

## Tilting Toward Wind Turbines

**October 1, 2008** – You hear a lot of talk these days from the presidential candidates about harnessing more energy from wind turbines.

While the pursuit of alternative energy sources is one the FAA supports wholeheartedly, Sheri Edgett-Baron, national program manager for the agency's Obstruction Evaluation Service, says attention must be paid to the impact wind turbines can have on the National Airspace System. She and other members of the aviation industry discussed wind turbine challenges facing the U.S. aviation industry yesterday at the ATO's "Competition for the Sky" conference in Las Vegas.



Although relatively new, the wind turbine industry began picking up momentum after Congress enacted production tax credits nearly a decade ago for wind turbine energy development, a move that encouraged developers to file more wind turbine construction applications with the FAA. The agency must investigate and approve the building of any structure that might interfere with aviation, including wind turbines. The number of construction applications soared from 5,000 in 2005 to more than 13,000 a year later. There have been 15,000 filings so far in 2008, and that number is expected to rise as the alarm grows in our country about energy independence.

The president has called for wind turbines – which sort of look like windmills from the future – to generate 20 percent of the nation's energy by 2030. To do that, thousands of new, taller, and more powerful wind turbines must be installed, often in "farms" that can run for thousands of acres. Think of wind turbines as tall as the Eiffel Tower, with blade spans approaching 300 feet. Although that's the future, it's not the far-off future.



With individual blade spans as great as 300 feet, wind turbine farms can churn masses of air large enough to interfere with radar.

While wind turbines have the potential to generate significant amounts of energy for the United States, they also pose a hazard for pilots because of their height, especially in bad weather when visibility is poor. So, too, do the huge masses of air churned up by the turbines, which can affect radar transmissions. Radar can develop blind spots; aircraft tracking on radar scopes can appear wobbly; and high false alarm rates are not uncommon.

A recent study, said Edgett-Baron, concluded that solutions to radar interference are "not likely to be realized in a business-as-usual" fashion. Geoff Blackman of Westslope Consulting agreed: "It's more than a radar problem. We've got to think bigger."

The solutions being considered are as varied as the problems. There are technological options, such as developing concurrent beam processing, which can differentiate between aircraft and wind turbine drafts; and "stealth" wind turbine design. Or, it could be as simple as planning, laying out wind farms in certain patterns to minimize the effects of wind turbines.

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