Legislative Electric Energy Task Force
Interim 2004 Work Plan on Wind Power Issues

Initial Comments and Questions
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Wind on the Wires
Beth Soholt, Director

At the June 29, 2004 meeting on the Electric Energy Steering Committee's Work Plan, a set of questions were distributed and comments were invited on the questions. The questions were designed to help accomplish the Legislative Electric Energy Task Force's (Task Force) interim 2004 work plan. In addition, other questions were invited that might assist in completing the work plan. As such, Wind on the Wires offers initial comments and additional questions for consideration with a focus particularly on transmission for new wind power.

Initial Comments

Wind on the Wires, an organization based in St. Paul, Minnesota, has worked for the past three years on wind power and transmission issues in the Upper Midwest[1]. Wind on the Wires staff has worked side-by-side with utility transmission planners, Mid-Continent Power Pool (MAPP) staff, and Midwest Independent System Operator (MISO) staff on wind power and transmission issues, particularly on transmission expansion planning for the region. Wind on the Wires has also worked closely on regulatory issues at the state, regional, and federal levels as the use of the transmission system continues to evolve and change.

Electric transmission is regulated both by the States and by the Federal Energy Regulatory Commission (FERC). It will be important for the Task Force and Steering Committee to have a clear understanding of what some appropriate responses and mechanisms might be to address the transmission issues and questions that have been identified in the interim 2004 Work Plan. The transmission system continues to be called upon to serve a broader role than just traditional reliability functions – the "grid" has a growing role in delivery of economic benefits through the delivery of low cost electricity and environmental benefits through the delivery of emission-free renewable energy.

[1] Wind on the Wires footprint includes the states of Minnesota, North Dakota, South Dakota, Wisconsin, Iowa, Nebraska, and Illinois.

Although there is a federal component to transmission, states have jurisdiction over generation and can set preferences, objectives and obligations for certain types of generation, such as renewable energy (e.g., wind power). Utilities have the obligation or objective to supply renewable energy - such as 10% by 2015 in Minnesota – and the transmission grid needs to accommodate the delivery of renewable energy.

As the structure of the electric industry changes to be more regional in nature, the transmission planning process is also changing. Independent System Operators - such as MISO in the Midwest - have the responsibility to provide non-discriminatory transmission access to all parties and must undertake transmission planning accordingly. Transmission planning at MISO is populated by a variety of stakeholders including vertically integrated utilities, stand-alone transmission companies, independent power producers, marketers, consumer representatives, state commissions, and environmental representatives. The transmission planning process at MISO is a "bottoms-up, top-down" process. Transmission planning is informed by both plans utilities have to build transmission to ensure reliability and by studying transmission expansion that would facilitate a more robust wholesale marketplace. A utility's new generation plans (such as Xcel Energy's wind power) must be coordinated with the MISO rules and procedures that govern access to and planning for transmission to accommodate all stakeholders. It is up to stakeholders such as utilities, independent power producers, and others with a vested interest in a particular type of generation, such as wind power, to inform MISO transmission planners of the need to provide transmission for wind development.

As Minnesota has seen, lack of sufficient transmission capacity to meet demand is potentially one of the most significant barriers facing wind power development today. Advancing technology for lower speed wind turbines is supporting dispersed wind power development but because of relatively low rural electric loads, transmission capacity is often an issue for these wind power projects as well as the larger wind farms. Wind power development is very site dependent, since the economics of wind power correlate strongly to average annual wind speed. The excellent wind resources are often in remote areas and far from where the power is needed. To make matters worse, wind farms can be constructed rapidly (12-18 months) and are generally smaller in scale than other generation technologies, further amplifying transmission impacts.

As mentioned above, MISO transmission expansion planning must know about the needs and requirements of its stakeholders. In addition, MISO needs good data with which to plan transmission. Wind on the Wires and the American Wind Energy Association compiled cutting edge wind development information for MISO to use in its transmission expansion planning process. MISO used wind data from The Midwest Wind Development Plan[2] (Plan) (10,000 megawatts of

new wind power in nine states in the 2003-2007 timeframe) for its recent 2003 transmission expansion plan. The data from the Plan allowed MISO to do comprehensive, forward-looking, integrated transmission planning for wind power.

The bottom line is that the State of Minnesota's generation and transmission requirements, including any unique obligations or objectives, must be factored into the MISO transmission expansion planning process. The transmission planning process must be comprehensive, forward-looking, address the unique needs of wind power (remote location, smaller increments, rapid construction) and integrated with other transmission needs. All types and forms of wind development require this type of transmission planning to be able to deliver wind power to market.

Although we have focused primarily on transmission planning, several other categories of issues are important to the transmission conversation. In order to have additional transmission infrastructure actually built there must be:

1. **transmission planning** - study, modeling, selection of a preferred alternative(s)
2. **regulatory proceeding** - a utility or group of utilities files an Application for a Certificate(s) of Need and the Minnesota Pubic Utilities Commission ultimately makes a decision on the Application.
3. **siting and routing** – a utility or group of utilities files an Application for a permit for a new lines(s) and the Minnesota Environmental Quality Board ultimately makes a decision on the Application.
4. **cost recovery** – a decision must be made about who pays for new transmission.
5. **construction** – a utility or group of utilities must construct the new transmission lines in a timely manner.

In addition, under the current MISO procedures, a new generator must enter two queues – the generator interconnection queue and the transmission service queue. The new generator will be processed according to the MISO rules and procedures that govern access to interconnection and transmission for all stakeholders in the MISO footprint.

There may be ideas within the categories listed above the Task Force and Steering Committee may want to consider. Wind on the Wires will be glad to suggest some additional ideas for the Task Force and Steering Committee to

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[2] Wind on the Wires and the American Wind Energy Association compiled the Midwest Wind Development Plan (Plan) for use in the MISO Transmission Expansion Plan (MTEP) 2003. The Plan is posted at http://www.midwestiso.org/plan_inter/documents/expansion_planning/MTEP%202002-2007%20Board%20Approved%20061903.pdf

consider as the work on the interim 2004 work plan continues during the summer and early fall.

Questions

Wind on the Wires believes the answers to the following questions may assist in completing the work plan:

1. Who is responsible for planning for new transmission for wind power?

2. Who is responsible for building new transmission for wind power?

3. Who gets to use the new capacity on the lines?

4. Who pays for new transmission?

5. What criteria will determine whether transmission system upgrades are paid by the generator (participant funded) and which are not (rolled in)?