

## 8.0 Transmission-Owning Utilities

### 8.1 Introduction

This Section of the Report is intended to provide background information about the utilities that own and operate electric transmission lines in Minnesota, focusing specifically on the transmission lines owned by each utility and on the utility's efforts to comply with Minnesota's Renewable Energy Standards.

#### *Utility Background*

The purpose of this discussion is to provide basic information about each of the utilities that are required to participate in the preparation of this Biennial Report. The information relates to the history of the utility and the extent of its service territory and operations. An Internet link is provided where additional information can be found.

#### *Transmission Line Ownership*

On or about August 8, 2007, the Minnesota Department of Commerce served Information Requests on the Minnesota Transmission Owners requesting that each utility identify the miles of transmission line owned in Minnesota. The Department's Information Requests are available for review on the Commission's edockets web page at:

<https://www.edockets.state.mn.us/EFiling/search.jsp>

under the Docket Number for this Report, PUC Docket No. 07-1028.

The utilities responded that they would provide the requested information in the 2007 Report, and the Department concluded that this would be satisfactory.

The following table provides a summary of the transmission lines owned by each of the reporting utilities.

**Miles of Transmission**

<b>Utility</b>	<b>&lt;100 kV</b>	<b>100-199 kV</b>	<b>200-299 kV</b>	<b>&gt; 300 kV</b>	<b>DC</b>
American Transmission Company	0.00	0.00	0.00	12.00	0.00
Dairyland Power Cooperative	401.07	148.00	0.00	0.00	0.00
East River Electric Power Cooperative	158.13	45.74	0.00	0.00	0.00
Great River Energy	2943.07	427.95	522.93	135.33	435.85
Hutchinson Utilities Commission	8.00	9.00	0.00	0.00	0.00
Interstate Power & Light Company	821.43	277.82	0.00	19.77	0.00
L&O Power Cooperative	44.52	8.52	0.00	0.00	0.00
Marshall Municipal Utilities	0.00	18.10	0.00	0.00	0.00
Minnesota Power	0.22	1290.30	605.18	7.79	0.00
Minnkota Power Cooperative	966.95	143.69	248.99	0.00	0.00
Missouri River Energy Services	0.00	212.22	10.97	0.00	0.00
Northern States Power Company d/b/a Xcel Energy	1775.47	1465.69	364.82	1018.07	0.00
Otter Tail Power Company	1335.19	504.06	111.54	0.00	0.00
Rochester Public Utilities	0.00	40.51	0.00	0.00	0.00
Southern Minnesota Municipal Power Agency	128.49	136.41	16.84	0.00	0.00
Willmar Municipal Utilities	21.50	0.00	13.50	0.00	0.00
<b>Totals:</b>	8604.04	4728.01	1894.77	1192.96	435.85

### ***Maintenance Expenditures***

The Department of Commerce also requested in its Information Requests that the utilities provide information on the amount of money they have spent on transmission line maintenance over the past three years and how much has been budgeted for 2007 and the next three years. The Department requested that the utilities provide an explanation of why these amounts are reasonable.

Specific information about maintenance expenditures for each utility is provided in the subsection on each individual utility below. However, a couple of general points are in order. First, none of the utilities records or budgets maintenance expenses for specific lines or even for various voltage classes. All that can be readily provided is the total expenditures and budgets. Second, it is difficult to objectively explain in this report why the amounts spent and budgeted by each individual utility are reasonable. The utilities spend whatever is required to maintain their transmission infrastructure in working order and in compliance with national standards to provide reliable service to their customers. Budgets are generally set by conducting inspections of existing transmission facilities and forecasting the extent of maintenance that will be required over the upcoming period. Also, the utilities consider the amounts that have been spent over the previous few years and use those expenditures to predict what might be required in upcoming years. Third, some work that might be considered maintenance, such as rebuilding or reconducting a line, are funded out of accounts set up specifically for those projects.

### ***Renewable Energy Standard Milestones***

As discussed in Section 2.5 of this Report, Minnesota has established Renewable Energy Standards that require certain utilities to obtain a designated percentage of their total electric energy sold to retail customers from renewable generation sources, such as wind, biomass, and small hydroelectric plants. Minnesota Statutes § 216B.1691. The statute establishes milestones for the utilities to meet between now and the year 2020 or 2025. The statute authorizes the Public Utilities Commission to modify or delay the implementation of a standard or milestone under certain conditions described in the statute.

The information reported here is in response to the requirements of Minnesota Statutes §§ 216B.1691 and 216B.2425 and also in response to the PUC's Order approving the 2005 Biennial Report directing the utilities to provide information relating to efforts to meet their renewable energy milestones. This information is also pertinent to the RES report that is included as Part II of this report.

The Public Utilities Commission has twice identified the utilities that are subject to the RES. *See Initial Order Detailing Criteria and Standards for Determining Compliance with Minn. Stat. § 216B.1691 and Requiring Customer Notification by Certain Cooperative, Municipal, and Investor-Owned Distribution Utilities*, PUC Docket No. E-999/CI-03-869 (June 1, 2004) and *Order Directing Participation in and Implementation of a Wind Integration Study*, PUC Docket No. E-999/CI-05-973, (July 22, 2005). Not every utility that owns transmission in Minnesota and is required to submit this Biennial Report is required to comply with the RES, and those transmission-owing utilities that are not required to comply with the RES are identified in the discussion that follows.

## 8.2 American Transmission Company, LLC

American Transmission Company, LLC began operations on January 1, 2001, the first multi-state electric transmission-only utility in the country. The company is headquartered in Pewaukee, Wisconsin, with approximately 500 employees working in Wisconsin, Michigan, and Washington, D.C.

At least 28 utilities, municipalities, municipal electric companies, and electric cooperatives from Wisconsin, Michigan, and Illinois have invested transmission assets or money for an ownership stake in the company. ATC is responsible for operating and maintaining the transmission lines of its equity owners. It owns over 9,000 circuit miles of transmission lines and wholly or jointly, owns 480 substations in portions of four states – Wisconsin, Michigan, Illinois, and Minnesota. ATC has \$1.8 billion in assets.

ATC is a transmission-owning member of the Midwest Independent Transmission System Operator along with the Midwest Reliability Organization and the ReliabilityFirst Corporation.

More information about the company is available on its web page at:

<http://www.atcllc.com>

### *Transmission Lines*

Of the over 9,000 miles of transmission lines it owns, ATC has only 12 miles of line in Minnesota – a 345 kV line from the Arrowhead Substation in the Duluth area to the St. Louis River, where the line crosses into Wisconsin. The line continues on to the Weston Generating Station near Wausau, Wisconsin. This line will not be energized until early in 2008.

### *Maintenance Expenditures*

Maintenance of the Minnesota line has not been necessary over the past three years because the line has not yet been energized. Nor was any maintenance required in 2007. Clearing was done as part of the construction, and future clearing is on a five-year cycle.

For the next three years (2008, 2009, and 2010), ATC has budgeted \$41,000 for maintenance of this line. ATC estimates its transmission line maintenance budget based on historic expenditures and anticipated future needs. Dollars are budgeted in the following categories for the Arrowhead line.

- Overhead Transmission Line Ground Patrol
- Unplanned Overhead Transmission Line Ground Patrol
  
- Transmission Line Aerial Patrol
- Unplanned Transmission Line Aerial Patrol
  
- Overhead Transmission Line Repair
- Unplanned Overhead Transmission Line Repair

- Transmission Line Maintenance Supervision Engineering
- Right-of-way Vegetation Management
- Unplanned Right-of-way Vegetation Management

### *Rates*

ATC is regulated by the Federal Energy Regulatory Commission (FERC) and must obtain FERC approval of the rates it charges its customers. On July 31, 2000, ATC filed its electric transmission tariff as an initial rate schedule (FERC Docket No. ER00-3316). ATC asked for an effective date of January 1, 2001, to coincide with its first day of commercial operations as a new Transmission Provider, as that term is known in FERC parlance. Comments on ATC's proposal and rates were filed in August, with some commenters taking issue with the manner by which ATC derived its rates or wrote its transmission tariff. In September a second round of comments addressing the initial pleadings was received by FERC. On December 14, 2000, FERC accepted ATC's proposed tariff but rejected the rates, leaving ATC with the ability to render service but not to collect any money. The very next day, ATC filed a revised rate request to ensure it would have an adequate revenue stream (FERC Docket No. ER01-677). Two weeks later, the Commission accepted the revised rates for filing but set the matter for investigation and hearing in a full rate case.

While this case went through its discovery and data request phase during 2001, the company came to the conclusion that relying on an historical time period for a snapshot of its operating costs, revenues, and investment would not support its ever-growing capital expansion plan demanded by its customers. Consequently, it filed a rate proposal that used a projected annual cost of service, but with a true-up mechanism that equally protected ATC and its customers from errant forecasts (FERC Docket No. ER01-1577). On June 1, 2001, this proposal was also accepted for filing and set for hearing, and consolidated with the ongoing rate case. Fruitful settlement negotiations ensued, and a pair of settlement agreements were signed and submitted to FERC for approval. The first dealt with the phase-in of revenue requirements among the large Balancing Authority utilities that comprise ATC (whose existing rates were variously higher and lower than ATC's calculated average rates). The second dealt with tariff and rate issues of a general nature. FERC approved the pair of settlement agreements on November 7, 2001.

In the summer of 2003, the company came to the conclusion that it was not enough to have a forward-looking rate period for its compensation. ATC petitioned FERC for permission to include a current return on its construction work in progress (CWIP) as well as current recovery of so-called "pre-certification expenses (FERC Docket No. ER04-108). Pre-certification costs are incurred in securing state approval to build transmission lines and substations, and they are usually recovered over the life of the facilities, through depreciation expense. While proposing these changes, ATC pointed out it was not trying to earn more money on its transmission services, but only improving its cash flow, which would assist in financing a ten-year projected \$3,400,000,000 capital expansion program. On December 29, 2003 the Commission accepted ATC's tariff revisions for filing, and established the usual investigation and hearing procedures. After settlement discussions proved successful, ATC submitted a settlement agreement on March 26, 2004, which was approved May 6, 2004.

ATC had been a Transmission Provider for only thirteen months, from January 1, 2001, to February 1, 2002, when the Midwest Independent Transmission System Operator (MISO) took over control of transmission operations in the ATC service area. With the commencement of transmission operations by MISO on February 1, 2002, ATC turned over the administration of its transmission service agreements (both network service and point-to-point service) to MISO. As a result, ATC became a Transmission Owner in a Regional Transmission Organization that stretches from western Pennsylvania to eastern Montana. Through an informal understanding with the Midwest ISO, ATC invoices its customers for network integration transmission service, and MISO remits ATC's share of revenue derived from regional point-to-point transmission services, as well as scheduling and dispatch services.

### ***Renewable Energy Standard Milestones***

American Transmission Company owns only twelve miles of transmission line in Minnesota and serves no load in the state. ATC does not fall within the definition of those utilities that are required to comply with the RES under the definition of "electric utility" in Minnesota Statutes § 216B.1691.

## **8.3 Dairyland Power Cooperative**

Dairyland Power Cooperative, a Touchstone Energy Cooperative, was formed in December 1941. A generation and transmission cooperative, Dairyland provides the wholesale electrical requirements to 25 member distribution cooperatives and 19 municipal utilities in Wisconsin, Minnesota, Iowa and Illinois. Today, the cooperative's generating resources include coal, hydro, wind, natural gas, landfill gas and animal waste. More information about Dairyland Power Cooperative is available at:

<http://www.dairynet.com>

### ***Transmission Lines***

Dairyland delivers electricity via more than 3,100 miles of transmission lines and nearly 300 substations located throughout the system's 44,500 square mile service area. Dairyland has the following transmission facilities in Minnesota:

#### **Dairyland Transmission Lines**

<b>&lt;100 kV</b>	<b>100-199 kV</b>	<b>200-299 kV</b>	<b>&gt;300 kV</b>	<b>DC</b>
401.07	148.0	0	0	0

### ***Maintenance Expenditures***

Dairyland does not record specific maintenance costs for transmission lines. Dairyland's budget process software was developed around cost center budgeting. The budgets are built by assigning budget dollars first by department (cost center), then O&M versus capital, then by cost element (labor, expense, transportation, etc.). The dollars are not budgeted by line number or section, nor by line versus by substation. In some cases, cost centers cross state lines so the

dollars are not even budgeted by state. The maintenance department cost centers that operate in Minnesota also operate in Iowa and those budgeted dollars are not separated by state. Nor does Dairyland budget for transmission line maintenance according to voltage of the lines.

While Dairyland does not budget specifically for maintenance, it does focus on proactive maintenance to ensure a reliable system at all times. Dairyland recognizes that in order to provide reliable, economic service to its customers, maintenance needs to be a priority and resources must be available to conduct necessary maintenance. Dairyland does on an ongoing basis rebuild and upgrade lines and substations to maximize performance. Those types of costs are included in capital budgets.

Budgets are developed at Dairyland by relying on historic information and knowledge of anticipated upgrades and rebuilds. System performance is monitored annually and results have shown that Dairyland's maintenance efforts have been adequate. Dairyland will continue to undertake such maintenance as is required to ensure the system operates as required.

### ***Renewable Energy Standard Milestones***

Dairyland is on course to meet the Minnesota Renewable Energy Standard milestones over the upcoming years, culminating in a 25% renewable by 2025 goal. The following table shows the amount of renewable energy required and the incremental wind additions required to attain that level.

### **Dairyland RES Needs**

	Forecasted DPC MN Retail Sales	% of MN Retail Sales adding of renewable energy to meet MN RES	Additional Renewable Energy needed to meet MN RES	Wind Capacity Factor used at DPC	Nameplate capacity of wind needed to meet MN RES	Incremental Wind Additions
Year	MWh	%	MWh	%	MW	MW
2007	777,760	7%	54,443	35%	18	base
2012	941,858	12%	113,023	35%	37	19
2016	1,002,647	17%	170,450	35%	56	19
2020	1,062,675	20%	212,535	35%	69	14
2025	1,136,760	25%	284,190	35%	93	23
					<b>Total Add.</b>	75

Dairyland presently has approximately 17 MW of nameplate wind capacity to supply 7% of its Minnesota retail sales in 2007. As the Table shows, Dairyland will need to add about 19 MW of wind generation between now and 2012 to meet the 2012 milestone of 12% and additional amounts over upcoming years for a total of 75 additional megawatts by 2025.

Dairyland plans its Wisconsin, Minnesota, Iowa and Illinois renewable energy requirements on a system-wide basis. Renewable energy projects are evaluated on economics, size and location. The renewable energy credits from the projects are assigned on an as-needed basis to the various state renewable energy requirements. Therefore, the renewable energy credits from a wind farm

in Minnesota or from a landfill gas to energy project in Wisconsin will be used to meet needs in Wisconsin, Minnesota, Iowa or Illinois. It is possible that Dairyland could construct a renewable resource in Minnesota that Dairyland is relying on for the purpose of meeting renewable energy mandates in other states in its service territory such as Wisconsin and Illinois.

As far as additional transmission infrastructure required to ensure compliance with the RES milestones, the items identified in this Report in the Southwest Zone will help ensure compliance. However, Dairyland is aware that MISO, in its Group 5 System Impact Study, identified numerous transmission constraints in the region due to insufficient transmission outlet. This has resulted in a number of potential developers not being able to enter into interconnection agreements with transmission owners. One of the factors hindering development of additional transmission infrastructure is the lack of a clear governmental policy on cost recovery.

## 8.4 East River Electric Power Cooperative

East River Electric Power Cooperative (“East River”), headquartered in Madison, South Dakota, is a wholesale electric power supply and transmission cooperative serving 20 rural distribution electric cooperatives and one municipally-owned electric system, which in turn serve more than 86,000 homes and businesses. East River’s 36,000 square mile service area covers the rural areas of 41 counties in eastern South Dakota and nine counties in western Minnesota.

Two of East River’s member systems have service areas entirely in western Minnesota and one member system has service areas in both eastern South Dakota and western Minnesota. The remaining seventeen member systems have service areas entirely in eastern South Dakota. Approximately 7,600 of the 86,000 consumers served by East River’s 21 member systems are located in Minnesota. Additional information about East River is available at:

<http://www.eastriver.coop>

### *Transmission Lines*

East River delivers electricity via approximately 2,600 miles of transmission lines and 215 substations located throughout the system’s 36,000 square mile service area in eastern South Dakota and western Minnesota. East River has the following transmission facilities in Minnesota:

#### East River Electric Power Cooperative Transmission Lines

<100 kV	100-199 kV	200-299 kV	>300 kV	DC
158.13	45.74	0	0	0



***Maintenance Expenditures***

East River's transmission line maintenance program includes scheduled line inspections (both aerial and ground), pole testing, vegetation management and other maintenance activities. East River's transmission system has a high level of reliability and minimal deficiencies indicating an effective and adequate transmission line maintenance program with reasonable maintenance expenditures.

The table below shows the expenditures East River has made for the past few years and the amounts budgeted for the upcoming three year period for maintenance of its transmission lines in both South Dakota and Minnesota.

**East River Electric Power Cooperative Transmission Line Maintenance Expenditures**

<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
\$475,098	\$535,419	\$542,905	\$494,048	\$563,253	\$579,024	\$595,237

East River does not track transmission line maintenance expenditures by state. However, approximately 10% of East River's transmission system is located within Minnesota so a rough estimation could be made that approximately 10% of the expenditures above are for transmission lines in Minnesota.

***Renewable Energy Standard Milestones***

East River does not directly own any generating assets. Instead East River's power comes from Western Area Power Administration (Western) and Basin Electric Power Cooperative (Basin Electric). Approximately 28% of East River's power supply is hydroelectric power from Western Area Power Administration and the remainder is from Basin Electric's generating resources. East River is a member/owner of Basin Electric and has a supplemental all requirements power supply contract with Basin Electric which requires East River to purchase all of its power above its Western power supply allocation from Basin Electric. East River will work with Basin Electric to meet East River's Minnesota Renewable Energy Standards milestones.

Basin Electric presently has a total of 136 MW (nameplate capacity) of renewable energy generation. Basin Electric's renewable energy generation consists of the following:

<b>Facility</b>	<b>Nameplate Capacity (MW)</b>	<b>Location</b>	<b>Power Purchase Agreement/ Basin Owned</b>
Hyde County Project	40	Highmore, SD	Power Purchase Agreement
Edgeley/Kulm Project	40	Edgely, ND	Power Purchase Agreement
Wilton Project	49.5	Bismarck, ND	Power Purchase Agreement
Chamberlain Project	2.6	Chamberlain, SD	Basin Owned
Minot Project	2.6	Minot, ND	Basin Owned
Rosebud Project	0.75	Rosebud Sioux Indian Reservation, SD	Power Purchase Agreement
Pipestone Project	0.75	Pipestone, MN	Power Purchase Agreement

Additionally Basin Electric is actively pursuing additional renewable energy purchases and developing new renewable generation assets that could be utilized to meet East River's RES requirements.

## 8.5 Great River Energy

Great River Energy ("GRE") is a generation and transmission electric cooperative headquartered in Elk River, Minnesota. GRE provides electrical energy and related services to 28 member distribution cooperatives in Minnesota and Wisconsin. These member cooperatives distribute electricity to more than 600,000 homes, businesses and farms. The service territories of GRE's 28 members stretch from the southwest corner to the northeast corner of Minnesota, with one member serving a small part of northwestern Wisconsin. More information about Great River Energy is available at:

<http://www.greatriverenergy.com>

### *Transmission Lines*

GRE has the following transmission lines in Minnesota:

#### **GRE Transmission Lines**

<b>&lt;100 kV</b>	<b>100-199 kV</b>	<b>200-299 kV</b>	<b>&gt;300 kV</b>	<b>DC</b>
2943.07	427.95	522.93	135.33	435.85

### *Maintenance Expenditures*

Great River Energy (GRE) has focused on providing reliable service to its 28 distribution cooperative members. In order to meet its customers' expectations, GRE has implemented several maintenance programs that include:

- A vegetation management program that allows GRE to proactively address both vegetation issues as well as structural issues before they have an impact on transmission reliability. GRE conducts aerial patrols of transmission lines rated 115 kV and above on a monthly basis. Facilities rated below 115 kV are patrolled on a bi-monthly basis.
- Infrared scans are done within substations and breaker stations on an annual basis for hot spots. Transmission switches are infrared scanned every other year.

Other Practices include:

- Identification of locations prone to galloping either through eye witness accounts or through relay location analysis, airflow spoilers are routinely installed.
- Arrester assemblies are routinely installed when changing out lightning damaged insulators.
- Pole reinforcement with steel channel is used to extend pole life.

In addition to aerial patrols, GRE staff performs a thorough analysis of all transmission outages to determine the cause of the outage. This effort usually requires field personnel to patrol a line section to determine the cause of the outage and if necessary make repairs.

In addition to line maintenance, GRE's substation maintenance plays an integral role in system reliability. GRE's maintenance programs include:

- Laser imaging performed to identify SF6 gas leaks.
- Dissolved gas analysis performed annually on all transformers and twice per year on transformer 100 MVA and above.
- Motor operated switch maintenance is performed twice per year.
- Breaker maintenance is performed every two years on a four cycle rotational basis.
- Transformer maintenance performed on a six year cycle.

GRE utilizes a database to store historical data trending and maintenance notification based on data entered during monthly substation checks. Finally, GRE has implemented a process for Delivery Point Service Improvement (DPSI) and projects are budgeted on an annual basis. The annual budget is approximately \$1 million.

A summary of expenditures that GRE has made on transmission line maintenance over the last few years and projected for three years into the future are shown in the table below.

**GRE Transmission Maintenance Expenditures**

Transmission Asset	Miles of transmission in Minnesota	Maintenance Costs (000)						
		Historical			Current	Future		
		2004	2005	2006	2007	2008	2009	2010
AC total	4029.28	\$4,274,686	\$5,409,175	\$6,455,469	~\$6M	~\$6.25M	~\$6.5M	~\$6.75M
DC	435.85	\$326,042	\$1,391,338	\$778,001	~\$485K	~\$450K	~\$475K	~\$500K

**Renewable Energy Standard Milestones****Interconnection and Transmission Arrangements**

GRE desires that potential energy resources, both renewable and conventional, have Network Resource Interconnection Service (NRIS) from MISO to maximize the availability of the resources and to minimize congestion costs. Resources with NRIS are recognized by MISO as deliverable to loads within the MISO footprint. GRE may also make firm transmission service reservations (TSRs) on its own to provide additional assurances of availability and congestion cost management. Resources with firm TSRs are recognized by MISO as deliverable to loads at designated point(s) of delivery. GRE regards firm TSRs as desirable for resources with NRIS and essential for resources that do not have NRIS.

**Current Renewable Energy Generation Resources**

As of September 1, 2007, GRE owns or has under contract a total of more than 154 MW (nameplate capacity) of renewable-qualifying generation. GRE's wind resources consist of the following:

Facility	Nameplate Capacity (MW)	1st Commercial Operation Year	Location
Chandler Hills	1.98	1999	Murray County, MN
Champepadan	1.98	2001	Murray County, MN
Moulton	1.98	2001	Murray County, MN
McNeilus	5.7	2003	Dodge County, MN
Christoffer	5.7	2003	Jackson County, MN
Trimont Area Wind Farm	100.5	2005	Martin and Jackson Counties, MN
<b>TOTAL MW</b>	118.0		

Each of the projects listed above, with the exception of the Trimont Area Wind Farm, has a TSR providing deliverability to GRE loads. The Trimont Area Wind Farm utilizes the network transmission service of GRE's natural gas fueled Lakefield Junction Station since both facilities interconnect the bulk transmission system (345 kV) at the same location.

In 2007 Great River Energy will add another 100 MW of wind generation to its portfolio through the Prairie Star Wind Farm currently under construction in Mower County, Minnesota. The Prairie Star Wind Farm has NRIS.

Great River Energy's biomass resources consist of the following:

<b>Facility</b>	<b>Facility Type</b>	<b>Nameplate Capacity (MW)</b>	<b>1st Commercial Operation Year</b>	<b>Location</b>
Elk River Station	Refuse-derived fuel (RDF)	33.0	1989	Sherburne County, MN
Elk River Municipal Landfill	Landfill gas	3.2	2002	Sherburne County, MN
Haubenschild	Anaerobic Digester	0.15	2001	Isanti County, MN
Northern Plains Dairy	Anaerobic Digester	0.26	2003	Nicollet County, MN
<b>TOTAL MW</b>		36.6		

### **Potential Renewable Energy Generation Resources**

With the addition of Prairie Star Wind Farm, GRE has sufficient resources to meet its renewable energy obligations through 2011. However, GRE is contemplating making additional renewable energy purchases in advance of its need for 2012 and beyond.

GRE is in discussions with several entities that proposed projects through GRE's 2005 Request for Proposals (RFP) for Renewable Power Supply Resources. In addition, GRE issued another RFP in May, 2007 seeking an additional 300-600 GWh/year of renewable energy.

## **8.6 Hutchinson Utilities Commission**

The City of Hutchinson is located 55 miles west of Minneapolis in McLeod County and has a population of approximately 14,000 people. The area is expected to continue to grow over the next decade. The Hutchinson Utilities Commission was established in 1936 by the City of Hutchinson as a municipal public utilities commission under Minn. Stat. §§ 412.321 et seq., and added a municipal natural gas operation in 1960. HUC provides electricity and natural-gas services to commercial and residential customers in Hutchinson. Its largest commercial customers are 3M and Hutchinson Technologies, Inc.

Additional information is available at:

<http://www.ci.hutchinson.mn.us/util.htm>

### ***Transmission Lines***

Hutchinson Utilities Commission owns 8 miles of a 69 kV transmission line and 9 miles of a 115 kV line in McLeod County.

### ***Maintenance Expenditures***

The table below shows the expenditures Hutchinson Utilities Commission has made for the past few years and the amounts budgeted for the upcoming three year period for maintenance of its transmission lines. HUC's normal practice is to develop one O&M budget for both transmission and distribution, without separating them out. The figures below were calculated by determining what amount of its total dollars in service for transmission and distribution is attributable to transmission and then applying that percentage of the overall expenditures or budget to transmission. The budgets are reasonable because historically the amounts have been sufficient to maintain the system.

#### **Hutchinson Utilities Commission Transmission Maintenance Expenditures**

<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
\$43,242	\$44,579	\$45,958	\$47,379	\$48,845	\$50,310	\$51,819	\$53,374

### ***Renewable Energy Standard Milestones***

Municipal utilities do not fall within the definition of electric utilities that have to comply with the Renewable Energy Standards so Hutchinson Utilities Commission is not obligated to meet the RES requirements. Missouri River Energy Services and Heartland Consumer Power District are the supplemental energy suppliers to MMU and are required to meet the RES for the energy they each provide to MMU.

## **8.7 Interstate Power and Light Company d/b/a Alliant Energy**

Alliant Energy is an energy service provider with subsidiaries serving approximately 1 million electric and over 400,000 natural gas customers. Interstate Power and Light, a subsidiary of Alliant Energy, is an Iowa utility serving 526,000 electric and 232,000 natural gas customers, and the company has headquarters in Cedar Rapids, Iowa. Alliant Energy is headquartered in Madison, Wisconsin.

Interstate Power and Light has accepted an offer from International Transmission Company for the sale of IP&L's transmission assets. The sale will include the approximately 6,800 miles of >34.5kV transmission line. Interstate Power and Light's transmission assets in Minnesota are included in the sale. More information can be found at Alliant's web site at

www.alliantenergy.com, and information regarding International Transmission Company can be found at www.itctransco.com.

### ***Transmission Lines***

Interstate Power and Light owns approximately 1,120 miles of transmission line in the state of Minnesota. The total miles of Minnesota transmission lines are represented in the table below.

#### **Interstate Power and Light Transmission Lines**

<b>&lt;100 kV</b>	<b>100-199 kV</b>	<b>200-299 kV</b>	<b>&gt;300 kV</b>	<b>DC</b>
821.43	277.82	0	19.77	0

### ***Maintenance Expenditures***

Interstate Power and Light's transmission budgets for the past three years and current year expenditures are provided in the table below. The 2008-2010 expenditures are estimates only. Future maintenance spending will be impacted by the aforementioned sale of IP&L transmission assets to ITC.

#### **Interstate Power and Light Transmission Maintenance Expenditures**

<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008<sup>1</sup></b>	<b>2009<sup>2</sup></b>	<b>2010<sup>2</sup></b>
\$230,580	\$306,406	\$240,047	\$221,194	\$255,882	\$263,558	\$271,465

<sup>1</sup>Budget estimate amount based on average of 2004-2006 expenditures

<sup>2</sup>Budget amount scaled from 2008 estimate

The total amount of transmission line maintenance costs built into Interstate Power & Light Company's last rate case in 1994 is the figure from the table above - \$230,580, which constitutes \$111,679 for transmission line maintenance and \$118,901 for transmission substation maintenance.

The maintenance expenditures listed are based on costs for transmission line maintenance, system protection corrective maintenance, system protection preventative maintenance, line clearing, and substation maintenance.

IP&L has multiple programs designed to maintain reliable and safe electrical service to its customers, including predictive maintenance tests and inspections of substations, vegetation management, and transmission inspection and repair programs. IP&L employs a scheduled maintenance policy for vegetation management for its transmission system. Transmission lines, after initial clearing, are maintained according to the following schedule:

3 years ~ After the original tree clearing has been completed, all circuits shall be treated with herbicide to prevent re-sprouting of all undesirable species within the right-of-way.

6 years ~ After the original clearing has taken place, Alliant Energy will selectively treat or remove all undesirable species within the rights-of-way and trim all trees vertical to the edge of the right-of-way.

In addition to the previously mentioned expenditures, IP&L capital expenditures serve to defer maintenance costs and improve system reliability. For example, in 2007 IP&L added damping devices to a significant number of transmission lines in Minnesota. Estimated 2007 installed cost for adding line dampening devices is approximately \$2,500,000. In addition to damping devices, IP&L has adopted the installation of T-2 conductor to prevent line galloping. T-2 design minimizes galloping by “rolling” conductors together to create a number of nodes along the conductor path which prevents ice formation and ultimately eliminates galloping.

### ***Renewable Energy Standard Milestones***

Interstate Power and Light currently has approximately 275 MW of renewable generation under contract in Iowa and Minnesota and has recently filed with the Iowa Utilities board to install an additional 200 MW of wind generation in Iowa. IPL’s renewable energy is prorated between its Iowa and Minnesota requirements based on state retail sales. After prorating and subtracting state requirements, Iowa will remain in excess and Minnesota will become short as future requirements grow. However, as a whole, IPL will remain in excess. Given the renewable energy credit transaction opportunity created by Minnesota renewable rules and the Midwest Renewable Energy Tracking System (M-RETS), Interstate Power and Light should be able to take advantage of its excess Renewable Energy Credits (RECs) in Iowa to support its commitment to Minnesota’s Renewable Energy Standard. IPL-Minnesota would need to pay IPL-Iowa, likely through a third party vendor such as M-RETS, for the excess RECs needed to meet compliance. At present, the details of such an M-RETS transaction have not been finalized.

IP&L is a transmission owning member of the Midwest ISO. Currently, IP&L has approximately 1,000 MW worth of new wind generation intending to connect to the IP&L control area in Minnesota and Iowa as part of the MISO’s Group 5 Study, and the MISO has recently released its study results. The Study provides evaluation of the impact of this new generation and identifies needed system upgrades. A significant number of transmission upgrades to the IP&L transmission system will be required to enable the interconnection of the generation. The upgrades are extensive and will require several years to complete the upgrades; these upgrades will assist in providing the infrastructure necessary to comply with the renewable energy mandate. IP&L will continue to work with renewable energy developers and the MISO to ensure that the IP&L’s transmission system in Minnesota and Iowa is safe, reliable, and capable of providing sufficient transmission capacity to accommodate the RES.

## **8.8 L&O Power Cooperative**

L & O Power Cooperative (“L&O”), headquartered in Rock Rapids, Iowa, is a wholesale electric power supply and transmission cooperative serving three rural distribution electric cooperatives. These member cooperatives in turn serve more than 5,600 homes and businesses across Rock and Pipestone counties in southwest Minnesota, and Lyon and Osceola counties in northwest



Iowa. Approximately 2,700 of the total 5,600 total consumers served are located in Minnesota. Additional information about L&O is available at:

[www.landopowercoop.com](http://www.landopowercoop.com).

### ***Transmission Lines***

L&O delivers wholesale electricity via approximately 193 miles of transmission lines and 16 substations located throughout the system's four county service area in southwestern Minnesota and northwestern Iowa. L&O has the following transmission facilities in Minnesota:

#### **L&O Power Cooperative Transmission Lines**

<b>&lt;100 kV</b>	<b>100-199 kV</b>	<b>200-299 kV</b>	<b>&gt;300 kV</b>	<b>DC</b>
44.52	8.32	0	0	0

### ***Maintenance Expenditures***

L&O's transmission line maintenance and reliability plans include scheduled line inspections, pole testing, vegetation management and other maintenance activities. This transmission system has a high level of reliability and minimal deficiencies indicating an effective and adequate transmission line maintenance program with reasonable maintenance expenditures.

The table below shows the estimated expenditures L&O has made for the past few years for maintenance on transmission lines located in Minnesota and estimated budgets for upcoming years. These are estimated since L&O does not track maintenance costs by state. A proportionate line mile share of the total maintenance costs have been used here.

#### **L&O Power Cooperative Transmission Line Maintenance Costs**

<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
\$20,935	\$21,375	\$29,940	\$26,200	\$29,100	\$30,600	\$32,000

### ***Renewable Energy Standard Milestones***

L&O does not directly own any generating assets. Instead, L&O has power supply contracts with Western Area Power Administration (Western) and Basin Electric Power Cooperative (Basin Electric) for its total requirements. Approximately 27% of L&O's power supply is hydroelectric power from Western Area Power Administration and the remainder, approximately 73%, is from Basin Electric's generating resources. L&O is a member/owner of Basin Electric and has a supplemental all requirements power supply contract with Basin Electric which requires L&O to purchase all of its power above its Western power supply allocation from Basin Electric. L&O will work closely with Basin Electric to meet L&O's Minnesota Renewable Energy Standards milestones.

Basin Electric presently has a total of 136 MW (nameplate capacity) of renewable energy generation. Basin Electric's renewable energy generation consists of the following:

<b>Facility</b>	<b>Nameplate Capacity (MW)</b>	<b>Location</b>	<b>Power Purchase Agreement/ Basin Owned</b>
Hyde County Project	40	Highmore, SD	Power Purchase Agreement
Edgeley/Kulm Project	40	Edgely, ND	Power Purchase Agreement
Wilton Project	49.5	Bismarck, ND	Power Purchase Agreement
Chamberlain Project	2.6	Chamberlain, SD	Basin Owned
Minot Project	2.6	Minot, ND	Basin Owned
Rosebud Project	0.75	Rosebud Sioux Indian Reservation, SD	Power Purchase Agreement
Pipestone Project	0.75	Pipestone, MN	Power Purchase Agreement

Additionally Basin Electric is actively pursuing additional renewable energy purchases and developing new renewable generation assets that could be utilized to meet L&O's RES requirements.

## **8.9 Marshall Municipal Utilities**

Marshall Municipal Utilities (MMU) has been providing electric and water utility services to the City of Marshall for over 110 years. Marshall is a community of approximately 13,000 people located in Lyon County in Southwest Minnesota approximately 30 miles east of the South Dakota border and 50 miles north of the Iowa border. MMU is the second largest municipal utility in the state in terms of retail energy sales at over 591,000 MWhs sold in 2005. MMU serves over 6,400 customers and has a peak demand of more than 84 megawatts. More information about MMU is available at:

<http://www.marshallutilities.com/about>

### ***Transmission Lines***

Marshall Municipal Utilities owns 18.1 miles of 115 kV transmission line.

### ***Maintenance Expenditures***

The table below shows the expenditures Marshall Municipal Utilities has made for the past few years and the amounts budgeted for the upcoming three year period for maintenance of its transmission lines. MMU's normal practice is to develop one O&M budget for both transmission and distribution, without separating them out. The figures below were calculated by determining what amount of its total dollars in service for transmission and distribution is attributable to transmission and then applying that percentage of the overall expenditures or budget to transmission. The budgets are reasonable because historically the amounts have been sufficient to maintain the system.

**Marshall Municipal Utilities Transmission Maintenance Expenditures**

2003	2004	2005	2006	2007	2008	2009	2010
\$61,616	\$63,522	\$65,487	\$67,512	\$69,600	\$71,688	\$73,839	\$76,054

***Renewable Energy Standard Milestones***

Municipal utilities do not fall within the definition of electric utilities that have to comply with the Renewable Energy Standards so Marshall Municipal Utilities is not obligated to meet the RES requirements.

**8.10 Minnesota Power**

Minnesota Power, a division of ALLETE, is an investor-owned utility headquartered in Duluth, Minnesota. Minnesota Power provides electricity in a 26,000-square-mile electric service territory located in northeastern Minnesota. Minnesota Power supplies retail electric service to 141,000 retail customers and wholesale electric service to 16 municipalities. More information is available on the company's web page at:

<http://www.mnpower.com>

***Transmission Lines***

Minnesota Power has the following transmission lines in Minnesota:

**Minnesota Power Transmission Lines**

<100 kV	100-199 kV	200-299 kV	>300 kV	DC
0.22	1,290.3	605.18	7.79	0

***Maintenance Expenditures***

The table below shows the expenditures Minnesota Power has made for the past few years and the amounts budgeted for the upcoming three year period.

**Minnesota Power Transmission Maintenance Expenditures**

2004	2005	2006	2007	2008	2009	2010
\$640,000	\$542,000	\$753,000	\$1,562,000	\$2,047,000	\$1,505,000	\$1,538,000

Regular maintenance is completed for reliability reasons and to extend the life of transmission infrastructure. Maintenance budgets reflect line work, vegetation management, cleaning, painting, and inspection work. Annual inspection results drive maintenance performed. Vegetation management efforts were increased substantially in 2007. Major painting work was budgeted for in 2007 and 2008.

Minnesota Power estimates that the total amount of maintenance costs built in to Minnesota rates in its last rate case in 1994 is \$917,402. That amount was determined by use of the following mathematical equation:

Minnesota Portion = 1994 FERC Form 1 maintenance costs of overhead transmission lines divided by 1994 FERC Form 1 total transmission O&M costs times the total transmission O&M allocated to the Minnesota retail jurisdiction.

$$(\$972,671/\$3,107,448) \times \$2,930,876 = \$917,402$$

***Renewable Energy Standard Milestones***

Currently, Minnesota Power has approximately 380 MW of renewable generation either in place or planned to be constructed consisting of biomass, hydro and wind generators. These renewable energy sources include hydro generation that has been in operation for multiple decades as well as biomass generation and the new 50.6 MW Oliver County I Wind Facility located near Center, North Dakota that began commercial operation in December 2006. In addition, projects that are either under construction or have contracts that have been executed and approved by the Commission include the 2.5 MW Wing River Wind C-BED project, the 30 MW Bear Creek I Wind C-BED project and the 25 MW Taconite Ridge I Wind Energy Center project, which is owned and being built by Minnesota Power.

The Midwest Independent System Operator (MISO) has procedures in place to determine requirements associated with the interconnection and delivery of energy from new generators, including renewable generators, which can be found under Attachment R or Attachment X of the MISO Open Access Transmission Tariff.

Below is a list of renewable energy projects under development or under contract by MP and where they are at in the MISO generation interconnect process.

**Oliver County II**

A generator interconnection agreement for the 48 MW Oliver County II project has been applied for through MISO and the Large Generator Interconnection Agreement (LGIA) is currently being negotiated. Transmission service is being requested over the Square Butte DC Line (a +/- 250 kV DC Line between Center, N.D. and Hermantown, Minnesota, owned by Square Butte)

and the System Impact Study and Facility Study were combined and have been completed. (The DC Line is not a MISO facility; however the process used to obtain transmission service from Square Butte is similar to the MISO process). 15 MW of firm transmission service was granted and the balance of the request is under study. Oliver County II is expected to become operational in December 2007.

### **Wing River Wind (C-BED)**

Minnesota Power entered into an interconnection agreement with the developer and this single 2.5 MW turbine facility has been connected to Minnesota Power's 34.5 kV distribution system. With the interconnection process completed, the Wing River Wind facility has been commissioned and began delivering energy to MP in July 2007.

### **Bear Creek I Wind Partners (C-BED)**

This 30 MW wind facility is to be connected to Minnesota Power's 115 kV system and therefore subject to the MISO process. Bear Creek I is currently being reviewed by MISO.

### **Taconite Ridge I Wind Energy Center (Minnesota Power owned)**

Minnesota Power acquired rights to an existing LGIA associated with the Taconite Ridge site at United States Steel's Minntac Mine in Mountain Iron, Minnesota. Minnesota Power is working with MISO to determine interconnection requirements for this project.

With the existing MP renewable generation and the facilities listed above, MP expects to meet the 2012 renewable milestone by the end of 2008. However, additional renewable generation will be required to meet the 2016, 2020 and 2025 milestones under the RES statute. Minnesota Statutes § 216B.1691. Minnesota Power is working with other Minnesota utilities to determine what transmission will be required to allow it and all other Minnesota utilities to deliver energy from their renewable resources and meet the upcoming RES milestones. MP and its developers will comply with the MISO process to obtain generation interconnection agreements and, if necessary, transmission service agreements to deliver the renewable energy from these and future renewable generation additions.

## **8.11 Minnkota Power Cooperative**

Minnkota Power Cooperative, Inc. (Minnkota) is a regional generation and transmission cooperative serving 11 member-owner distribution cooperatives in eastern and northwestern Minnesota and northeastern North Dakota. Minnkota's service area is approximately 34,500 square miles over the two states. Minnkota is also the operating agent for the Northern Municipal Power Agency (NMPA). Together Minnkota and the NMPA comprise the Joint System. Additional information about Minnkota is available at:

<http://www.minnkota.com>

***Transmission Lines***

The Joint System owns 1,359.63 miles of transmission line in Minnesota and 1,582.46 miles in North Dakota. The miles of Minnesota transmission lines are shown in the following table:

**Joint System Transmission Lines**

<b>&lt;100 kV</b>	<b>100-199 kV</b>	<b>200-299 kV</b>	<b>&gt;300 kV</b>	<b>DC</b>
966.95	143.69	248.99	0	0

***Maintenance Expenditures***

The table below shows the expenditures the Joint System has made for the past few years and the amounts budgeted for the upcoming three year period.

**Joint System Transmission Maintenance Expenditures**

<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
\$4,231,337	\$4,176,494	\$5,288,253	\$4,849,210	\$5,093,970	\$5,221,320	\$5,351,860

Minnkota's transmission department is responsible for the operation and maintenance of the Joint System's entire 2,942 miles of transmission lines in Minnesota and North Dakota. The figures reported above includes wages for 28 full-time employees. It also includes property taxes and wheeling expenses, which total about \$1 million apiece, \$2 million total. Minnkota does not have the figures broken out specifically for Minnesota but based on the number of miles of transmission lines in each state, less than 50% is probably incurred in Minnesota over time.

Since the budgets for the previous years have been reasonable and adequate, the future budgets are determined by escalating the previous year's budget by 2.5%.

***Renewable Energy Standard Milestones***

In February of 2007, Minnkota entered into a 25-year Power Purchase Agreement (PPA) with Langdon Wind, LLC, a wholly owned subsidiary of FPL Energy (Florida Power & Light), for a project that has come to be known as the Langdon Wind Project. While the specific terms of the PPA are the subject of confidentiality provisions, the Agreement calls for the purchase of electric energy generated from 66 General Electric 1.5 MW wind turbines that are to be erected south of Langdon, North Dakota, and in commercial operation by the end of December 2007.

As of the date of this report, transmission, tower and road easements have been secured for the Langdon Wind Project, access roads are built and improved, project materials are arriving on a regular basis, and the first tower and turbine have been erected. When operational, this project will supply 20% of Minnkota and Northern Minnesota Power Agency's Minnesota load from renewable resources. As for additional renewable energy resources, Minnkota continues to receive responses from its 2006 request for proposals for renewable generation projects. While the immediate need to meet the benchmarks imposed by the Minnesota renewable energy

standard will soon be met through the Langdon project, Minnkota is actively pursuing an additional 150 MW of renewable power that will likely be derived in large part from the wind resource within the State of North Dakota.

In addition, Minnkota owns two wind turbines near Petersberg, North Dakota, and Valley City North Dakota (900 kW each). Further, Minnkota has entered into PPAs for renewable generation from new small-scale projects including the following: Polk County Minnesota Solid Waste Facility (400 kW PPA signed in April, 2007 as to a garbage incineration facility); the Fargo, North Dakota City Landfill (925 kW power purchase agreement signed in March, 2007 as to a methane generator); and the Grand Forks Truss Company's waste wood generator (100 kW PPA).

## **8.12 Missouri River Energy Services**

MRES began in the early 1960s as an informal association of northwest Iowa municipalities with their own electric systems that decided to coordinate their efforts in negotiating the purchase of power and energy from the United States Bureau of Reclamation of the United States Department of the Interior ("USBR"). MRES was established as a body corporate and politic organized in 1965 under Chapter 28E of the Iowa Code and existing under the intergovernmental cooperation laws of the states of Iowa, Minnesota, North Dakota, and South Dakota. Municipalities in Minnesota, North Dakota and South Dakota subsequently joined MRES pursuant to compatible enabling legislation in each state.

MRES is comprised of 59 municipally owned electric utilities in the States of Iowa, Minnesota, North Dakota, and South Dakota. The MRES member cities' service territories roughly coincide with the boundaries of the respective incorporated cities. MRES has no retail load, and all of its firm sales are made to municipal or other wholesale utilities. MRES acts as an agent for the Western Minnesota Municipal Power Agency ("WMMPA"), which itself was incorporated as a municipal corporation and political subdivision of the State of Minnesota. WMMPA provides a means for its members to secure, by individual or joint action among themselves or by contract with other public or private entities within or outside the State of Minnesota, an adequate, economical and reliable supply of electric energy. Current membership in WMMPA consists of 24 municipalities, of which 23 are MRES' members located in Minnesota, each of which owns and operates a utility for the local distribution of electricity. More information about Minnesota River Energy can be found at:

<http://www.mrenergy.com>

### ***Transmission Lines***

Missouri River Energy Services has 212.22 miles of 115 kV transmission lines and 10.97 miles of 230 kV transmission line.

### ***Maintenance Expenditures***

The table below shows the expenditures Missouri River Energy Services has made for the past few years and the amounts budgeted for the upcoming three year period. MRES determines its

maintenance budget under an Integrated Transmission Agreement with Otter Tail Power Company so the amount is simply MRES' percentage of the overall budget established by Otter Tail. The budget shows a slight increase each year, which should be sufficient to reflect inflationary increases.

### **Missouri River Energy Services Transmission Maintenance Expenditures**

<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
\$475,737	\$493,657	\$682,605	\$727,349	\$754,618	\$782,861	\$812,165	\$842,570

### ***Renewable Energy Standard Milestones***

MRES operates and purchases the output of two 900 kW and two 950 kW wind turbines on a wind farm located near Worthington, Minnesota, that are owned by Western Minnesota Municipal Power Agency (WMPMA).

MRES has also signed Purchase Power Agreements (PPA) with two projects in Minnesota to purchase renewable wind energy. An 18.7 MW wind project near Marshall, Minnesota, is anticipated to be completed and operational in late 2007 or early 2008. No transmission upgrades are required for this project. A 20 MW wind project near Odin, Minnesota, is anticipated to be in service in 2008. This project also requires no transmission upgrades.

The Worthington wind turbines, the Odin PPA, and the Marshall PPA, when completed and operational, should provide enough energy for MRES to meet or very nearly meet the Renewable Energy Standard (RES) milestone for 2012. MRES is looking at other possible projects, however, no determination has been made at this time so the transmission needs cannot be determined until the future projects are identified.

## **8.13 Northern States Power Company d/b/a Xcel Energy**

Northern States Power Company (NSP) is a public utility organized under the laws of the State of Minnesota, and is a wholly-owned subsidiary of Xcel Energy, Inc., a publicly-traded company listed on the New York Stock Exchange. NSP is headquartered in Minneapolis, Minnesota. Xcel Energy's other utility subsidiaries are Northern States Power – Wisconsin, headquartered in Eau Claire, Wisconsin, Public Service of Colorado, headquartered in Denver, Colorado, and Southwest Public Service Company, headquartered in Amarillo, Texas. NSP provides electricity and natural gas to customers in a service territory that encompasses the Twin Cities, many small towns throughout Minnesota, and also to portions of South Dakota and North Dakota. NSP and NSP – Wisconsin operate an integrated generation and transmission system. More information can be found on Xcel Energy's web page at:

<http://www.xcelenergy.com>

### ***Transmission Lines***

Northern States Power Company owns over 4,500 miles of transmission lines in the state of Minnesota. The miles of Minnesota transmission lines are shown in the following table.



**NSP Transmission Lines**

<100 kV	100-199 kV	200-299 kV	>300 kV	DC
1775.47	1465.69	364.82	1018.07	0

***Maintenance Expenditures***

The transmission maintenance budgets for the previous three years, the current year, and the next three years are listed below. When budgeting for transmission line maintenance, Xcel Energy considers the results of ongoing inspection efforts. Maintenance budgets include money allocated for line work, cleaning, and the inspection work itself. There is also a significant amount of time and money spent on vegetation management. Xcel Energy's transmission system maintains a high level of reliability, evidence of a quality transmission line maintenance budget.

**NSP Transmission Maintenance Expenditures**

2004	2005	2006	2007 (current)	2008	2009	2010
\$4,622,876	\$4,603,858	\$5,823,254	\$6,173,793	\$6,546,519	\$6,765,724	\$6,968,696

The 2010 budget has not been estimated yet and the figure reported is simply an escalation of the previous year's estimate.

The total amount of transmission line maintenance costs built into Xcel Energy's last rate case in Minnesota was \$5,823,254, the figure in the table above for 2006.

***Renewable Energy Standard Milestones***

Xcel Energy currently has approximately 1,230 MW of wind generation existing or under contract and due to come online by the end of 2008. Beyond that number, 85 MW of small "CBED" wind projects, together with 100 MW of output from the NSP-owned Grand Meadows Wind Farm, will bring the Company into compliance with the 2010 RES milestone. This leaves approximately 400 MW of additional wind generation necessary in order to meet the 2012 RES milestone.

Xcel Energy is actively working with the members of the Minnesota Transmission Owners' group to define the transmission necessary for each utility to meet its RES milestones. It is anticipated that the 2012 and all future milestones will be met through this collaboration. For more details on the work being performed jointly by the utilities in the state, please see the RES Report included as Part II of this document.

**8.14 Otter Tail Power Company**

Otter Tail Power Company ("OTP") is a public utility organized under the laws of the State of Minnesota, and is the utility division of Otter Tail Corporation, a company publicly traded on the NASDAQ Stock Market. OTP is headquartered in Fergus Falls, Minnesota. It provides

electricity to approximately 127,000 residential, commercial, and industrial customers throughout Minnesota, South Dakota, and North Dakota, with approximately 58,000 customers in Minnesota. OTP was originally incorporated in 1907, and first delivered electricity in 1909 from the Dayton Hollow Dam on the Otter Tail River. More information can be found on Otter Tail Power's web page at:

<http://www.otpc.com>

### ***Transmission Lines***

OTP has transmission facilities in Minnesota, South Dakota, and Minnesota. The following table summarizes the amount of transmission facilities in each state that are owned by OTP and operated between 41.6 kV and 345 kV.

<b>State</b>	<b>Transmission (Miles)</b>	<b>% of Total</b>
Minnesota	1950.79	36.87
North Dakota	2724.60	51.49
South Dakota	625.64	11.64
<b>Total</b>	<b>5291.03</b>	<b>100.00</b>

OTP has the following transmission lines in Minnesota:

### **OTP Transmission Lines**

<b>&lt;100 kV</b>	<b>100-199 kV</b>	<b>200-299 kV</b>	<b>&gt;300 kV</b>	<b>DC</b>
1335.19	504.06	111.54	0	0

### ***Maintenance Expenditures***

The majority of transmission line maintenance costs for Otter Tail Power Company are for tree-trimming, ground line inspections (checking for structural integrity), and spraying of noxious weeds. OTP administers an annual vegetation management effort that focuses on different parts of the overall transmission system each year. OTP has established a five-year tree trimming cycle for its entire system. As part of this program, OTP has been working primarily with outside contractors to meet its annual goals.

OTP has a similar ground line inspection program as used in the vegetation management program. Outside contractors are hired each year to check a certain number of transmission line structures to verify their structural integrity. The current practice within OTP is to check enough structures each year so that all of the transmission line structures throughout the OTP system are checked within 5 years. In the event that a structure is found defective, a replacement structure is installed to ensure that the transmission line does not have an outage due to a rotten pole.

Another large, but not as significant, transmission line maintenance cost is the control of noxious weeds around transmission lines and substations. Control of weeds around OTP transmission facilities prevents unwanted weeds from spreading into adjacent fields and towns.

Otter Tail Power Company does not track nor forecast transmission line maintenance costs by voltage class or by state. Therefore, in order to estimate the amount spent on Minnesota transmission lines, the total transmission line maintenance costs for the entire system have been proportioned by the amount of transmission OTP owns in Minnesota compared to its entire transmission system (approximately 36.87% of the total OTP-owned transmission). Based on this calculation, the table below shows the expenditures Otter Tail Power Company has made for the past few years and the amounts budgeted for the upcoming three year period.

#### **Otter Tail Power Company Transmission Maintenance Expenditures**

2004	2005	2006	2007	2008	2009	2010
\$337,918	\$866,959	\$918,957	\$1,196,011	\$1,408,636	\$1,299,865	\$1,338,861

The total amount of transmission line maintenance costs built into OTP's last rate case in Minnesota was \$705,512. OTP's last Minnesota rate case was in 1986.

Transmission line maintenance costs for the past three years, the current year, and the next three years are reasonable for a couple of reasons. First, NERC Standards require a vegetation management program and annual transmission line maintenance to ensure that a reliable transmission system is available to consumers so it is necessary to focus on these areas. Second, outside contractors are selected based on a competitive bidding process in order to ensure that OTP is getting the lowest cost resources in maintaining its transmission lines.

#### ***Renewable Energy Standard Milestones***

Otter Tail Power Company is on track to be in compliance with the Renewable Energy milestones. OTP presently obtains energy from a large-scale wind energy facility near Edgeley, North Dakota. A 21 MW wind farm owned by FPL Energy with its output purchased by OTP has been in-service since 2003 and is expected to be in OTP's resource mix for many years.

Otter Tail Power Company and Minnkota Power Cooperative are currently constructing a new 160 MW wind farm near Langdon, North Dakota. This wind farm will have 60 MW allocated to OTP that will be split between OTP ownership (40.5 MW) and OTP power purchase agreement with FPL Energy (19.5 MW). The wind farm is expected to be placed in-service later this year or early 2008 with approximately 35 miles of new 115 kV transmission line to aid in the delivery of this power to the joint OTP/MPC transmission system (Hensel – Langdon 115 kV line).

OTP also has a couple of smaller wind turbines on its system to serve its retail customers. One such installation is near Hendricks, Minnesota. In addition, OTP is currently evaluating several other wind projects in its service territory.

Along with additional energy generated by renewable resources, OTP is expecting that large-scale transmission improvements will be needed as more renewable energy is added to the transmission system, including those identified through the CapX planning efforts.

## 8.15 Rochester Public Utilities

Rochester Public Utilities (RPU), a division of the City of Rochester, Minnesota, is the largest municipal utility in the state of Minnesota. RPU serves over 45,000 electric customers. In 1978, Rochester joined the Southern Minnesota Municipal Power Agency (SMMPA) with City Council approval. Initially, RPU was a full-requirements member with SMMPA controlling all of Rochester's electric power. Today, RPU is a partial requirements member of SMMPA and retains control over its own generating units. All of RPU's load and generation are serviced by the Midwest Independent System Operator (MISO) through its market function. More information about Rochester Public Utilities is available at:

<http://www.rpu.org/about>

### *Transmission Lines*

Rochester Public Utilities owns 40.51 miles of 161 kV transmission line in Minnesota.

### *Maintenance Expenditures*

The table below shows the expenditures Rochester Public Utilities has made for the past few years and the amounts budgeted for the upcoming three year period.

**Rochester Public Utilities Transmission Maintenance Expenditures**

2004	2005	2006	2007	2008	2009	2010
\$10,806.78	\$16,088.25	\$12,941.03	\$14,051	\$14,051	\$14,051	\$14,051

The spending for the last three years and for 2007 covers the costs of tree trimming, pole painting and maintenance, and miscellaneous spending on insulator change outs. The budget for the next three years is based on previous years' experience and is expected to be adequate to cover the costs of tree trimming, pole painting and maintenance, and insulator change outs.

### *Renewable Energy Standard Milestones*

Municipal utilities do not fall within the definition of electric utilities that have to comply with the Renewable Energy Standards so Rochester Public Utilities is not obligated to meet the RES requirements. However, Rochester Public Utilities is actively pursuing investigations into how it may expand its existing renewable programs to gather additional benefits from renewable energy and is participating with the other Minnesota utilities in the studies and other efforts required to achieve the RES milestones.

## 8.16 Southern Minnesota Municipal Power Agency

Southern Minnesota Municipal Power Agency (“SMMPA”) is a not-for-profit municipal corporation and political subdivision of the State of Minnesota, headquartered in Rochester, Minnesota. SMMPA was created in 1977, and has eighteen municipally owned utilities as members, located predominantly in south-central and southeastern Minnesota. SMMPA serves approximately 92,000 retail customers. More information about SMMPA is available at:

<http://www.smmpa.com>

### *Transmission Lines*

Southern Minnesota Municipal Power Agency has the following transmission lines in Minnesota:

#### SMMPA Transmission Lines

<100 kV	100-199 kV	200-299 kV	>300 kV	DC
128.49	136.41	16.84	0	0

### *Maintenance Expenditures*

The table below shows the actual maintenance expenditures Southern Minnesota Municipal Power Agency has made for the past few years and the amounts budgeted for 2007 and the upcoming three year period.

#### SMMPA Transmission Maintenance Expenditures

2004	2005	2006	2007	2008	2009	2010
\$76,395	\$247,103	\$268,868	\$277,500	\$285,000	\$335,000	\$345,000

SMMPA’s actual transmission maintenance costs in 2004 were quite a bit less than in subsequent years, and that is because maintenance costs in 2004 were simply less than anticipated; the budgeted amount was approximately a quarter million dollars. The budgets for the upcoming three years are substantial and reflect an increase over the expenses incurred from 2005 to 2007 so they should be adequate to carry out the required maintenance activities that have become necessary on a yearly basis.

### *Renewable Energy Standard Milestones*

With a combination of SMMPA-owned wind systems and its purchase of tradable renewable credits from Basin Electric Power Cooperative, SMMPA is in compliance with the state’s REO through 2008.

## 8.17 Willmar Municipal Utilities

Willmar, a regional center for West Central Minnesota, is located 100 miles west of the Twin Cities. It is the Kandiyohi County Seat with a population of 19,000. Willmar Municipal Utilities maintains an electric system that currently has four substations with 190 miles of distribution lines and 35 miles of transmission lines. Additional information is available at:

<http://wmu.willmar.mn.us>

### *Transmission Lines*

Willmar Municipal Utilities owns 21.5 miles of 69 kV transmission line and 13.5 miles of 230 kV transmission line.

### *Maintenance Expenditures*

The table below shows the expenditures Willmar Municipal Utilities has made for the past few years and the amounts budgeted for the upcoming three year period. Willmar Municipal Utilities does not own large equipment to maintain its transmission lines and contracts this work out to outside parties.

#### **Willmar Municipal Utilities Transmission Maintenance Expenditures**

<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
\$23,574	\$433	\$1000	\$9500	\$9500	\$10,000	\$10,000	\$10,000

### *Reasonable Energy Standard Milestones*

Municipal utilities do not fall within the definition of electric utilities that have to comply with the Renewable Energy Standards so Willmar Municipal Utilities is not obligated to meet the RES requirements.