

# Expanding Transmission For Wind: FERC's Role

*While the private sector has provided capital to expand the power grid, the federal government has the tools needed to bring it to fruition.*

BY SANDY SMITH

Over the past few years, wind power has become a significant emerging source of electricity. According to the American Wind Energy Association (AWEA), in the U.S. during 2007, 5,244 MW of nameplate wind energy capacity was installed, bringing total capacity to 16,818 MW. There are several key drivers for this expansion, including many states adopting rules requiring a certain percentage of electricity to be generated from renewable resources, effective tax incentives for building wind plants and increased concern about the production of greenhouse gases from fossil generation.

One major obstacle for achieving wind energy expansion targets is the inadequacy of the national transmission system as it currently exists. Put simply, where wind is, transmission generally is not, as areas with the best wind resource are remotely located from load centers. Expansion of transmission systems is a complicated and expensive undertaking, with costs running into the millions or billions of dollars and the process including siting, permitting, acquisition of rights of way, environmental impact assessments and numerous other steps. Furthermore, there is an evident not-in-my-backyard (NIMBY) mindset in communities where issues of siting and construction of

transmission lines are concerned.

While there are numerous ongoing activities and initiatives to address these challenges, the U.S. federal government is playing a critical role in expanding transmission for renewables. A number of agencies are involved in significant and supporting roles, but central to expanding transmission for renewable energy are the roles being played by the U.S. Department of Energy (DOE) and the Federal Energy Regulatory Commission (FERC).

The involvement of both agencies in transmission lies primarily in the area of ensuring the reliability of the national electric grid. The August 2003 blackout in large portions of the Midwest, Northeast and parts of Canada highlighted current concerns over the adequacy of the transmission system. The prime mover for DOE and FERC in relation to transmission is the Energy Policy Act of 2005 (EPAct 05) that stipulated a set of mandated activities to expand transmission to ensure reliability and meet increased demand.

A notable component of EPAct 05 was language directing DOE to conduct periodic national electric transmission congestion studies and to designate national interest electric transmission corridors (NIETCs) if deemed necessary and appropriate. Under EPAct 05, FERC can issue, un-

der certain circumstances, permits for new transmission facilities within NIETCs. If an applicant has not received approval from a state regulatory body to site a proposed new transmission project within a year of application, FERC may consider whether to issue a permit and to authorize construction of the project. Last May, DOE announced two draft corridors:

■ the Mid-Atlantic Area NIETC, including portions of Ohio, West Virginia, Pennsylvania, New York, Maryland, Virginia and all of New Jersey, Delaware and the District of Columbia, and

■ the Southwest Area NIETC, including portions of California and Arizona.

DOE, after a comment period and a series of public meetings, finalized the designation of the two corridors. This process and the end result fueled controversy, with condemnation of the action by a number of politicians in the impacted states and lawsuits filed by several environmental groups challenging the adequacy of the environmental review process.

A key argument made against NIETCs has centered on NIMBY concerns and federal intervention into matters traditionally handled by state governments. To date, in addition to pending litigation, DOE announced that it would hold rehearings on the

designations. FERC issued regulations in 2006 stipulating that only those transmission projects within a corridor that would significantly reduce congestion into or within the congested area would be eligible for a FERC permit. While EAct 05 stresses that mitigation of transmission congestion – not access to renewable generation – will be the key criteria in designating a corridor, it is believed that there is a potential to expedite the construction of transmission to move electricity from wind plants to load centers.

FERC has a significant amount of activity under way related to transmission expansion and enhancement. EAct 05 directed FERC to develop incentive-based rate treatments to expand/enhance transmission of electricity in interstate commerce. In its Order No. 679, as modified by Order No. 679-A, FERC set out a process under which utilities could seek transmission rate incentives. This opportunity is manifesting itself through decisions that enable Xcel Energy to recover costs from transmission expansion to accommodate wind. In addition, FERC is playing a central role in work under way in California to compensate for a lack of transmission capacity to move electricity from wind-rich areas to population centers – a factor that has constrained the expansion of wind power in that state and jeopardizes the state's ability to meet its RPS goals.

Instead of designing a traditional transmission tariff oriented toward interconnecting traditional generation or enhancing the existing network, the California Independent System Operator (CAISO) proposed a hybrid financing model in which the up-front costs for building transmission would be born by utilities that will be reimbursed after the renewable projects are online and generating revenue. Designed, essentially, to address generation in remote areas, this model was endorsed by FERC in a declaratory order last April. Later, CAISO

developed a tariff to meet this model, which FERC is considering.

FERC holds a significant regulatory role in the permitting of interstate transmission projects. One of the most significant activities under way at FERC relates to a rethinking on the planning process for transmission expansion. In its Order No. 890 and subsequent Order 890-A, "Final Rule: Preventing Undue Discrimination and Preference in Transmission Service," FERC established additional guidelines and clarifications for how transmission is used, planned and managed. These orders amended FERC's regulations and the pro forma open-access transmission tariff (OATT) adopted in Order Nos. 888 and 889 to remedy opportunities for undue discrimination and address deficiencies in the OATT. The orders had a number of key provisions crucial to wind, including:

- greater consistency and transparency in calculation of available transfer capability,
- open, coordinated and transparent planning on local and regional levels,
- reform of energy and generator imbalance penalties,
- adoption of a "conditional firm" component to long-term point-to-point service and reform of existing requirements for redispatch,
- reform of rollover rights,
- clarification of provision in the tariff, and
- increased transparency and customer access to information.

Open, coordinated and transparent planning of transmission is a critical component of the orders.

The orders apply to all public transmission providers, and all were required to file compliance documents (Attachment K), detailing transmission-planning approaches with FERC late last year. This process is progressing, with transmission providers filing and AWEA and its partners scrutinizing the filings and filing protests where planning processes appear inadequate. A paradigm shift in how transmission plan-

ning is undertaken is beginning to take place – with an increasing role for stakeholders and an eye to concerns beyond reliability, including economics and access to renewables.

FERC also is playing a significant role in interconnecting wind projects to the grid. In 2003, FERC issued Order No. 2003, describing the interconnection process for large generators, with provisions clarified and issued in 2004 and 2005. The order focused on assuring fair and nondiscriminatory treatment for the interconnection of large fossil generators and was not designed to accommodate the dramatic increase in interconnection requests for relatively smaller and more numerous wind plants. In December 2007, FERC convened a technical conference on interconnection queuing practices, looking at the technical and policy concerns associated with the tremendous backlog of generation interconnection requests in the queues across the country.

The issues tied in with this traffic jam are complicated – some projects are considered "phantom" and will never come to fruition, while the price of admission to the interconnection queue is relatively inexpensive at \$10,000. In addition, there are issues tied in with constrained capacity and associated reliability concerns, lengthy interconnection studies by the transmission providers, and the remote nature of wind projects.

Some transmission providers have indicated that they would look at moving from a first-come-first-served approach to an "open season" system. Some transmission providers even are suggesting clustering projects to clear out the queue. Nearly all of the major stakeholders – wind developers, transmission providers – agree that FERC has a key role to play in sorting this issue out, while allowing the regions sufficient flexibility to deal with regional differences.

It will be interesting to see what happens in both the long and short term with transmission initiatives at FERC and DOE. In addition to the

activities referenced here, there is action under way to take the competitive renewable energy zone (CREZ) model pioneered in Texas and apply it on a national basis. Legislation has been filed that would require the president to designate national renewable energy zones with the Federal Power Marketing Administrations having backstop authority to construct transmission. If any progress is made on national or regional CREZs, FERC and DOE will have significant roles in making it happen.

Many parties are playing a central role in the expansion of transmission to accommodate the rapid growth of wind generation. The private sector has provided – and will continue to provide – the capital, initiative and muscle necessary to make it happen. However, the federal government has the regulatory and permitting tools needed to bring it to fruition. **SVP**

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*Sandy Smith is conference and communications coordinator for the Utility*

*Wind Integration Group, an organization of utility and associate members focusing on technical issues related to wind generation connecting to the electric power system. He can be reached at [sandy@uwig.org](mailto:sandy@uwig.org).*

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