STATE OF MINNESOTA
MINNESOTA PUBLIC UTILITIES COMMISSION

Leroy Koppendrayer	Chair
David Boyd	Commissioner
Thomas Pugh	Commissioner
Phyllis Reha	Commissioner

In the Matter of the 2007 Minnesota Biennial Transmission Projects Report and the Renewable Energy Standards Report	**Docket No. E-999/M-07-1028**

COMMENTS OF WIND ON THE WIRES

Pursuant to the Commission's Notice of Comment Period in the above referenced docket, Wind on the Wires (WOW) submits the following initial comments on several issues related to the 2007 Minnesota Biennial Transmission Projects Report and the Renewable Energy Standards Report (Report) filed with the Minnesota Public Utilities Commission (Commission) on November 1, 2007. The focus in the comments is largely on the sections related to the transmission needed to comply with the Minnesota Renewable Energy Standard (RES).

Gap Analysis

Section 2 of Part 2 of the report details the gap analysis for what additional renewable resources will need to be developed to meet the RES milestones. This analysis considers the difference between utilities' currently owned or contracted renewable resources and forecasted need in each of the milestone years. There is uncertainty in the

total amount of megawatts needed to meet the RES milestones not only because of load forecasting inaccuracies, but because there is a range of capacity factors for the wind resources that may be developed, and demand side management (DSM) efforts that may be implemented. The result is that the utilities present a wide range of total megawatts needed for RES compliance. WOW believes the range of 1,030 MW at 40% capacity factor including DSM vs. 1,830 MW at 30% capacity factor without DSM is too wide to work with on a short-term planning basis. Transmission planners need to understand the total amount of megawatts for which they are planning transmission. In lieu of having a precise megawatt number, WOW recommends that the utilities plan for the higher end of the range. WOW is also concerned that the gap analysis presented in the Report, is significantly less than the results of the analysis presented in the CapX application for Certificate of Need (CON) for three high voltage (345 kV) transmission lines submitted on August 16, 2007.[1] The CapX CON application, appendix D-7, shows results of 2,316 MW at 30% capacity factor with no DSM. An even more conservative capacity factor of 35%, which may be more realistic for wind resources in the upper Midwest, results in 1,964 MW. The utilities should clarify why these total megawatts numbers are different as well as explain how they are calculating the DSM over the time period. There seem to be some discrepancies in the data; however the impact of DSM is likely to be small relative to the need for new renewables to meet the RES.

WOW suggests that utilities err on the conservative side and plan for transmission needs based on the high-end results of the gap analysis in the CapX, 2,300 MW. If this

[1] In the Matter of the Application of Great River Energy, Northern States Power Company (d/b/a Xcel Energy) and Others for Certificates of Need for the CapX 345 kV Transmission Projects, OAH Docket No. 15-2500-19350-2, PUC Docket No. CN-06-1115.

estimate ends up being a bit high, Minnesota utilities can grow into any extra transmission capacity in the later years of the RES. It will be unacceptable to fall short in meeting the 2012 milestone because the utilities have not planned for enough transmission because they were too optimistic in their gap analysis. Settling on a total megawatt amount needed to meet the 2012 milestone is within the utilities' control, as is planning and constructing adequate transmission to deliver the renewable energy.

2012 Milestone

The Report states that utilities are moving forward to have transmission in service to meet the 2012 milestone and that only limited transmission will be necessary.

> "Transmission requirements will depend on the location of the generation. The utilities anticipate that if transmission is necessary, requirements can be met with 115 kV additions. The Biennial Report (Part I of this document) describes projects transmission planners are currently working on to provide additional increments of system capacity by 2012."[2]

WOW believes that additional transmission capacity will be needed to meet the 2012 milestone. Even if the new lines are 115kV and smaller, they will take some time to get approved, permitted and constructed. Stating there is uncertainty about new resource location is not acceptable for the 2012 milestone, as transmission planning and construction must precede wind plant construction. We believe that Minnesota utilities

[2] Report Section 2.10, page 274.

have enough information about wind resource areas in the state, projects in the Midwest Independent System Operator (MISO) Interconnection Queue and in pre-development in the state and surrounding region to plan for transmission additions to deliver the energy from new renewable resources to load. In order to meet the 2012 milestone transmission additions must be identified now, and brought on-line ahead of wind plant construction. It also seems that the utilities are assuming that certain new lines will be in service by 2012 to help meet this milestone. If so, the Report should indicate specifically which lines will be relied upon and what their status is in terms of approval, construction and in-service dates.

The success of the Buffalo Ridge Incremental Generation Outlet (BRIGO) effort should be repeated. For the 2012 time frame utilities should be focusing on smaller, incremental transmission additions that can enable new wind resource additions in the 200-400 MW range. This type of addition tends to be less controversial and therefore can move more quickly through the regulatory process. Xcel Energy and others have been working on a Regional Incremental Generation Outlet (RIGO) effort which initially identified approximately nine options. Recently, they have focused on addressing the transmission needs in the southeast part of Minnesota with 161 kV or 345 kV additions. This effort should be accelerated and utilities should explore other similar transmission opportunities that can bring on smaller amounts of wind capacity in the near future and serve to support larger back bone lines that may be added later. This transmission planning work is important and must proceed at a faster pace.

Transmission Line Certification

As indicated in the Report, the biennial transmission planning process offers another opportunity for utilities to get approval for new transmission lines. Given all the transmission planning work underway and the need for additional transmission to meet the 2012 RES milestone, WOW is surprised that the utilities did not bring forward any transmission lines for certification in the biennial transmission plan and report process. The Report does state that "More applications will be submitted in 2008," but WOW expected that the utilities would have completed their studies in time to bring the applications forward for certification in this process. WOW respectfully asks the Commission to require the utilities to reconsider whether there are projects that could be certified in the 2007 biennial transmission plan process and if so file those requests for certification.

CapX In Service Dates

WOW notes in the Report that in-service dates for the CapX projects are farther out than previously indicated by the utilities, yet the utilities do not provide an explanation for this change in timing for in-service dates. For example, the chart below shows the in-service dates that have been used in various presentations for the proposed CapX Brookings, S.D to Twin Cities 345 kV transmission line.

Presentation/Publication	**In-Service Date**
Realizing the CapX 2020 Vision - Information Briefing – Moving to Implementation Presentation to MPUC, July 18, 2005	**2010**
CapX 2020 Update - Northern MAPP Sub-regional Planning Group	**2012**

Sioux Falls, SD, June 14, 2006	
CapX 2020 Application for Certificate of Need For Three 345 kV Transmission Lines MPUC Docket No. E002/CN-06-1115 August 16, 2007	**2013-2014**
2007 Minnesota Biennial Transmission Projects Report and the Renewable Energy Standards Report November 1, 2007	**2015**

The chart above shows a slippage of in-service dates of a total of six years since the briefing to the Commission two and one-half years ago. Unless there is a reasonable explanation for the change in timing for in-service dates, WOW requests that the Commission hold the utilities to the on-line dates indicated in their application for Certificate of Need. The three CapX lines proposed in the CON are important to allow for delivery of wind energy to meet the Minnesota RES and further slippage of the in-service dates (beyond the in-service dates in the CON) for the new transmission lines is unacceptable.

G&T Optimization

The Report indicates that the Minnesota utilities are beginning a study to "look at the economic benefit of siting wind projects in quality wind regions and the associated transmission costs versus location where wind resources are not ideal."[3] There is a lot of value to a generation and transmission optimization study for the long-term build out plan for wind in Minnesota and the upper Midwest. It will be important for the utilities to focus on the right questions and assumptions in preparing for the study.

[3] Report Section 6.2.5, page 303.

Cost comparison of high capacity wind resources that require significant transmission upgrades versus marginal capacity resources that do not require much new transmission capacity must be focused on $/kWh of delivered energy (including capacity factor, transmission costs, etc). Site selection should be well documented and based on information about high wind locations as well as projects that are in the MISO Interconnection Queue. This study must rely not just on a peak hour power flow model but should use ProMod to understand transmission needs on peak wind generation periods and to understand total wind delivery throughout the year. Good hourly wind data is important to get reasonable results and can be used from the 2006 Minnesota Wind Integration Study or the Department of Energy's Eastern Wind Integration and Transmission Study that should be available mid-2008.

The results of this study can help remove some of the uncertainty listed in the report about where generation will be sited to meet the later milestones of the RES. Section 7.2 of the Report raises the concern that the utilities will be challenged to plan for transmission to reach wind resources. While we do agree with the statement in the report that "Good information is available to determine the general geographic location of future wind generation projects…"[4] we do believe that this comparison can give greater understanding of the most cost effective build out of transmission and wind so that utilities and the Commission can be assured that the associated transmission plans will bring the greatest benefit to rate payers.

Many other areas of the country are looking to build transmission ahead of need for wind resources and are undertaking studies similar to the G&T optimization study

[4] Report Section 7.2, page 308.

included in the Report. We encourage the utilities to gain familiarity with these other efforts in Texas, California, and Colorado to identify and develop transmission to renewable energy zones.

Conclusion

WOW respectfully requests the Commission require the utilities to:

1. Clarify why the total megawatt amounts in the gap analysis within the Report differ from the gap analysis in the CapX CON, and set a specific amount of megawatts they intend to plan transmission for to meet the 2012 RES milestone.
2. Identify the specific transmission lines that utilities plan will be in service by 2012 for use in meeting the 2012 RES milestone.
3. Accelerate study work, such as the RIGO effort, that will identify additional smaller transmission upgrades needed to meet the 2012 milestone.
4. Reconsider whether there are projects the utilities could bring forward for certification in the 2007 Minnesota Biennial Transmission Projects Report and the Renewable Energy Standards Report process, and if so submit for certification.
5. Maintain a permitting and construction schedule for the CapX lines to meet the in-service dates in the CapX application for Certificate of Need. If the utilities can not meet those in-service dates they should report on why those lines are not needed in that time frame and explain why the in-service dates must be moved out.
6. Focus the generation and transmission optimization study on a comparison of $/kWh of delivered energy (including capacity factor, transmission costs, etc).

This study should also include ProMod analysis, good hourly wind data and well-documented wind site selection.

Dated: January 15, 2008

Respectfully submitted,

Beth Soholt
Director
Wind on the Wires
1619 Dayton Avenue, Ste. 203
St. Paul, MN 55104

10:
MN PUC

James P. Johnson
Xcel Energy
5th Floor
414 Nicollet Mall, 5th Flr
Minneapolis MN 55401-1993

Burl W. Haar (0+15)
MN Public Utilities Commission
Suite 350
121 East Seventh Place
St. Paul MN 55101-2147

Alan Mitchell
Lindquist & Vennum
4200 IDS Center
80 South 8th Street
Minneapolis MN 55402-2274

20:
Dept. of Commerce

Ron Spangler, Jr.
Otter Tail Power Company
P.O. Box 496
215 South Cascade Street
Fergus Falls MN 56538-0496

Sharon Ferguson (4)
MN Department Of Commerce
Suite 500
85 7th Place East
St. Paul MN 55101-2198

SaGonna Thompson
Xcel Energy
7th Floor
414 Nicollet Mall
Minneapolis MN 55401-1993

30:
Inter-Office Mail

Julia Anderson
MN Office Of The Attorney General
1400 BRM Tower
445 Minnesota Street
St. Paul MN 55101-2131

Curt Nelson
OAG-RUD
900 BRM Tower
445 Minnesota Street
St. Paul MN 55101-2130

40:
Regular Postal Mail

Christy Brusven
Fredrikson & Byron, P.A.
Suite 4000
200 South Sixth Street
Minneapolis MN 55402-1425

Tamara Cameron
Army Corps of Engineers
190 Fifth Street
St. Paul MN 55101-1638

Fresh Energy
408 St. Peter street, Suite 220
St. Paul, MN 55102-1130

William A. Blazer
MN Chamber of Commerce
400 Robert Street, N, Suite 1500
St. Paul, MN 55101

Pam Marshall
Energy CENTS Coalition
823 7th Street, E
St. Paul, MN 55106

David Morris, Director
Institute for Local Self-Reliance
1313 5th Street, SE
Minneapolis, MN 55414

David Duebner
Midwest ISO
1125 Energy Park Drive
St. Paul, MN 55108

Beth Soholt
Wind on the Wires
1619 Dayton Avenue, Suite 203
St. Paul, MN 55104

Tom Osteraas
General Counsel
Excelsior Energy, Inc.
11100 Wayzata Blvd., Suite 305
Minnetonka, MN 55305

Andrew Lucero
Lucero Consulting
7235 Island Lake Falls Road
Duluth, MN 55803

Chuck Thompson
Project Manager, Power Delivery
Dairyland Power Cooperative
3200 East Avenue, S
La Crosse, WI 54601

Gordon Pietsch
Great River Energy
17845 East Highway 10
Elk River, MN 55330

Dan Barr
Interstate Power and Light Company
100 Main Street
Dubuque, IA 52004-0769

Brad Roos
Marshall Municipal Utilities
113 4th Street South
Marshall, MN 56258-1223

Dale Sollom
Planning Manager
Minnkota Power Cooperative
P.O. Box 13200
Grand Forks, ND 58208-3200

T. Rogelstad
Otter Tail Power Company
P.O. Box 496
Fergus Falls, MN 56538-0496

Richard Hettwer
Manager of Power Delivery
Southern MN Municipal Pwr Agcy
500 First Avenue, SW
Rochester, MN 55902-3302

Matthew Stoltz
Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, ND 58503-0564

Jay Porter
American Transmission Co, LLC
N19W23993 Ridgeview Pkwy, W
Waukesha, WI 53188

Jim Edwards
East River Electric Power Coop
P.O. Box 227
Madison, SD 57042

Michael Kumm
Hutchinson Utilities Commission
225 Michigan Street, SE
Hutchinson, MN 55350

Curt Dieren
L&O Power Cooperative
P.O. Box 511
1302 South Union Street
Rock Rapids, IA 51246

Jim Alders
Xcel Energy
414 Nicollet Mall – 8th Floor
Minneapolis, MN 55401

Brian Zavesky
Missouri River Energy Services
3724 West Avera Drive
P.O. Box 88920
Sioux Falls, SD 57108-8920

Gerry Steffans
Mgrs. of Systems Operation/Reliabil
Rochester Public Utilities
4000 East River Road, NE
Rochester, MN 55906

Michael Nitchals
General Manager
Willmar Municipal Utilities
P.O. Box 937
Willmar, MN 56201

John Knofczynski
Manager of Engineering
Heartland Consumers Power District
203 West Center Street
Madison, SD 57042-0248

Randy Porter
Dahlen Berg
200 S. Sixth Street, Suite 300
Minneapolis, MN 55402

Lisa Daniels
Executive Director
Windustry
2105 1st Avenue, S
Minneapolis, MN 55104

Beth Goodpaster
MN Ctr for Environ. Advocacy
26 East Exchange Street, Suite 206
St. Paul, MN 55101-1667

Mike Michaud
SE Clean Energy Resource Team
N802 240th Street
Maiden Rock, WI 54750

Carol Overland, Esq.
Overland Law Office
402 Washington Street, S
Northfield, MN 55057

John Dunlop
Great Plains Regional Manager
American Wind Energy Association
448 Morgan Ave., S, Suite 300
Minneapolis, MN 55405-2030

Matthew J. Schuerger, PE
P.O. Box 16129
St. Paul, MN 55116

Kristen Eide-Tollefson
CURE
P.O. Box 130
Frontenac, MN 55026

David Moeller
Attorney
Minnesota Power
30 W. Superior Street
Duluth, MN 55802

Bill Grant, Director
Izaak Walton League – Midwest
1619 Dayton Avenue, Suite 202
St. Paul, MN 55104-6206

John C. and Laura A. Reinhardt
3552 26th Avenue, S
Minneapolis, MN 55406

George Crocker
North American Water Office
P.O. Box 174
Lake Elmo, MN 55042