

Group recommends stricter noise levels for Michigan wind farms

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As the call for alternative energy grows louder in Michigan and more communities consider wind farms, a group led by a pair of Michigan State University professors has issued a report calling for stricter regulations on noise levels and providing zoning guidelines for local municipalities.

MSU's Ken Rosenman and Jerry Punch, along with retired Consumers Energy engineer William MacMillan, tackle four main issues in their report on wind turbines: physical safety, shadow flicker (caused by shadows cast when sunlight hits a turbine's turning blades), conflict resolution and the most contentious issue related to turbines: noise levels.

"We strongly recommend the state of Michigan consider our recommendations in revising its 2008 guideline on the placement of onshore wind turbines," said Rosenman, the chief of MSU's Division of Occupational and Environmental Medicine in the College of Human Medicine.

"We believe wind turbines will benefit our state by offering a viable source of alternative energy, but the public must be protected from risks to safety and health."

Specifically, the new report calls for noise levels not to exceed 40 decibels, much lower than the 55 decibels the state recommends now in its 2008 guideline.

"A level of 55 decibels or higher presents unacceptable health risks," said Rosenman, citing research from the World Health Organization that found repeated exposures to a level of 40 decibels at night lead to long-term adverse health effects such as cardiovascular disease, while shorter-term exposures are associated with [sleep disturbances](#).

While the report says published evidence directly linking noise from wind turbines to [adverse health effects](#) is based on studies of airport and road traffic noise, "there is no reason to suspect wind turbine noise will have less of a harmful effect than noise from road traffic or airplanes," Rosenman said.

The report also sets guidelines on how to best measure [noise levels](#) and includes information on zoning waivers for municipalities.

Additionally, the report calls for a minimum distance from each turbine to the nearest residence or residential property line to provide adequate safety in the event of falling towers, blade failure or ice throw.

"But it can't be assumed that distances that protect against physical safety are adequate to protect against annoyance and sleep disturbance from [noise](#)," said Punch, a retired professor of audiology in the MSU's Department of Communicative Sciences and Disorders.

The report also sets out the process for municipalities to measure and predict shadow flicker, as well as ways to mitigate the problem.

Finally, Punch said, the report recommends several ways for municipalities to minimize complaints and disputes regarding wind turbines, including a mediation process as an alternative to litigation and "good-neighbor" payments to residents within pre-determined distances of [wind turbines](#).

There currently are only a handful of wind farms operating in the state, but several municipalities are considering adding [wind farms](#) in the near future. Rosenman and Punch said they hope municipalities use the group's report as a guideline for zoning issues that arise when turbines are built. The [report](#) can be found at [www.oem.msu.edu/userfiles/file ...dandHealthReport.pdf](http://www.oem.msu.edu/userfiles/file...dandHealthReport.pdf) .

Provided by Michigan State University

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