

Catching Wind

A Newsletter of RENEW Wisconsin

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Decision Nears on Glacier Hills Wind Park

The Glacier Hills Wind Park proceeding (6630-CE-302) is entering the home stretch. Hearings on the 90-turbine, 162 MW windpower installation proposed in Columbia County have ended, and parties are now preparing and exchanging post-hearing briefs. The Public Service Commission of Wisconsin (“PSCW”) is likely to issue its ruling on the application submitted by Wisconsin Electric Power Company (“WEPCO”) in early January. If approved, project construction would begin in 2010. All 90 turbines should be operational some time in 2011.

As of this moment, Glacier Hills is the only utility-owned windpower facility proposed for development in Wisconsin. In sharp contrast to neighboring states (see table below), there has been no windpower construction activity in Wisconsin since the 54 MW Butler Ridge project was placed in service this past March. No other wind developer with a fully permitted project has announced plans to start construction in 2010.

Townships Approve Pacts

Of Glacier Hills’ 90 turbines, 54 would be located in the Town of Randolph and 36 in the Town of Scott. In October WEPCO signed Joint Development Agreements with both townships, which commit Randolph and Scott to support Glacier Hills under the terms negotiated in the agreement. There are differences between the two agreements. The Scott agreement contains provisions addressing sound thresholds, minimum setback distances and decommissioning, while the Randolph agreement does not. If the PSCW backs the provisions contained in the Town of Scott’s Joint Development Agreement with WEPCO, there is a high

likelihood that those provisions will apply to the Town of Randolph as well.

In an unexpected development, WEPCO created a Windpower Facilities Participation Agreement and Easement that it will offer to neighbors living within one-third mile of one or more turbines. Assuming Commission approval of this easement, a landowner who signs this document would receive a modest annual stipend based on the number of turbines within one-third mile from the owner’s residence. In exchange, landowners must receive prior approval from WEPCO before they can proceed with erecting a structure greater than 25 feet in height within 1,200 feet of a turbine or a related facility. The definition of “structures” includes trees.

The Glacier Hills proceeding brought forward a wealth of expert testimony from several parties, much of it centering on the issue of health effects

arising from sounds created by spinning turbines. A group opposed to wind energy development, Coalition for Wisconsin’s Environmental Stewardship (“CWEST”), argued that the sound emissions constitute a health hazard to adjacent neighbors. To support its case, CWEST submitted testimony from an acoustical engineer, Richard James, who contended that the proposed setback distances to nonparticipating households are insufficient to mitigate low-frequency sound and infrasound emissions. CWEST advocated minimum setback distances of 1.25 miles (6,600 feet) from neighboring residences and a maximum allowable sound of 35 decibels (dBA).

For comparison purposes, CWEST’s recommendation extends even beyond the exceptionally stringent one-mile setback adopted by Trempealeau County. Moreover, it is nearly seven times as long

Snapshot of Midwest Windpower Development Activity

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<u>State</u>	<u>Existing Capacity</u>	<u>Under Construction</u>
Iowa	3053 (MW)	399 (MW)
Minnesota	1805*	60
Illinois	1123	979
Indiana	730**	404
Wisconsin	449	—
Missouri	308	150
Michigan	129	16

* Total includes Iberdrola’s 132 MW Elm Creek II project

** Total includes Horizon Wind’s 200 MW Meadow Lake project

Sources: American Wind Energy Association, Illinois State University

Excerpts from WEPCO Witnesses on “Wind Turbine Syndrome”

Mark Roberts, PhD in Epidemiology, dissected Dr. Nina Pierpont’s “research” and rebutted the testimony of Richard James, CWEST’s acoustical consultant. He summarized his testimony as follows:

- “Wind Turbine Syndrome” is not a medical diagnosis supported by peer reviewed, published, scientific literature;
- The materials presented to support “Wind Turbine Syndrome” are not of sufficient scientific quality nor have they received the rigorous scientific review and vetting that is customarily part of the peer review and publishing process;
- The tried and true scientific method of developing a hypothesis, testing that hypothesis, publishing the results and having others attempt to repeat the research has not been done to test the existence of a health condition called “Wind Turbine Syndrome;”

- An accumulation of anecdotal interviews with self-selected persons living near a wind turbine does not constitute an epidemiological study and is not sufficient to determine causation;
- The bases for claimed adverse health effects due to wind turbines cited by Mr. James either cannot withstand scientific scrutiny or have nothing to do with wind turbines; and
- Siting a wind turbine within view of a residence and the operation of that turbine could be a source of annoyance to those living in the residence.

Roberts serves as the Principal Scientist and Director of the Center for Occupational and Environmental and Health in the Chicago office of Exponent, a scientific research and consulting company. He holds a Master’s in Education, as well as an M.P.H. and Ph.D. in Epidemiology and Biostatistics.

Geoff Leventhall, acoustical consultant with a PhD in Acoustics, also presented testimony to rebut CWEST’s expert witness.

Based on my experience of infrasound and low frequency noise, it is my belief that the infrasound from wind turbines is of no consequence. Attempts to claim that illnesses result from inaudible wind turbine noise do not

stand up to simple analyses of the very low forces and pressures produced by the sound from wind turbines. Additionally, the body is full of sound and vibration at infrasonic and low frequencies, originating in natural body processes. As an example, the beating heart is an obvious source of infrasound within the body. Other sources of background low frequency noise and vibration are blood flows, muscle vibrations, breathing, fluids in the gut and so on. The result is that any effect from wind turbine noise, or any other low level of noise, which might be produced within the body is “lost” in the existing background noise and vibration.

Hearings Scrutinize Opposition’s Health Claims

(continued from page 1)

as the 1,000 foot setback distance proposed by WEPCO and approved by the PSCW in previous proceedings. By advocating setback distances that would foreclose wind development in every part of Wisconsin, CWEST runs the risk of marginalizing its own influence over the PSCW’s forthcoming docket to promulgate statewide permitting standards for wind energy systems.

For its part, WEPCO presented testimony from Dr. Geoff Leventhall, an acoustical consultant from England. Leventhall argued that there is nothing mysterious about sounds produced by wind turbines and that there is no reason to regulate wind projects any differently than other sound-producing activities. The frequency sound and infrasound from turbines do not cross the hearing threshold, Leventhall wrote, and thus are inconsequential to the issue of human health. Both Leventhall and Dr. Mark Roberts, an epidemiologist retained by WEPCO, devoted much of their testimony to documenting the deficiencies of Dr. Nina Pierpont’s theory of “Wind Turbine Syndrome,” which included her lack of understanding of basic acoustic science as well as her aversion to scientific rigor.

More broadly, my testimony establishes that the claims of health effects from the low levels of infrasound and low frequency noise from wind turbines, as described in the Wind Turbine Syndrome and Vibroacoustic Disease hypotheses, fail. However, higher frequency noise from wind turbines, if it is audible, can cause disturbance to some residents, but this effect is no different from that of a noise from another source.

Leventhall founded the *Journal of Low Frequency Noise and Vibration*, now in its 28th year and edited it for the first 18 years. He holds a BSc in Physics and MSc and PhD in Acoustics. †

A full party to this proceeding, RENEW Wisconsin sponsored testimony from Mick Sagrillo, a national expert on small wind systems and a Kewaunee County resident. Within five miles of his house are two of the nation’s oldest wind projects, comprising 31 turbines with a combined rated capacity of 20.4 MW, now in their 11th year of operation.

Sagrillo was tapped to chair the Town of Lincoln’s Wind Turbine Moratorium Study Committee formed in 1999 after the projects began commercial operations. In that capacity He had a ringside seat to the post-installation goings-on in his township, and participated fully in the subsequent debate over revising the town’s permitting standards for commercial wind turbines. As his testimony made clear, the rancor and discord that colored local perceptions of wind power subsided with time. As he put it: “With 10 years of experience under our belts in Lincoln Township, I believe that residents now understand and believe that the wind projects pose no threat to themselves and their community.”