

## **RENEWABLE ENERGY: Proposal to link the nation's grid sparks a debate** (02/03/2010)

**Peter Behr, E&E reporter**

The Tres Amigas transmission project in New Mexico, which seeks to link the nation's three power grids to share wind power across the United States, has attracted both eager allies and some determined foes.

Scandia Wind Southwest LLC, a venture led by Norwegian wind power developers, has proposed to build an initial 2,250 megawatts of wind power in the Texas Panhandle, with a potential capacity of 10,000 MW. That amount of power, the equivalent of 10 large nuclear power plants, could move into the Eastern and Western grid interconnections, and to Texas' independent grid, over the Tres Amigas transmission linkage.

The Tres Amigas project would operate three power switching hubs connected by several miles of superconducting direct-current lines, on a 22.5-square-mile section near Clovis, N.M., adjoining Texas and Oklahoma. The hubs would direct power flows in and out of the three regions, whose electrical systems are not synchronized, creating bridges for electric power to flow across the entire country, wherever transmission capacity permitted.

Tres Amigas' "superstation," located in Clovis, N.M., would use new technology to make the first common interconnection of America's three power grids to help transfer wind and solar power. [Click here](#) for a larger version. Image courtesy of Tres Amigas LLC.

Tres Amigas has strong support from New Mexico's Democratic Governor, Bill Richardson. The American Wind Energy Association and the Solar Energy Industries Association support the concept of uniting the three non-synchronized grids. Landowners in the Panhandle area -- such as Crosby County Wind Farm LLC, a Dallas-based company with 100 landowners and 30,000 available acres -- are behind the project. A subsidiary of ITC Holdings, the Michigan-based independent transmission company, is interested in building lines to the Tres Amigas project.

No one, perhaps, is more enthusiastic than Harald Dirdal, a partner with Havgul Clean Energy, a Norwegian company that is developing several thousand megawatts of onshore and offshore wind power projects in its country. Dirdal said that he and his partners were prospecting for wind power opportunities in the

United States when they learned last year about the Tres Amigas venture, led by Phillip Harris, former head of the PJM Interconnection, the grid operator in much of the mid-Atlantic and Great Lakes regions.

"We thought if we could do a big development in the Texas Panhandle, a really big development, we could interconnect into the three national grids ourselves," Dirdal said. "We had no clue about Tres Amigas' existence whatsoever. So literally I was jumping up and down in Oslo when I heard about, for about half an hour, in pure joy."

But lined up against Tres Amigas are units of Occidental Petroleum, the fourth-largest U.S. oil and gas company, whose sales totaled \$24 billion in 2008 and \$15 billion last year. Through its subsidiaries, Occidental is a major purchaser of power for its chemicals, hydrocarbon and manufacturing businesses, and a marketer of electricity, as well.

### **A transmission 'game changer' collides with 1930s law**

As Harris has said, Tres Amigas is a "game changer," a facility that could move large amounts of power in any direction among the three grids, with potentially big impacts on prices and profits that existing generators now receive, as well as consumers' electricity costs. Tres Amigas' financial plan depends on selling its transmission access to generators and power marketers who would take advantage of the connection to buy cheaper power in one of the grids and sell it in another when prices are higher. That makes it a competitive outsider in parts of the established markets.

Occidental is the most vocal opponent of Tres Amigas' requests for two rulings from the Federal Energy Regulatory Commission that it says are essential. The project is seeking FERC approval to charge negotiated transmission rates for access to its network.

And it asks FERC to disclaim jurisdiction over any Texas transmission line owners that connect with Tres Amigas, a crucial procedural step that would maintain the independence of the Electric Reliability Council of Texas, which runs the grid in three-quarters of the state. Texas created its own grid in the New Deal to keep from being regulated by Washington's new Federal Power Commission, FERC's predecessor.

Occidental has filed several 50-page-plus broadsides with FERC against the Tres Amigas plan, and has brought forward an expert witness to challenge Harris' technical arguments on why his project's engineering design would keep Texas' electrons from "intermingling" with outside grids. Keeping the electrons separate means that the Texas system would not be linked to its neighbors as a policy matter, keeping it clear of FERC's jurisdiction over interstate wholesale

electricity markets, Harris argues.

Harris stated that intermingling does not occur because the alternating-current energy flowing into the Tres Amigas "superstation" would be converted to direct current at each of the project's three hubs linked with the three grids. "Nothing is mixed," Harris said.

Occidental's expert, Songhoon Yang, with the consulting firm Bates White LLC in Washington, D.C., argued in a FERC filing that it is obvious that electric power will be moving among the grids through the Tres Amigas facility, so Harris' argument that the project's engineering interrupts the flow is not valid.

FERC has not ruled yet on either of the Tres Amigas petitions. Several of the parties that have commented in the commission's two dockets, ER10-396 and EL10-22, are urging the commission to take its time, because of the project's uniqueness and the difficulty of assessing its impact.

The Electric Power Supply Association, representing merchant power producers, said it took no position on the fate of the Tres Amigas project but urged FERC to move with care.

### **Is Texas wind power being undermined or efficiently shared?**

The Public Utility Commission of Texas noted that it is in the midst of ruling on new transmission projects that would connect 18 gigawatts of wind power to the state's urban areas -- the result of lengthy renewable energy planning. It wants to see a stronger legal case made at FERC to ensure that it stays independent. Texas Industrial Energy Consumers, another Tres Amigas opponent, says the massive transmission investment Texas is planning to bring its wind resources to market could be undermined by Tres Amigas.

The American Public Power Association said that while it appreciates Tres Amigas' "bold vision," FERC needs to conduct its own analysis of the project's impact on electricity prices. "It should not simply rely on Tres Amigas's assertions that it 'cannot cause prices to rise above competitive levels' because power buyers would go elsewhere," the association said.

Three Occidental companies and Texas Industrial Energy Consumers have asked FERC to order discovery and hold a "contested evidentiary hearing" on the Tres Amigas project -- a lengthy process that advantages the side with the deepest pockets, attorneys note.

However FERC rules on Tres Amigas' two requests, the project may still face hurdles unless new policies are forthcoming from Congress or FERC to support the siting and financing of transmission projects for renewable power, energy

experts say.

Dirdal, who has spent much of the past year traveling to potential wind power sites in the United States, has been in that field since 1995 but said he is still learning about U.S. energy politics.

He argued that linking the grids would permit the greatest possible sharing of wind power originating in different time zones and different climate regions, substantially smoothing out the effects of wind's variability and intermittency. The result would be a stronger wind energy network less in need of expensive backup generation, he said. But the venture does challenge the existing order on the grid, and that is evidently a force to be reckoned with, he said.