

National Wind Coordinating Council looks at transmission issues

by **Judy Farrell**

How can renewable resources such as wind energy find a niche in the new energy market when the transmission grid was designed for more traditional resources?

That was the focus of the National Wind Coordinating Council's Transmission Committee meeting at Western's CSO March 1-2. More than 50 representatives of the wind industry, utilities, interest groups, government agencies, regulatory agencies and others interested in wind technology discussed ways to ensure wind power producers have the same access to transmission as other types of energy.

On welcoming the committee, Administrator **Mike HacsKaylo** said that the March issue of *Smithsonian* magazine includes an article on wind power in the Dakotas and Upper Midwest. He said such articles give the industry much needed publicity and visibility.

Energy producers interested in interconnecting with Western's transmission system should bring their checkbooks, HacsKaylo added. Because of the comparability rules of FERC Order No. 888, the applicant pays for the interconnection study.

HacsKaylo said Western supports the Department of Energy's Wind program and plans to buy wind-generated electricity from Public Service of Colorado's WindSource program. He also noted Western's involvement in a Dakota wind study, along with the National Renewable Energy Laboratory.

UGP Transmission System Planning Manager **Ed Weber** shared the results of the Dakota study during a later session. Western and NREL laid a map of Western's transmission system over a map of wind data.

Through this process, Weber and Brian Parsons of NREL found 12 potential wind sites near Western substations. The study considered only the steady state impacts of the wind generators but did not evaluate the more restrictive dynamic stability limitations of the region. Some of the 12 sites appear to be good candidates for additional study.

Parsons told the committee that DOE will fund a second phase of research. DOE's Office of Power Technology also provided funding for the phase one research. Phase two will focus on a subset of the promising wind sites and include:

- ◆ Dynamic stability analysis.
- ◆ A Mid-Continent Area Power Pool available transfer capacity.
- ◆ Possible costs and benefits of a system upgrade.

Weber pointed out that the limiting factor for added generation is not transmission overload, but rather the ability to ensure dynamic stability. The problem could be particularly acute in North Dakota, where long stretches of transmission line carry power to loads far from the source of generation. The system in eastern South Dakota is stronger, so wind generation opportunities may be greater there.



Above: Specialized cranes are used to mount wind turbine propellers at the Platte River Power Authority's wind-power facility in Wyoming.



Right: Workman at the PRPA wind power facility are dwarfed by turbine propeller blades.