

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the investigation, on the )
Commission's own motion, commencing )
an investigation into the electric supply )
reliability plans of Michigan's electric )
Utilities for year 2009 )

Case No.U-15770

REPORT OF
NORTHERN STATES POWER COMPANY'S, A WISCONSIN CORPORATION
ASSESSMENT OF ABILITY TO MEET ELECTRIC REQUIREMENTS IN 2009

1. INTRODUCTION

Northern States Power Company, a Wisconsin corporation (NSPW or the Company) is an electric operating company doing business in Wisconsin and Michigan. Xcel Energy's five-state operating system in the upper Midwest is referred to as NSP. Resource planning for NSP continues to assess the needs of the five-state system in Minnesota, North Dakota, South Dakota, Wisconsin and Michigan, referred to herein as the "NSP system."

Planning for the NSP System

As was done prior to the formation of Xcel Energy, the NSP system plans and operates as an integrated system. This includes the generation and transmission resource needs. Typically, two types of demand forecasts are done for the NSP system. One is a 50/50 forecast, where there is a 50% probability that actual peak demand will be below the forecast. The other is a 90/10 forecast, where there is a 90% probability that the actual demand will be below the forecast. The 2009 summer peak conditions under these two forecast methodologies (net of load control measures) are:

- NSP System 50/50 Forecast: 9,399 MW (NSPW portion 1,401 MW)
NSP System 90/10 Forecast: 9,906 MW (NSPW portion 1,486 MW)

The 2009 summer peak conditions referenced throughout the rest of this report will relate to the 50/50 forecast methodology.

Historically, NSPW accounts for approximately 15% of the NSP system resources needs. NSPW has experienced a peak load of approximately 1,391 MW (summer 2007), but forecasts an NSP system coincident peak load (NSPW load coincident with NSP system peak) of 1,401 MW for the summer of 2009 (15% of the NSP system peak load). NSPW's Michigan service

territory accounts for approximately 1.8% of the NSPW system load, with monthly demands varying from 20-25 MW (spring to winter peak).

### Overview of Xcel Energy’s Michigan Service Territory

Xcel Energy serves approximately 9,046 electric customers in portions of two Michigan counties located in the Upper Peninsula (Ontonagon and Gogebic Counties). This amounts to approximately 4% of the electric customers served by NSPW. The Company also serves one full requirement wholesale customer in Michigan - the City of Wakefield.

The main geographic areas served by Xcel Energy in Michigan are:

**Table 1**

<b>County</b>	<b>Gogebic</b>	<b>Ontonagon</b>
<b>Township</b>	Bessemer	Berglund
	Erwin	Matchwood
	Ironwood	
	Marenisco	
	Wakefield <sup>1</sup>	

NSPW’s Michigan load (retail and wholesale) accounts for approximately 25 MW or 1.8% of NSPW’s system coincident peak demand forecast of 1,401 MW. However, due to the winter peaking nature of NSPW’s Michigan service territory, the average monthly peak demand compared to NSPW is closer to 2.0%

Xcel Energy has approximately 855 MW of summer generation capacity located in Wisconsin and Michigan. Of that generation, there are two hydroelectric plants located in Michigan on the Montreal River (both power houses are located in Michigan) that provide approximately 3 MW of electricity. Therefore, due to the extremely limited generation actually located in Michigan, the Company relies almost exclusively upon transmission to serve its Michigan customers.

Although Xcel Energy relies heavily on transmission to serve its electric customers in Michigan, the Company’s transmission facilities in Michigan are limited. All distribution load served by Xcel Energy in Michigan is fed from the transmission and distribution lines originating from the Ironwood substation. Table 2 on the following page shows the line miles of transmission lines owned and operated by the company in Michigan. All of these lines serve local load.

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<sup>1</sup> The City of Wakefield is a full requirement wholesale customer that accounts for approximately 10% of NSPW’s Michigan load.

**Line Miles of Transmission  
Table 2**

<b>Voltage</b>	<b>Miles</b>
115 kV	2
88 kV	36
34.5 kV	116

## **2. 2008 SUMMER CAPACITY REQUIREMENTS**

Even though the NSP system plans and operates on an integrated system basis, a separate NSPW system (Wisconsin and Michigan) load forecast is prepared. This is done to reflect service territory differences, which results in more accurate forecasting for the NSPW operating company. As shown on *Attachment 1*, NSPW expects a net 2009 summer peak demand of 1,336 MW, after including the impact of interruptible loads. NSPW's Michigan customers account for approximately 22 MW (1.6%) of this total.

## **3. AVAILABLE RESOURCES**

NSPW's allocated share (15%) of the NSP system company owned generation resources available for the 2009 summer peak is 1,579 MW (see *Attachment 1*). NSP system owned generation resources include coal, nuclear, natural gas, renewable (hydro, refuse-derived fuel, and wood) and oil facilities.

## **4. CAPACITY PURCHASES**

In addition to the NSP system owned generation resources available for the summer of 2009, the NSP system will have 352 MW of Firm Purchases and 2,322 MW of Participation Purchases available for the summer peak. NSPW's allocated share of these purchases is 53 MW Firm and 362 MW Participation (see *Attachment 1*). These purchases come from a variety of generation resources in the region including coal, natural gas and renewable facilities (landfill gas, wind, biomass and hydro).

## **5. IMPACT OF ELECTRIC CHOICE**

To date, no NSPW Michigan customers have switched to an alternative electric supplier as a result of Electric Choice. Therefore, no impact on the expected 2009 summer peak demand is anticipated.

## 6. INTERRUPTIBLE LOAD

Included in NSPW's forecast of net summer peak demand of 1,336 MW for 2009 is 65 MW of load relief. Scenario 1 of *Attachment 1* includes a forecasted amount of load reduction of 65 MW on the NSP system at time of system peak in 2009.

## 7. TRANSMISSION

None of the transmission facilities Xcel Energy owns or operates in Michigan serve a bulk power transfer function and Xcel Energy has no interconnections with other utilities in Michigan. All transmission facilities are local load serving facilities. Two of the 4.16 kV transformers from the 34.5 kV bus at Ironwood substation are dedicated to Michigan distribution loads. Also, three of the five 34.5 kV lines and one of the two 88 kV lines out of the Ironwood substation feed distribution substations dedicated predominantly to Michigan loads. The 88 kV line serving Michigan customers is a radial feed to a number of 88 kV substations and a large account customer. The existing capacities of the three transmission lines into the Ironwood substation in Michigan are:

Hurley – Ironwood 115 kV:	40 MVA > 60 MVA
Park Falls – Ironwood 115 kV:	40 MVA > 60 MVA
Bay Front – Ironwood 88 KV:	30 MVA > 62 MVA

Any combination of two of the three lines serving Michigan is sufficient to serve Michigan peak load. Additionally, the capacity to serve Michigan peak load can be increased with investment in the Ironwood substation when necessary.

## 8. SUMMARY

Xcel Energy is committed to providing a reliable supply of electricity to its customers in its Michigan service territory. The major elements of its capacity plan for the summer of 2009 include:

- NSPW (which includes its Michigan territory) is part of a five-state generation and transmission system, with significant diversity of generation resources.
- Adequate resources are available through company owned and purchased resources to cover forecasted NSPW 2009 summer peak load conditions.
- Adequate transmission facilities exist to transfer electric power to NSPW's Michigan customers.
- With both committed and uncommitted resources, the NSPW system reserve margin is forecasted to be more than 20% for the 2009 summer peak.

## Projected Peak Demand, Generation Resources and Reserve Margin<sup>1</sup> Summer 2009

### SCENARIO 1: PLANNING FORECAST

#### 1. PEAK DEMAND - MW

Peak Load Forecast	1,401 MW
<u>Load Relief</u>	<u>65 MW</u>
Net Demand	1,336 MW
<u>Firm Purchases (including reserves)</u>	<u>53 MW</u>
Adjusted Net Demand	1,415 MW

#### 2. GENERATION RESOURCES – MW

Owned Generation Capacity	1,146 MW
Currently Committed Capacity Purchases	362 MW
<u>Uncommitted Capacity Purchases</u>	<u>17 MW</u>
Total Resources	1,525 MW

#### 3. RESERVE MARGIN (on 50/50 Forecast) 25.4%

Uncommitted Capacity Purchases	17 MW
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<sup>1</sup> These numbers represent a median (50/50) forecast. NSPW Michigan service territory peak demands are approximately 2.0% of total NSPW peak demands. Generation Capacity, Interruptible Loads, and Capacity Purchases represent the NSPW allocation (15.0%) of total NSP system (Minn., N. Dakota, S. Dakota, Wisc. and Mich.).