WIND ENERGY FACT SHEET

American Wind Energy Assoication

1101 14th Street, NW
12th Floor
Washington, DC 20005
(202) 383-2500
windmail@awea.org
www.awea.org

Wind Turbine Lighting
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All structures more than 200 feet [61 meters] tall must have aircraft warning lights in accordance with requirements specified by the Federal Aviation Administration (FAA). While the wind energy industry understands the overriding importance of aviation safety, lighting every turbine at a wind project can annoy neighbors and will probably not affect aircraft safety. Additionally, certain types of lights at communications towers have been shown to attract birds and put them at risk.

The American Wind Energy Association (AWEA) has sponsored meetings with the wind industry and FAA representatives aimed at forging a compromise that enhances flying safety while also allowing for continued wind development. The U.S. Department of Energy's National Renewable Energy Laboratory (NREL) in 2002 funded a study on different wind project lighting designs with the FAA. The initial study involved FAA specialists viewing various existing wind projects with different lighting plans. The study is complete and the FAA is working on new recommendations for its Obstruction Lighting Circular.

Initial findings indicate that:

- Lighting the perimeter of wind projects with simultaneously flashing lights is sufficient to indicate one large obstacle to pilots
- No daytime lighting is needed
- Only one light is needed on each lit turbine nacelle (the nacelle is the boxlike structure at the top of a turbine's tower to which the turbine rotor is attached)

The FAA is testing simultaneously flashing red lights for a one-year period at a wind project in Oklahoma. The lights will be placed only on turbines around the project's perimeter and spaced a half-mine apart.

Avian Concerns
Steady-burning red lights can attract birds and place them in danger. Night-migrating birds are attracted by steady-burning red lights at tall communications towers, fly in circles around the towers, and are struck by guy wires. The flashing red lights being tested do not appear to attract night-migrating birds.

Neighbor Impacts
Residents near communications towers find that red lights are less intrusive than white lights, because white lights can direct a significant amount of light to the ground. The wind industry is pleased to see that the FAA is testing red lights.

The FAA's draft recommendations appear to satisfy needs of neighbors, the aviation community, and wildlife. However, until these recommendations are finalized in a revised FAA Obstruction Lighting Circular, regional FAA Obstruction Hazard Analysts will have jurisdiction over lighting requirements.

For more information, contact AWEA's Laurie Jodziewicz at (202) 383-2516 or ljodziewicz@awea.org.

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