1.0 Introduction

During the 2007 legislative session, the Minnesota Legislature passed the Renewable Energy Act. It was signed into law by Governor Pawlenty on February 22, 2007. Minnesota Laws 2007, chapter 3. That law established Renewable Energy Standards for certain electric utilities in the state requiring that each utility obtain a certain percentage of its retail electric sales to retail customers in Minnesota from what are called "eligible energy technologies." These "eligible energy technologies" include wind, certain hydro, solar, hydrogen, and biomass. The law is codified at Minnesota Statutes § 216B.1691.

The Legislature established certain milestones the utilities must strive to meet at various intervals, along a course to meet an ultimate objective of 25% of their retail electric sales from eligible generating technologies by the year 2025, or in the case of Xcel Energy, which operates two nuclear generating facilities, 30% by the year 2020. The Legislature empowered the Public Utilities Commission to modify or delay the implementation of any of the Renewable Energy Standard milestones if it is in the public interest to do so. Minnesota Statutes § 216B.1691, subd. 2b.

In addition to establishing these Renewable Energy milestones and goals, the Legislature also directed the utilities to submit a report to the Public Utilities Commission by November 1, 2007, describing the activities undertaken by the utilities pursuant to this obligation to obtain renewable energy. Minnesota Laws 2007, chapter 3, section 2, provides in part:

> Utilities shall submit a report to the Minnesota Public Utilities Commission by November 1, 2007, describing the activities undertaken pursuant to this section.
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> The report shall include:
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> (1) a description of the analyses that have been undertaken and the results, including the critical issues that need to be addressed in order to develop the transmission needed to meet the standards and milestones of Minnesota Statutes, section 216B.1691, subdivision 2a;
>
> (2) a comprehensive conceptual plan to guide ongoing planning efforts to develop the transmission necessary to support those standards and milestones;
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> (3) specific transmission line proposals necessary to meet those intermediate standards and milestones;
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> (4) a description of how the results of these studies have been reflected in the biennial transmission reports filed under Minnesota Statutes, section 216B.2425; and
>
> (5) a five-year action plan that identifies with specificity the actions necessary to implement the specific proposals and to refine and further develop the transmission plans needed to support those standards and milestones, including

> initiating any certificate of need or other regulatory proceeding necessary to implement the specific proposals identified above.

This Renewable Energy Standards Report is being submitted in response to this statutory directive. Not all utilities that are required to submit the Biennial Transmission Projects Report are required to submit this RES Report, and some utilities that do not have to participate in the biennial projects report are required to submit this report. This Report is a joint effort of the following utilities:

Investor-owned Public Utilities

Interstate Power and Light Company
Minnesota Power
Northern States Power Company d/b/a Xcel Energy
Otter Tail Power Company

Generation and Transmission Cooperative Electric Associations

Dairyland Power Cooperative
Basin Electric Power Cooperative
East River Electric Power Cooperative
Great River Energy
L&O Power Cooperative
Minnkota Power Cooperative

Municipal Power Agencies

Central Minnesota Municipal Power Agency
Minnesota Municipal Power Agency
Southern Minnesota Municipal Power Agency
Western Minnesota Municipal Power Agency/Missouri River Energy Services

Power District

Heartland Consumers Power District

Minnesota utilities have been working for more than a decade to obtain energy from renewable energy sources and to provide the transmission necessary to transport renewable energy to areas where the demand for energy is the greatest. Significant new transmission has been constructed, particularly in the Buffalo Ridge area of southwestern Minnesota, where much of the wind development in the state has occurred, and other large transmission projects are being pursued. As described in Section 8 of Part I of this document (the Biennial Report), Minnesota utilities are presently in compliance with their Renewable Energy Objectives.

However, studies conducted to date, along with operational experience, indicate that there are significant constraints that limit the amount of renewable energy (or any energy) that can be

transported from high wind areas to the load centers. There are a large number of requests for interconnection from wind developers and others in the MISO generation interconnection queue waiting for transmission to become available so they can proceed with construction of their projects, and these requests represent thousands of megawatts of generation. As explained more fully below in the Report, substantial new transmission infrastructure will have to be constructed in Minnesota and in the region to meet future renewable energy goals in this state and in neighboring states.

Planning for a transmission system that not only ensures compliance with renewable energy goals, but takes into account other state policies, such as promoting community ownership of small generators, and at the same time provides a reliable adequate delivery system to meet a growing demand for electric energy, is not a simple task. It is unrealistic to think that this can be accomplished through a single study. Development of transmission plans is a constant, evolving process. Planners are required to make assumptions, and situations in the real world change. The entire transmission grid is one huge machine, and changes in one part of the grid impact performance of lines hundreds of miles away.

All this planning requires a great deal of coordination. The utilities are working closely together to develop and conduct studies that will provide helpful information to determine future projects. The Midwest Independent Transmission System Operator (MISO) is a player in determining future transmission needs. Federal and state regulators have a significant role, both in assisting in the development of studies, but more importantly in the consideration of regulatory factors that impact energy development. The public, too, is a stakeholder in this matter, and the utilities have consulted with interested individuals throughout these planning efforts.