

Company explains new wind turbine warning lights technology to Wyoming audience

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By JEFF GEARINO - Southwest Wyoming bureau | Posted: Thursday, July 15, 2010

ROCK SPRINGS -- As in many Western states, southwest Wyoming's wind power is vast but mostly undeveloped. That will change soon, Sweetwater County officials believe.

Wind developers in the region are looking at the possible construction of 500 or more wind turbines over the next decade as energy companies explore potential wind farm sites in the county.

Federal officials say they currently have six applications for wind energy development projects in the county planned and under study in the Bureau of Land Management's Rock Springs Field Office.

The proposed project sites range from Miller and Aspen Mountains in southern Sweetwater County to scenic White Mountain between Rock Springs and Green River.

The BLM issued an environmental assessment in February on one endeavor -- Teton Wind LLC and White Mountain Wind LLC's proposed White Mountain Wind Energy Project.

The project could result in the construction of between 185 to 237 wind turbines on top of White Mountain.

Residents and county officials expect the blinking aviation warning strobes from all those 300-foot high wind turbines will light up the night sky.

The recent development of improved air-warning technology may lessen some of those light pollution impacts and make those projects have a better chance of success and acceptance by area residents, officials with the Oslo, Norway-based Obstacle Collision Avoidance Systems, Inc. contend.

Sweetwater County commissioners and a handful of area residents heard a presentation Tuesday night on the company's obstacle collision avoidance system and how it's being utilized in the wind industry by keeping wind farm lights off at all times -- unless an aircraft is detected in the area.

"This is game-changing technology that we expect will make a huge difference to the future of the [wind energy] industry," said Obstacle Collision Avoidance System spokesman Greg Erdmann.

"We're a new company, with new technology and with a new concept about how to mitigate visual impacts of wind farms," said Erdmann. "It should increase the public's acceptance of wind farm projects in their communities."

OCAS uses a low-power, ground-based continuous wave radar system that provides for the detection and tracking of an aircraft's proximity to an obstacle such as a wind turbine tower.

The system allows the visual warning lights to remain passive until an aircraft is detected and known to be tracking on an unsafe heading. When the aircraft no longer poses a threat, the wind farm lights are turned off.

"The radar detects and tracks an aircraft and then calculates the potential of a collision," Erdmann said. "If the potential is there, the system activates the turbines' warning lights and sends an audio-slam alarm" through the pilot's headset.

He said OCAS is the first Federal Aviation Administration tested and approved audio-visual warning system in the nation's airspace.

Norway pilots

Erdmann said the idea of the unique radar system was developed by two Royal Norwegian Air Force pilots in 2000.

He said OCAS, Inc. now has 45 employees based in Oslo and Vienna, Va.

The company's first application for the OCAS system was mainly on power transmission lines. "We've been slowly transitioning into the wind energy industry," said Erdmann.

In March, the company completed the installation of its first wind energy radar system at the Enertrag AG's Nadrensee wind development project in northern Germany.

Another OCAS radar system is planned for installation later this year at the Talbot Wind Farm in Lake Ontario, Canada.

The company provides real-time, 24-hour monitoring of the system once it is in place. The radars are about 6 feet high and attach to the stem of the wind turbine tower.

Erdmann said not all of the turbines in a wind farm will require lighting if the system is employed. "We put it on select turbines ... which gives a 360 degree cone of protection," he said.

Erdmann said when wind turbines are always off, it lowers the overall visual impacts of wind farms and can increase "public acceptance" in nearby communities because of decreased visual impacts, especially at night.

He said company officials contend the systems also lower bird and raptor mortality rates, since migratory birds are allegedly less likely to be attracted to wind farm lights.

"There is also the potential for increased energy output and the potential for taller, higher-power-yielding turbine hub heights," Erdmann said.

He said local government entities need to consider requiring such a system for future wind farms early in the federal and local permitting process.

"This kind of system needs to be discussed before and during the permitting process for wind farms, not after," he said.

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