



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 29, 2010

**--Via Electronic Filing--**

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

RE: XCEL ENERGY'S 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, a Minnesota corporation ("Xcel Energy" or the "Company") hereby submits its Biennial Ten-Year Plan for Major Generation and Transmission Facilities in the State of South Dakota.

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 there are questions regarding information contained in the report, please feel free to contact Jim Wilcox at (605) 339-8350.

SINCERELY,

REBECCA EILERS  
REGULATORY ADMINISTRATOR

ENCLOSURES  
CC: SERVICE LIST (WITHOUT ENCLOSURES)

**CERTIFICATE OF SERVICE**

I, SaGonna T. Thompson, hereby certify that I have this day served notice of the foregoing document on the attached list of persons by delivery by hand or by causing to be placed in the U.S. mail at Minneapolis, Minnesota.

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

Dated this 29<sup>th</sup> day of June 2010

/s/

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SaGonna T. Thompson

South Dakota Biennial Ten-Year Plan Service List

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

South Dakota Department of Education and  
Cultural Affairs  
700 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  
500 East Capitol Avenue  
Pierre, SD 57501

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

South Dakota Department of Commerce and Regulation  
118 West Capitol Avenue  
Pierre, SD 57501

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 Office of Tribal Government Relations  
Capitol Lake Plaza  
711 East Wells Avenue  
Pierre, SD 57501

South Dakota Department of Labor  
700 Governors Drive  
Pierre, SD 57501

South Dakota Legislative Research Council  
Capitol Building, 3<sup>rd</sup> Floor  
500 East Capitol Avenue  
Pierre, SD 57501

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

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

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

**TEN-YEAR PLAN FOR  
MAJOR GENERATION AND  
TRANSMISSION FACILITIES**

**TO THE**

**SOUTH DAKOTA  
PUBLIC UTILITIES COMMISSION**

**SUBMITTED BY  
NORTHERN STATES POWER COMPANY,  
A MINNESOTA CORPORATION  
JULY 2010**



**Northern States Power Company d/b/a Xcel Energy**  
**South Dakota Ten-Year Plan 2010**  
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Northern States Power Company, a Minnesota corporation (“Xcel Energy”, the “Company” or “NSPM”) submits the following information to the South Dakota Public Utilities Commission (“Commission” or “SDPUC”) as required by S.D. Admin. R. § § 20:10:21:02 to 20:10:21:21.<sup>1</sup>

**20:10:21:04 EXISTING ENERGY CONVERSION FACILITIES**

The Company has one existing energy conversion facility in South Dakota. The table below provides the required information on this facility.

**Angus Anson**

1	Location	Sioux Falls, South Dakota	
2	Type Nameplate Capacity	Combustion Turbine  120 MW (unit 2) 120 MW (unit 3) 150.58 MW (unit 4)	
3	Net Capacity	Summer:	111 MW (unit 2) 128.0 MW (unit 3) 180.0 MW (unit 4)
		Winter:	128.0 MW (unit 2) 128.0 MW (unit 3) 180.0 MW (unit 4)
	Annual Production	2008:	120,598 MWh (total)
		2009:	15,074 MWh (total)
4	Water Source and Annual Consumption	Ground water and zero consumption	
5	Fuel Type Source Annual Consumption	Natural Gas Northern Natural Gas Co. <sup>2</sup> 2008: 1,321,179.95 MMBtu 2009: 197,877.94 MMBtu	Fuel Oil 2008: 1,203,006 gal 2009: 368,414.61 gal
6	Projected Retirement Date	Remaining Life currently at 25.4 years	

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

<sup>2</sup> The natural gas fuel is purchased from independent third party suppliers and delivered through the Northern Natural Gas interstate pipeline system.

## 20:10:21:05 PROPOSED ENERGY CONVERSION FACILITIES

		Nobles Wind Project	Merricourt Wind Project	Manitoba Hydro Purchased Power Agreement
1	Location	Nobles County, MN	Dickey & McIntosh Counties, ND	Manitoba, Canada
1	Why Selected	RFP Process	RFP Process	Renegotiation of Existing PPA
2	Type Nameplate Capacity	Wind 200 MW	Wind 150 MW	Hydro 375 MW On-Peak 350 MW Seasonal Diversity Exchange
3	Estimated Production	720,151 Annual MWh	543,996 Annual MWh	1,287,000 Annual MWh
4	Water Source	Not Applicable	Not Applicable	Nelson, Winnipeg, Saskatchewan and Laurie Rivers
5	Fuel Type	Wind	Wind	Predominately Hydro <sup>3</sup>
6	Disposal Plans	Decommissioning to be addressed closer to end of plant life.	Decommissioning to be addressed closer to end of plant life.	Not Applicable
7	Associated Facilities	Will interconnect to existing Nobles County Substation	Will require substation and 230 kV line being built by MDU	Existing Transmission Path
8	Operating life with SD Fuels	Not Applicable	Not Applicable	Not Applicable
9	Projected End of Life	25 Years	25 Years	10 Years
10	Estimated Cost	≈ \$500 Million	≈ \$400 Million	≈ \$3 Billion
	Projected In-Service Date	2010	2011	2015

## 20:10:21:06 EXISTING TRANSMISSION FACILITIES

Listed below are Xcel Energy's existing transmission facilities operating at 115 kV or above in South Dakota. They are all located in the eastern portion of the state. A map

<sup>3</sup> The contract is for system resources. Under medium water conditions approximately 98% of Manitoba Hydro generation is hydroelectric resources.

showing the location of Xcel Energy's transmission lines is included as Appendix B. Currently none of these facilities are projected to be removed from service.

### **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 Cherry Creek Substation (west side of Sioux Falls) - 10 miles.
3. Cherry Creek Substation to the Grant Substation west of Sioux Falls - 24 miles.
4. 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.
5. Lawrence Substation in Sioux Falls to the Western Area Power Administration (WAPA) Substation in Sioux Falls - 1 mile.
6. Lawrence Substation in Sioux Falls to the Split Rock Substation approximately 5 miles northeast of Sioux Falls (circuit #1) - 2.5 miles.
7. Split Rock Substation to the Pathfinder Substation approximately 4 miles northeast of Sioux Falls - 0.8 miles.
8. Pathfinder Substation to the Pipestone Substation in Pipestone, Minnesota. Approximately 34.5 miles of this line are in the state of South Dakota - 43 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 Cherry Creek Substation - 3.5 miles.
12. Split Rock Substation to Cherry Creek - 21 miles.

13. Split Rock to Angus Anson generating plant - 0.28 miles.
14. Split Rock to Angus Anson generating plant # 2 - 0.43 miles.
15. Brookings County to Yankee #1 - 3.7 miles of this line are in South Dakota; 13 miles total.
16. Brookings County to Yankee #2 – 6.5 miles of this line are in South Dakota; 13 miles total.

### **Type 161 kV – AC**

1. Split Rock Substation approximately 5 miles northeast of Sioux Falls to ITC Midwest, LLC (“TTC Midwest”) interconnection near Luverne, Minnesota.<sup>4</sup> 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.

### **Type 230 kV – AC**

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

### **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.
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.

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<sup>4</sup> 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.

5. Brookings County-White 345 kV line #2. This is a 0.4 mile line.

## **20:10:21:07 PROPOSED TRANSMISSION FACILITIES**

### **A. Wind Generation Outlet**

In order to support wind development in the Buffalo Ridge area in the Southwestern portion of Minnesota and improve service reliability to the city of Marshall, Minnesota, the Company proposed the BRIGO (Buffalo Ridge Incremental Generation Outlet) Project in 2006. Xcel Energy has completed the electric transmission development associated with the Certificate of Need (MPUC Docket No. E002/CN-06-154). These lines are:

- A second 345 kV line from the WAPA White substation near Brookings to the new Xcel Energy Brookings County 345-115 kV substation. This line is 0.4 miles long and located in South Dakota.
- A second 115 kV line from near Brookings, South Dakota (the new Xcel Energy Brookings County 345-115 kV substation is located 0.4 miles from the WAPA White Substation) east to the Yankee substation located in Minnesota. 6.5 miles of the 13-mile line is in South Dakota. The Company's application for a Facility Permit to construct the 115 kV line was in Docket No. EL08-001.

Xcel Energy has no plans to retire these facilities within the next ten years.

### **B. CapX2020 Proposals**

A group of investor-owned, cooperative and municipal utilities in Minnesota, eastern North Dakota, eastern South Dakota, and western Wisconsin ("CapX2020 Utilities"), completed a high-level visionary study looking at the bulk transmission needs in their combined market areas over the next 15 years. This analysis, known as the CapX2020 Vision Study, identified the possible need for 345 kV lines from western South Dakota to the Twin Cities.

From this Vision Study the CapX2020 Utilities developed more specific proposals for the first group of new high voltage lines needed, referred to as Group 1 projects. The Group 1 projects include three 345 kV projects, and one 230 kV project. The first of these facilities is proposed to be placed in service in 2011 and the other facilities will be placed into service over the following years with total project(s) completion in 2015. The approximate lengths and general location of the proposed 345 kV and 230 kV lines are as follows:

- A 230 mile, 345 kilovolt line between Brookings, South Dakota, and the southeast Twin Cities, plus a related 30 mile, 345 kilovolt line between Marshall, Minnesota, and Granite Falls, Minnesota (“Brookings Project”) at a total estimated cost between \$650 and \$800 million;
- A 250 mile, 345 kilovolt line between Fargo, North Dakota, and Alexandria, St. Cloud and Monticello, Minnesota (“Fargo Project”) with a total estimated cost between \$500 and \$750 million;
- A 150 mile, 345 kilovolt line between the southeast Twin Cities, Rochester, Minnesota, and LaCrosse, Wisconsin (“LaCrosse Project”) with a total estimated cost between \$400 and \$500 million; and
- A 68 mile, 230 kilovolt line between Bemidji and Grand Rapids, Minnesota (“Bemidji Project”) with a total estimated cost between \$100 and \$140 million.

Xcel Energy and Great River Energy, on behalf of the other participating CapX2020 Utilities, filed a Certificate of Need application for the three 345 kV projects (Brookings, Fargo and LaCrosse Projects) with the Minnesota Public Utilities Commission (“MPUC”) on August 16, 2007. The MPUC approved Certificates of Need for all three 345 kV projects.

With regard to the Brookings Project, a portion of that project is proposed to be constructed in South Dakota. Xcel Energy and Great River Energy, on behalf of the CapX2020 Utilities, proposed to own the Brookings Project and filed a Route Permit application with the MPUC (Docket No. ET-2/TL-08-1474). The Administrative Law Judge issued his Route Permit recommendation on April 22, 2010. The ALJ Order stated that all conditions were met and the MPUC should issue the Route Permit. Exceptions were filed on May 7, 2010 by various intervening groups. The Company anticipates the MPUC will schedule a hearing in early summer to deliberate and discuss the record and consider the ALJ recommendation. A filing for a Corridor Permit in SD for the Brookings Project is expected later in 2010.

With regard to the Fargo Project, in April 2009, a Route Permit for the Monticello to St. Cloud segment of the Monticello-Fargo project was filed in Minnesota. The matter will be heard by the MPUC in July 2010. In October 2009, a Route Permit for the St. Cloud to Fargo segment of the Monticello-Fargo project was filed in Minnesota. We anticipate filing for a Route Permit in ND for the Fargo project in 2010, as well as a Certificate of Public Convenience & Need.

With regard to the Bemidji Project, in March 2008, Otter Tail and Minnkota Power Cooperative filed a Certificate for Need the project with the MPUC. A route application for this project was filed June 2008. In July 2009, the PUC unanimously

approved the Bemidji project Certificate of Need. An MPUC decision on the route is expected by Summer/Fall 2010.

With regard to the LaCrosse, Project, a Route Application was filed with the MPUC in January 2010. A Route Permit in Wisconsin for the La Crosse project will be filed later in 2010. None of these projects have a current retirement date estimated and are presumed to have an approximate 40 year life.

The CapX2020 projects would benefit South Dakota by improving transmission infrastructure and reliability, alleviating the existing constraints on deliveries, and expand transmission capability to allow expanded generation investment, especially wind generation.

More information about the CapX2020 initiative is available at [www.capx2020.com](http://www.capx2020.com).

## **20:10:21:08 COORDINATION OF PLANS**

NSP 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 Xcel Energy is now coordinated through the Midwest Independent Transmission System Operator, Inc. (“Midwest ISO”) 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 the Company’s high voltage transmission system to the Midwest ISO; (b) dated December 20, 2001<sup>5</sup> finding the Midwest ISO 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.<sup>6</sup> The Midwest ISO issues an

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<sup>5</sup> FERC Docket Nos. RT01-87-000, RT01-001, ER02-106-000 and ER02-108-000.

<sup>6</sup> *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 reh’g*, 73 Fed. Reg. 2984 (Jan. 16, 2008), FERC Stats. & Regs. ¶ 31,261 (2008) (Order No. 890-A); *order on reh’g* 123 FERC ¶ 61,299 (Order No. 890B) (June 23, 2008). The Midwest

annual Midwest ISO Transmission Expansion Plan (“MTEP”) after coordinated planning and stakeholder review. Prior to 2007, these plans were issued biennially. The current MTEP 2009 series of projects was approved by the Midwest ISO Board of Directors in December 4, 2009 and is available at the Midwest ISO web site at [www.midwestiso.org](http://www.midwestiso.org).

As a result of complying with the FERC Order No. 890 rules, the Midwest ISO has implemented its own Sub-Regional Planning Meetings. The Company participates in the Western Region meetings. This group provides a forum for stakeholder input and coordination of plans and NSPM actively participates 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 MPUC 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 ten-year assessment of the members’ utility systems for compliance with the North American Electric Reliability Corporation (NERC) Transmission Planning (“TPL”) standards. The MTO utilities also coordinate their planning with the CapX2020 planning processes and the Midwest ISO MTEP processes.

## **20:10:21:09 SINGLE REGIONAL PLANS**

See previous discussion. Xcel Energy is continuing to work with the Midwest ISO 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.

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ISO’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).

## **20:10:21:10 SUBMISSION OF REGIONAL PLANS**

Regional Plans, by virtue of their geographic coverage, involve a collaborative effort of multiple utilities. As the CapX 2020 effort has shown, NSPM and the other utilities in this region are actively analyzing and developing coordinated regional plans. This analysis includes the active participation of the MTO and the Midwest ISO planning efforts. This effort is part of the Midwest ISO MTEP regional planning process. As specific plans for additional facilities are developed, they will be submitted with subsequent ten-year plans.

The Midwest ISO MTEP is subject to review and approval by the Midwest ISO's independent board of directors. Proposals to construct specific MTEP approved facilities in South Dakota would be submitted to for Commission approval as required.

### **SMARTransmission Study**

The Company is participating in the Strategic Midwest Area Renewable Transmission (SMART) Study that was commissioned in August of 2009. The SMARTransmission study's goal is to develop a 20-year transmission plan that ensures reliable electricity transport, provides an efficient transmission system to integrate new generators and foster efficient markets, minimizes environmental impacts, and supports state and national energy policies. Phase One of the study identified future transmission needs in the Upper Midwest to support renewable energy development and to transport that energy to population and electricity load centers. Study participants evaluated various transmission alternatives designed to support the integration of significant new wind generation within the study area, including North Dakota, South Dakota, Minnesota, Iowa, Wisconsin, Illinois, Indiana, Michigan and Ohio. The plans would accommodate the integration of up to 56.8 gigawatts of wind generation. This translates into enough energy to power over 15 million households. The study's Phase One results recommend three alternatives for further study based on a rigorous reliability assessment and stakeholder input. One of the alternative is the use of 765-kilovolt extra-high voltage transmission lines, another includes 765 kilovolt combined with limited use of high-voltage direct current transmission lines, while the third constitutes a combination of both 345-kilovolt and 765-kilovolt transmission lines. The three alternatives will be evaluated further during the second phase of the study, scheduled for completion during the third quarter of 2010.

The Phase One report can be downloaded at [www.smartstudy.biz](http://www.smartstudy.biz). Xcel Energy is co-sponsoring the study with Electric Transmission America – a joint venture of

American Electric Power, MidAmerican Energy Holdings Company, American Transmission Company, Exelon Corp., and NorthWestern Energy.

### **Regional Generator Outlet Study (RGOS)**

In an effort to align the transmission development efforts associated with renewable energy mandates in the upper Midwest, MISO has begun a study to develop a streamlined transmission plan to enable utilities to meet the various renewable energy mandates in the MISO footprint. The study was divided into two phases. The first phase focused on the upper Midwest, including Minnesota, North Dakota, South Dakota, Iowa, and Wisconsin, the area of most intense wind development interest in the MISO footprint. Upon completion of the first phase, the remainder of the MISO footprint was brought into the effort.

The study began by identifying appropriate zones for new wind in each state being studied. The state commissions in the Upper Midwest Transmission Development Initiative (UMTDI) played a critical role in developing and gaining regulatory buy-in for the wind zone assumptions being used. After settling on wind zone assumptions and developing estimates of the amount of wind necessary to meet state mandates, MISO and stakeholders developed a number of potential transmission plans to deliver that energy to load and then tested and refined those solutions. When the remainder of the MISO footprint was brought into the study scope, the plans were further refined to eliminate lightly-loaded or redundant facilities. MISO anticipates publishing the findings of the RGOS effort in late summer 2010.

## **20:10:21:11 UTILITY RELATIONSHIPS**

NSPM is a utility operating company subsidiary of Xcel Energy Inc., a public utility holding company, and is affiliated with three other regulated public utilities: Northern States Power Company-Wisconsin (“NSPW”), Public Service Company of Colorado, and Southwestern Public Service Company. NSPM is a member of the Midwest ISO, the first FERC-approved regional transmission organization, or RTO. As an RTO, the Midwest ISO provides regional tariff administration services and operates a Day-ahead and Real-time regional wholesale energy market pursuant to its Open Access Transmission and Energy Markets Tariff (“TEMT”). The Midwest ISO implemented a regional planning reserve market 2009, pursuant to Module E of the TEMT.<sup>7</sup> The Midwest ISO is also the Regional Reliability Coordinator for the NSP System.

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<sup>7</sup> Effective September 9, 2009, the Midwest ISO began to provide a regional ancillary services market (“ASM”).

Xcel Energy is 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 (“NERC”).

The Company contracts with the WAPA for certain transmission services needed to serve the Company’s retail loads in South Dakota.

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

Xcel Energy 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 ensure the effects of construction and operation practices are minimized.

Xcel Energy coordinates high voltage transmission facility plans with the Midwest ISO, 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. Xcel Energy prefers 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 possibly affected landowners in order to assure the widest possible considerations of information, concerns and options. It is Xcel Energy’s 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, Xcel Energy continues to refine site and route engineering once permits have been granted. This allows the Company 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.

Xcel Energy is committed to working with affected landowners to mitigate environmental and land use problems which may arise as a result of construction and maintenance activities.

## **20:10:21:13 LOAD MANAGEMENT EFFORTS**

Xcel Energy's load management efforts in South Dakota reduce peak demands, especially during the summer months, which can help delay or avoid more expensive electric generation and purchased power needs.

The current product portfolio includes a mix of residential, commercial, and industrial programs. Xcel Energy offers Peak Controlled Service for Commercial and Industrial customers with a minimum controllable demand of 50 kW as well as voluntary time-of-day rates and the Saver's Switch® programs for both Residential and Commercial customers.

- Peak Controlled Service provides savings on demand charges for large customers agreeing to reduce loads to contracted levels when asked to do so. The more of their demand the customer agrees to put under contract, the larger the savings.
- Time-of-Day rates offer reduced rates for electric use during off-peak periods.
- Saver's Switch® for business and residential customers is a direct load control program that pays customers during the summer months for allowing the Company to reduce participants' air conditioning loads by approximately 50 percent during peak demand periods from June through September.

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

The most recent information on the Brookings Project (MPUC Docket No. ET-2/TL-08-1474) is detailed above in section 20:10:21:07. The most recent action in the docket was the April 22, 2010 issuance of the Findings of Fact, Conclusions, and Recommendation by the Administrative Law Judge assigned to the Route Permit application.

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

- 1) **Sherco Unit 3 Upgrade:** This project involves replacing the generation step up transformer and steam turbine and will result in an increase of about 20 MW of which the Company's share will be approximately 12 MW because of our joint ownership of this unit with the Southern Minnesota Municipal Power Agency. This project will be completed in 2011.
- 2) **Bay Front Boiler #5 Gasification Project:** The Bay Front Plant is located in Northern Wisconsin and is owned by NSPW. Two of the units at the plant have already been reconfigured to run on biomass. A third unit, Boiler #5 is currently fueled by coal and petroleum coke, but due to this boiler's age, the location of the Bay Front facility, and pending changes to environmental permit compliance requirements, we are finding that it will not be cost-effective to continue to operate this boiler on those fuels. As a result, we are exploring various options to reconfigure this unit to run on biomass.
- 3) **Monticello:** Federal regulators in November 2006 approved a 20-year license extension for the Monticello nuclear plant. To accommodate operations to 2030, we also sought and gained approval from Minnesota regulators for expanded on-site storage of used nuclear fuel at Monticello. The dry storage facility was built in 2008, and it currently houses 10 containers of used fuel. The MPUC has approved our request to expand generating capacity at the Monticello Nuclear Plant by 70 MW. Federal action on our request is pending.
- 4) **Prairie Island:** Our application to renew the operating licenses of the two reactors at Prairie Island is pending before the federal Nuclear Regulatory Commission. The state of Minnesota has approved our request for up to 35 additional dry casks to store used nuclear fuel. The additional casks are needed to accommodate operations during a 20-year license extension period. The state of Minnesota has also approved our request to expand the generating capacity of each of the two units at Prairie Island by 82 megawatts, for a total of 164 MW.
- 5) **Black Dog Repowering:** We have been studying repowering the remaining coal facilities (units 3 and 4, together about 270 MW) at the Black Dog facility. Black Dog units 3 and 4 were installed in 1955 and 1960 respectively and are currently near the end of their economic and engineering life. Changes to environmental permit compliance requirements will likely result in these units ceasing coal-fired generation in 2014. The Company is currently evaluating options to repower and extend the economic life of that portion of the Black Dog facility with natural gas-fired technology. The first stage of this repowering project could be implemented by 2016.

## **20:10:21:16 PROJECTED ELECTRIC DEMAND**

NSPM and NSPW operate an integrated electric generation and transmission system (the “NSP System”) serving customers in South Dakota, North Dakota, Minnesota, Wisconsin and Michigan. The forecast of the Company’s native energy requirements and peak demand for the State of South Dakota jurisdiction is shown in Table Xcel Energy-SD-1. Xcel Energy produces a long-range “median” forecast of native energy requirements, summer peak, and winter peak demand. Xcel Energy plans to meet the needs of the integrated NSP System. For planning purposes, Xcel Energy also develops a bandwidth (called semi-high and semi-low scenarios) to supplement the “median” forecasts. These two scenarios are intended to describe uncertainty in a business-as-usual context: a relatively narrow range of US economic growth with no basic change in the relationship between the regional and national economies. 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.

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 (“SC&I”), and large commercial and industrial (“LC&I”). 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. The NSP System peak is apportioned to jurisdictions based on the native energy requirements by state and the load factor by state. Consequently, the summer and winter “peak loads” provided in Table Xcel Energy-SD-1 represent the South Dakota jurisdiction customer demand at time of total System seasonal peak demand. 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 Xcel Energy’s South Dakota service areas can be as much as 10 percent higher than the demands registered during the hour in which the total NSP System peak demand occurs. It is these local “non-coincident” peak demands that determine the need for transmission improvements required for load serving functions.

## **20:10:21:17 CHANGES IN ELECTRIC ENERGY**

Table Xcel Energy-SD-1 shows the projected volume and percentage increase in energy demand for Xcel Energy's South Dakota service territory for each year relative to 2009.

**Table Xcel Energy-SD-1  
Northern States Power Company  
Forecast of Electric Energy Requirements and Peak Demand**

	Summer Peak (MW)	Winter Peak (MW)	Energy (GWh)	Change In Energy (GWh)	% Change In Energy
2010	423	339	2,153		
2011	442	354	2,200	46	2.1%
2012	449	371	2,268	68	3.1%
2013	459	377	2,322	55	2.4%
2014	471	394	2,376	53	2.3%
2015	490	401	2,409	33	1.4%
2016	492	410	2,448	38	1.6%
2017	493	394	2,486	38	1.6%
2018	511	415	2,533	46	1.9%
2019	535	426	2,572	39	1.5%
2020	549	437	2,616	45	1.7%
2021	564	448	2,649	33	1.3%
2022	578	460	2,688	39	1.5%
2023	593	471	2,720	31	1.2%
2024	609	483	2,761	42	1.5%
2025	625	496	2,801	40	1.5%
2026	641	508	2,847	46	1.6%
2027	658	521	2,884	36	1.3%
2028	675	535	2,928	45	1.5%

**Average Annual Growth Rate, 2010-2028:**

**% growth:      2.6%              2.5%              1.7%**

**Notes:**

- 1). Peak Load is *coincident* to the Xcel Energy system peak.
- 2). Winter Peak = Winter Peak season, 2010 is 2010-2011 winter peak.
- 3). Peak Load forecast growth from 2020 - 2028 is based on average summer and winter SD peak growth rates from 2010 through 2019.

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

<b>Year</b>	<b>Semi-Low (MWh)</b>	<b>Median (MWh)</b>	<b>Semi-High (MWh)</b>
2010	44,466,159	45,649,707	46,851,502
2011	44,675,741	46,191,286	47,715,368
2012	45,022,152	46,823,815	48,627,672
2013	45,190,927	47,213,690	49,258,953
2014	45,506,662	47,756,996	50,004,411
2015	45,654,097	48,076,670	50,532,974
2016	45,924,761	48,530,467	51,133,873
2017	46,029,972	48,803,217	51,564,108
2018	46,306,880	49,230,611	52,158,203
2019	46,498,122	49,568,829	52,645,844
2020	46,897,116	50,137,716	53,362,898
2021	47,110,753	50,472,966	53,844,315
2022	47,391,816	50,903,335	54,436,997
2023	47,614,605	51,260,184	54,909,928
2024	48,046,490	51,853,309	55,648,030
2025	48,375,461	52,303,296	56,253,757
2026	48,819,034	52,894,086	56,964,614
2027	49,168,031	53,394,905	57,643,644
2028	49,669,412	54,054,599	58,401,479

**Average Annual Growth Rate, 2010-2028:**

**% growth:**                      **0.6%**                                      **0.9%**                                      **1.2%**

**Notes:**      Semi-Low and Semi-High Scenarios reflect an 80%/20% Confidence Level  
 NSP System Net Energy Requirements have been adjusted for DSM  
 (Demand Side Management)

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

<b>Year</b>	<b>Semi-Low (MW)</b>	<b>Median (MW)</b>	<b>Semi-High (MW)</b>
2010	7,731	8,085	8,440
2011	7,867	8,290	8,708
2012	7,979	8,443	8,924
2013	8,071	8,578	9,101
2014	8,153	8,720	9,282
2015	8,231	8,834	9,456
2016	8,308	8,949	9,611
2017	8,362	9,054	9,756
2018	8,436	9,160	9,869
2019	8,492	9,254	10,043
2020	8,566	9,358	10,160
2021	8,600	9,437	10,275
2022	8,643	9,519	10,379
2023	8,719	9,603	10,506
2024	8,772	9,690	10,633
2025	8,782	9,768	10,728
2026	8,850	9,864	10,856
2027	8,918	9,952	11,021
2028	8,962	10,037	11,119

**Average Annual Growth Rate, 2010-2028:**

<b>% growth:</b>	<b>0.8%</b>	<b>1.2%</b>	<b>1.5%</b>
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**Notes:** Semi-Low and Semi-High Scenarios reflect an 80%/20% Confidence Level  
Net Peak Demand Adjusted for DSM

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

<b>Year</b>	<b>Semi-Low (MW)</b>	<b>Median (MW)</b>	<b>Semi-High (MW)</b>
2010	6,341	6,706	7,071
2011	6,464	6,880	7,305
2012	6,552	7,022	7,509
2013	6,615	7,132	7,663
2014	6,695	7,252	7,826
2015	6,743	7,334	7,953
2016	6,765	7,420	8,051
2017	6,810	7,502	8,170
2018	6,873	7,584	8,307
2019	6,924	7,666	8,442
2020	6,967	7,752	8,533
2021	7,017	7,830	8,650
2022	7,034	7,911	8,767
2023	7,077	7,990	8,897
2024	7,142	8,074	8,986
2025	7,191	8,157	9,130
2026	7,248	8,248	9,268
2027	7,305	8,339	9,374
2028	7,375	8,432	9,500

**Average Annual Growth Rate, 2010-2028:**

**% growth:**                      **0.8%**                      **1.3%**                      **1.6%**

**Notes:**      Winter Peak = Winter Peak season, 2010 is 2010-2011 winter peak.  
Semi-Low and Semi-High Scenarios reflect an 80%/20% Confidence Level  
Peak Adjusted for DSM



## 2010 Fast Facts | Minnesota, North Dakota, South Dakota

### ABOUT XCEL ENERGY

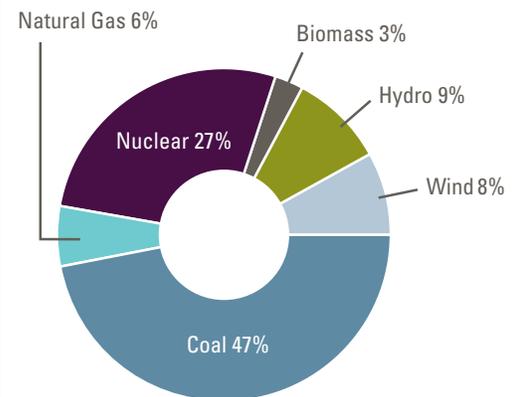
Xcel Energy is a investor-owned electricity and natural gas company with regulated operations in eight Midwestern and Western states. Based in Minneapolis, we are one of the largest utility companies in the nation, serving approximately 3.4 million electricity customers and 1.9 million natural gas customers through our four wholly-owned operating companies.

Northern States Power Company-Minnesota (NSPM) provides electricity to customers in Minnesota, North Dakota and South Dakota and natural gas to customers in Minnesota and North Dakota.

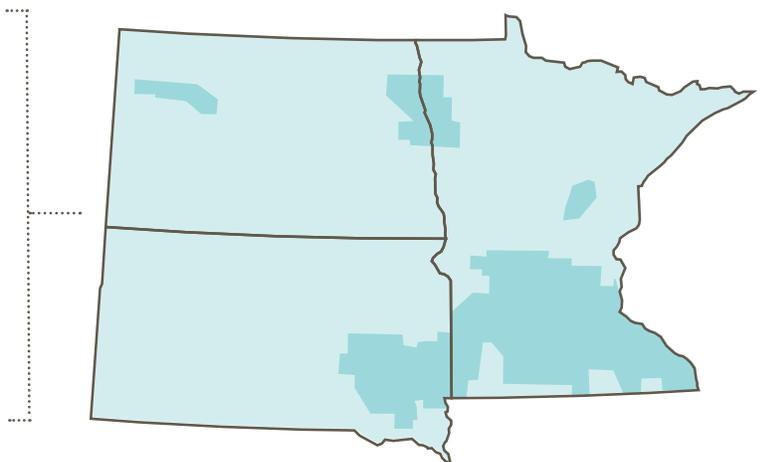
In 2009, the American Wind Energy Association named Xcel Energy “**investor-owned utility of the year**” for its national leadership in wind energy and for the company’s ranking as the **No. 1 wind energy provider** for the past six years. The Solar Electric Power Association ranked Xcel Energy **fifth in the nation in total solar electric capacity**.

We are a founding reporter of The Climate Registry, a nonprofit organization established to measure and publicly report greenhouse gas emissions (GHG). In October 2009, we filed our 2008 GHG emissions with the Registry. For the **second consecutive year** Xcel Energy is listed on the Carbon Disclosure Project’s **leadership index for the quality of our voluntary carbon disclosure**. Together with our customers, we have become **nationally recognized as energy efficiency leaders**.

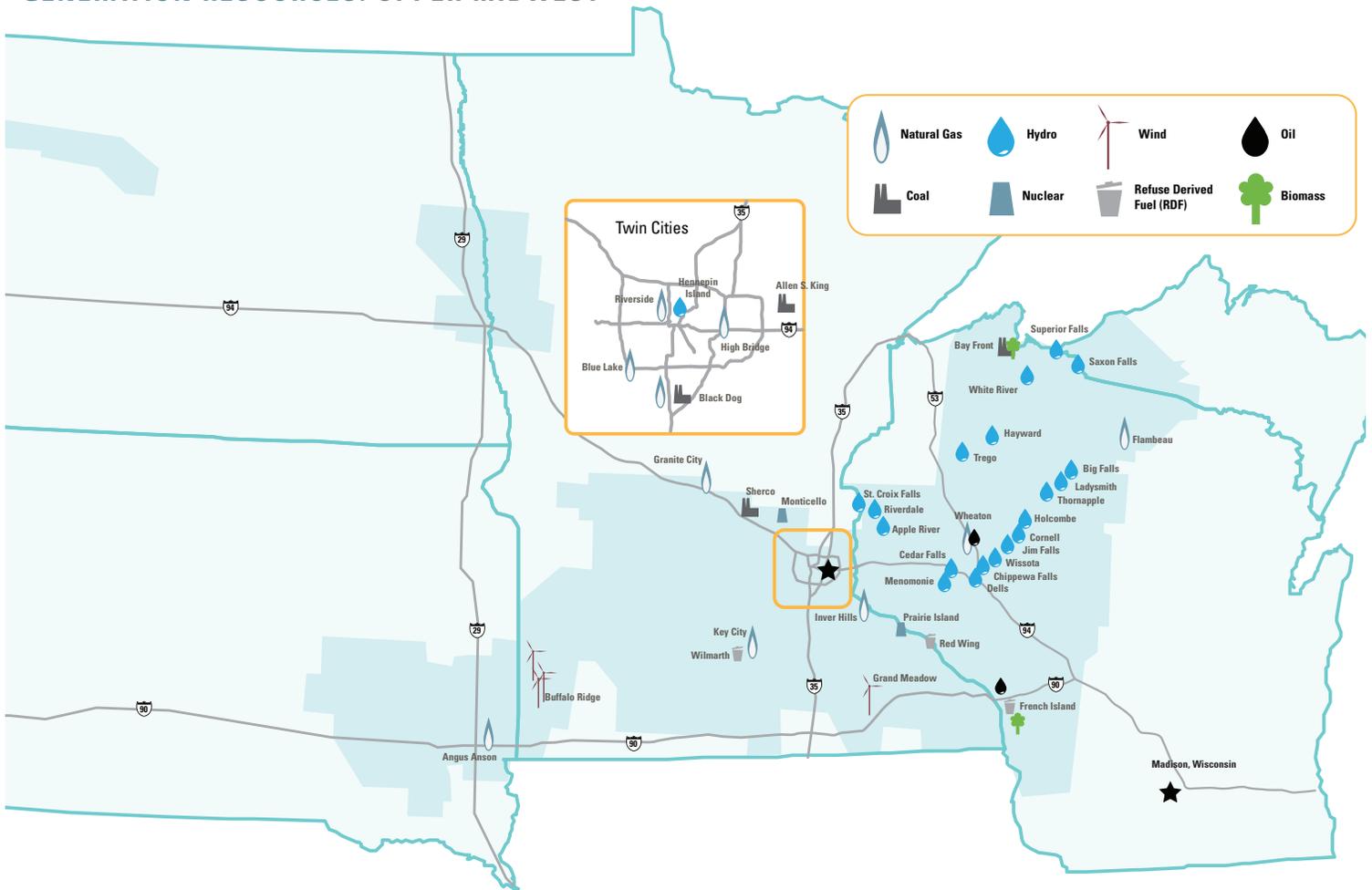
### 2009 UPPER MIDWEST ENERGY MIX



Electric Customers		Employees	
MINNESOTA	1.2 million	MINNESOTA	5,573
NORTH DAKOTA	88,000	NORTH DAKOTA	114
SOUTH DAKOTA	83,000	SOUTH DAKOTA	78
Natural Gas Customers		Communities Served	
MINNESOTA	435,000	MINNESOTA	428
NORTH DAKOTA	47,000	NORTH DAKOTA	28
		SOUTH DAKOTA	36



**GENERATION RESOURCES: UPPER MIDWEST**



Business and residential customers benefited from many programs and services to reduce consumption and lower their bills. Xcel Energy was **one of five utilities named as winners in the Energy Efficiency Programs category** of Edison Electric Institute’s 2009 National Key Accounts Customer Service Awards Program.

The communities we serve are important to us. That’s why in 2009, the Xcel Energy Foundation distributed more than \$2.2 million dollars for focus area grants in Minnesota, North Dakota and South Dakota. In addition, our NSPM employees, retirees and company matched funds amounted to nearly \$1.4 million.

In Minnesota, we received the **“2009 Outstanding Philanthropic Organization”** award from the Association of Fundraising Professionals for our partnership with the Greater Twin Cities United Way.

**HOW TO REACH US**

ELECTRICITY EMERGENCY/OUTAGE	1-800-895-1999
NATURAL GAS EMERGENCY/OUTAGE	1-800-895-2999
RESIDENTIAL CUSTOMER SERVICE	1-800-895-4999
TTY (HEARING IMPAIRED)	1-800-895-4949
BUSINESS SOLUTIONS CENTER	1-800-481-4700
BUILDERS CALL LINE	1-800-628-2121
CALL BEFORE YOU DIG	811
ONLINE OUTAGE MAP	<b>xcelenergy.com</b> and click on “Power Outages”

# 2010 South Dakota Communities Served

**E-electricity only**

**U-unincorporated**

Alexandria <b>E</b>	Chancellor <b>E</b>	Garretson <b>E</b>	Rowena <b>EU</b>
Artesian <b>E</b>	Crooks <b>E</b>	Harrisburg <b>E</b>	Salem <b>E</b>
Baltic <b>E</b>	Dell Rapids <b>E</b>	Junius <b>EU</b>	Sherman <b>E</b>
Bridgewater <b>E</b>	Dolton <b>E</b>	Lennox <b>E</b>	Sioux Falls <b>E</b>
Canistota <b>E</b>	Ellis <b>EU</b>	Marion <b>E</b>	Tea <b>E</b>
Canova <b>E</b>	Emery <b>E</b>	Monroe <b>E</b>	Unityville <b>EU</b>
Canton <b>E</b>	Fedora <b>EU</b>	Ramona <b>E</b>	Vilas <b>E</b>
Carthage <b>E</b>	Forestburg <b>EU</b>	Renner <b>EU</b>	Winfred <b>EU</b>
Centerville <b>E</b>	Fulton <b>E</b>	Roswell <b>E</b>	Worthing <b>E</b>

**APPENDIX A**  
**XCEL ENERGY RESOURCE PLAN DOCUMENTS**

The Company will be filing a new Resource Plan on or about August 1, 2010. Copies will be provided to the South Dakota Public Utilities Commission at that time.

# NSP Transmission Lines – 115 kV and above 2010

