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Bringing Wind Power to Market

Minnesota Wind Integration Study

GROUNDBREAKING MINNESOTA WIND INTEGRATION STUDY FINDS UP TO 25% WIND CAN BE INCORPORATED RELIABLY INTO ELECTRIC POWER SYSTEM

The Minnesota Wind Integration Study shows that, under the right policies, utilities can incorporate wind power into their resource portfolio – up to 25% of their delivered energy – without sacrificing reliability and with minor costs for absorbing the wind. The Wind Integration Study was required under 2005 legislation to look at operating and cost issues associated with the variability of wind energy. On the cost issue, testimony given last week by Ken Wolf, Reliability Administrator at the Senate Energy, Utilities, Technology and Communications Committee showed that the rate impact of integrating up to 25% wind is minor – three tenths of a mil ($0.0003) to 11 mils ($0.0011). In other words, for the average residential customer the rate impact is less than $10 per year. The study is the latest in a series of robust technical studies across the country to examine how utilities can manage ever-larger amounts of wind power as new technology enters the mainstream and states set more aggressive Renewable Electricity Standards (RES).

The study evaluated the impacts on reliability and the costs associated with increasing wind capacity to 15, 20 and 25 percent of Minnesota retail electric energy sales by 2020. The Wind Integration Study report states, “With excellent input from the utilities, the Midwest Independent System Operator (MISO), wind interests, and national experts, we reached consensus on overall study methods and assumptions, wind scenarios to be studied, modeling approach and the key findings.”

The study concluded that up to 25% can be incorporated reliability into the electric power system given: 1) the wind operating in the MISO service area; 2) control area consolidation (currently underway in MISO); 3) geographic diversity of the wind power, and 4) adequate transmission.

“The study is especially significant both because of the amount of wind involved and the fact that is was sanctioned by the Minnesota legislature,” said American Wind Energy Association (AWEA) Deputy Policy Director Mike Jacobs. “The Minnesota study shows that, when the wind generation is spread around the state, and MISO markets and operators do what they do best, integration costs are a small concern. Like the studies that have come before, this report shows the relative ease in absorbing the wind – opening the way for wind energy’s benefits to be reaped on a large scale for consumers, and for our economy, environment, and energy security.”

Beth Soholt, Director, Wind on the Wires, said, “The study is an important piece to achieving a higher level of wind penetration in Minnesota and the Midwest. The robust participation as well as the good results will go a long way in advancing wind power.”

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