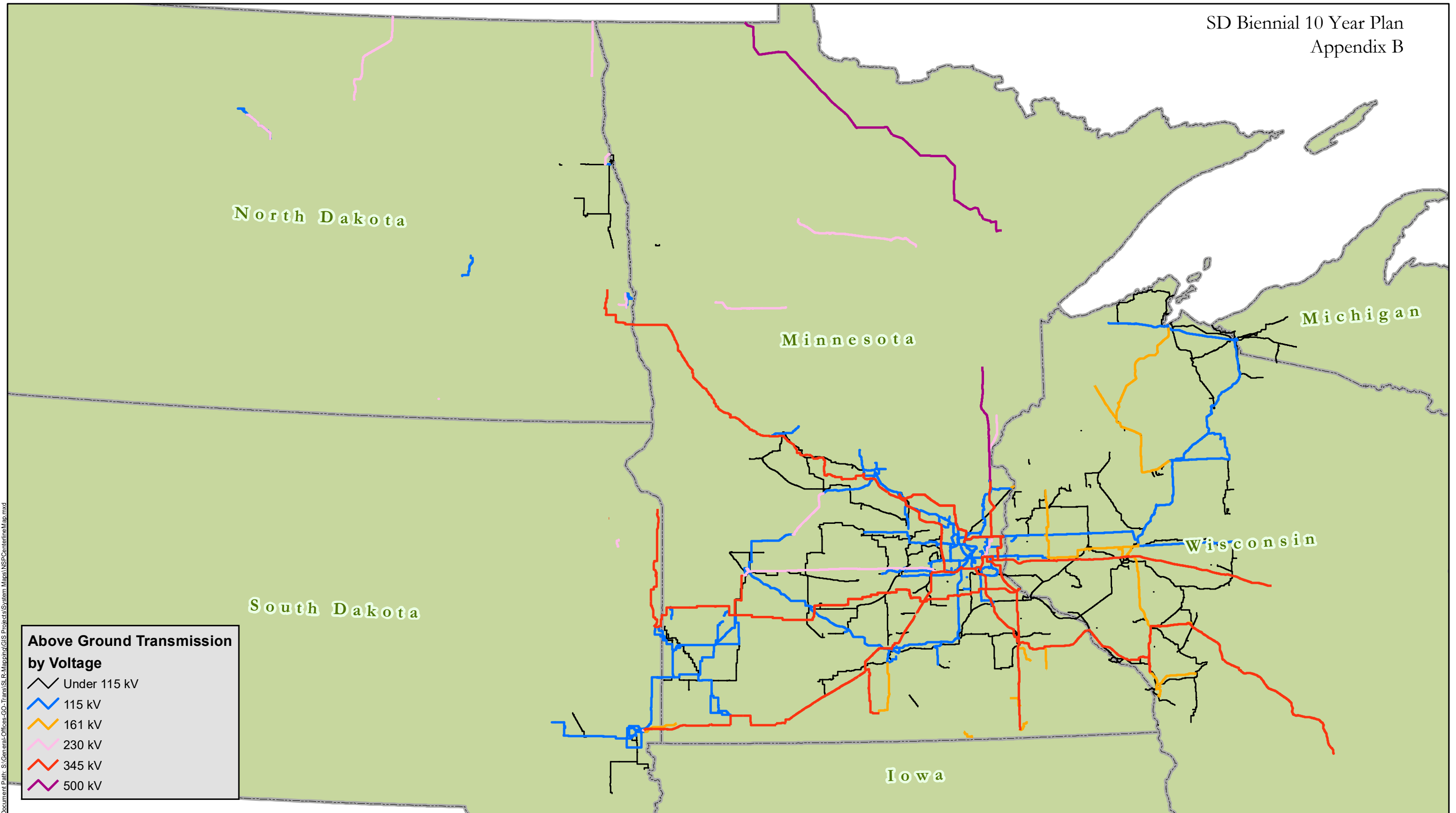
⁸ See <https://sdbit.maps.arcgis.com/apps/webappviewer/index.html?id=c21dde7770aa4e01bcfdd923222ce01d>

NSP System Generating Resource Summary

Plant	Own/PPA	Type	Fuel
A.S. King	Owned	Thermal	Coal
Sherco 1, & 3	Owned	Thermal	Coal
Monticello	Owned	Thermal	Nuclear
Prairie Island 1, 2	Owned	Thermal	Nuclear
Black Dog 5/2	Owned	Combined Cycle	Natural Gas
High Bridge	Owned	Combined Cycle	Natural Gas
Riverside	Owned	Combined Cycle	Natural Gas
LS Power - Cottage Grove	PPA	Combined Cycle	Natural Gas
Mankato Energy Center 1	PPA	Combined Cycle	Natural Gas
Mankato Energy Center 2	PPA	Combined Cycle	Natural Gas
Black Dog 6	Owned	Combustion Turbine	Natural Gas
Angus Anson 2, 3, 4	Owned	Combustion Turbine	Natural Gas
Blue Lake 7, 8	Owned	Combustion Turbine	Natural Gas
Inver Hills 1-6	Owned	Combustion Turbine	Natural Gas
Wheaton 1-4	Owned	Combustion Turbine	Natural Gas
Invenergy - Cannon Falls 1, 2	PPA	Combustion Turbine	Natural Gas
Blue Lake 1-4	Owned	Combustion Turbine	Oil
French Island 3, 4	Owned	Combustion Turbine	Oil
Wheaton 6	Owned	Combustion Turbine	Oil
Bayfront 5, 6	Owned	Thermal	Biomass
French Island 1, 2	Owned	Thermal	Biomass
Red Wing 1, 2	Owned	Thermal	Biomass
Wilmarth 1, 2	Owned	Thermal	Biomass
St. Paul CoGen	PPA	Thermal	Biomass
Hennepin Energy Recovery	PPA	Thermal	Biomass
Solar PPA's (265 MW, nameplate)	PPA	Solar	Solar
Wind PPA's (2,170 MW, nameplate)	PPA	Wind	Wind
Blazing Star 1	Owned	Wind	Wind
Blazing Star 2	Owned	Wind	Wind
Border Winds Wind Farm	Owned	Wind	Wind
Community Wind	Owned	Wind	Wind
Courtenay Wind Farm	Owned	Wind	Wind
Crown Ridge 2	Owned	Wind	Wind
Dakota Range 1,2	Owned	Wind	Wind
Foxtail	Owned	Wind	Wind
Fowke Wind Farm (formerly Grand Meadow)	Owned	Wind	Wind
Freeborn Wind Farm	Owned	Wind	Wind
Jeffers Wind Farm	Owned	Wind	Wind
Lake Benton	Owned	Wind	Wind
Mower Wind Farm	Owned	Wind	Wind
Nobles Wind Farm	Owned	Wind	Wind
North Community Wind	Owned	Wind	Wind

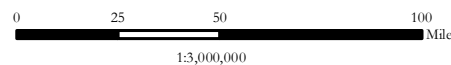
Appendix A

Pleasant Valley Wind Farm	Owned	Wind	Wind
Small Hydro PPA's (34 MW, nameplate)	PPA	Hydro	Hydro
MN Hydro - Owned	Owned	Hydro	Hydro
WI Hydro - Owned	Owned	Hydro	Hydro
Manitoba Hydro - PPA	PPA	Hydro	Hydro
Manitoba Hydro - Diversity Exchange	PPA	Hydro	Hydro



NSPM and NSPW Overhead Centerlines

Updated: June 2024



Document Path: S:\General Offices-50-Trans\GIS Mapping\GIS Project\System Maps\NSP Centerline Map.mxd