Joint Statement to Wisconsin Task Force on Wind Siting Reform

By: George Kamperman, INCE Bd. Cert., and Richard James, INCE

To: Wisconsin Task Force on Wind Siting Reform
Subject: Comments on Electric Generation and Supply templates
Re: Wind Siting Reform Policy

Dear Sirs:

Please let me take this opportunity to briefly introduce ourselves. We are noise control consultants with many years of experience in community noise and related land-use planning issues. Mr. Kamperman has over 50 years of experience and was active in the early 1970's assisting the US EPA, states such as Illinois, and many communities in setting their community noise standards and guidelines. Mr. James has over 35 years of experience in the same field and has represented many of the largest corporations in the US on community noise issues and litigation. He has also served on the S12 Working Group for the American National Standards Institute, which has oversight on standards related to acoustics including community noise and works to coordinate ANSI standards with those of ISO and other standards organizations. We are currently involved with assisting some of the communities in Wisconsin with understanding and addressing wind turbine developments proposed for their communities.

We are writing this joint letter to the Task Force because we have mutual concerns about the impact of the work of the Task Force on the communities in Wisconsin that are under consideration for wind farm development. These concerns are a result of our work with those communities and our review of the Task Force's recent draft Policy documents and the Draft Model Wind Ordinance for Wisconsin (Feb. 7, 2007) and its associated reference guide.

Our review finds substantial errors of fact and understanding regarding community noise and the impact of noise on land-use planning and the safety and health of citizens that would be affected by these policies. We do not intend to address all of them but several of the more egregious errors are addressed in this letter.

It appears to us that there has been little or no input into the work of the Task Force from un-biased and experienced professionals from our profession. Nor does it appear that there has been much, if any input from the medical and research professionals. Mr. Kamperman suggests that one way to resolve this lack of expertise on the Task Force panel would be to include someone with his experience on the Task Force panel. Please consider the offer in the Post Script below.

We would like to address two major errors and failures of understanding in the Task Force's documents.

First, the limits and guidelines set forth fail to adequately consider the health and safety of the people who will be living in the communities in which the wind energy systems are to be located. For example, there is no scientific evidence currently available from independent medically qualified authorities to support a statement that the 50 dBA sound pressure level to which residents may be subjected on a 24/7/365 basis is safe and healthful for all people including children and those with special needs.

The World Health Organization has found[1] that sound levels during nighttime and late evening hours should be less than 30 dBA during sleeping periods to protect children's health. They noted that a child's autonomous nervous system is 10 to 15 dB more sensitive to noise than adults. Even for adults, health effects are first noted in some studies when the L_{max} sound levels exceed 32 dBA, 10-20 dBA lower than the levels needed to cause awakening. The WHO researchers found that sound levels of 50 dBA or more strongly disrupted hormone secretion cycles. For sounds that contain a strong low frequency component, which is typical of wind turbines, WHO says that the limits may need to be even lower than 30 dBA to not put people at risk.[2] ANSI standards recommend that no sound pressure levels exceed 65 dB (e.g. No weighting) in the lower frequency ranges to avoid structural vibrations and potential damage. 50 dBA would not protect against this situation, yet studies have shown that wind turbine sounds at residences sometimes exceed 65 dB in the frequency range below 20 Hz.

The recent conference held in Lyons France for the purpose of addressing wind turbine noise and health concerns demonstrated that wind turbine sound emissions of the types routinely experienced by people living close to wind farms may have significant cardio-vascular health effects after long term exposure. Again, we caution the Task Force that there is no scientific or medical basis for equating a 50 dBA limit for Wisconsin communities with health and safety.

Both the policy statement and supporting Model Ordinance are woefully lacking any scientific evidence supporting the sound limits and other recommendations that impact the acoustical environment. There is no un-biased evidence presented that the people living near wind turbine installations will not be forced to accept industrial scale operations that could introduce new risks into a community against the will of its citizens. Further, the statements in these documents that 50 dBA is based on review of other statutes and standards adopted by communities with wind farms shows only that the other communities also did not properly research the issues of community noise and

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[1] Report on the second meeting on night noise guidelines, WHO, Dec. 6-7 2004

[2] Community Noise (Berglund et al., 2000)

its effects on health and safety. There is no objective argument for considering these other standards as a reason to adopt a similar set of limits. The documents provided by the promoters of wind energy that support the methods and limits proposed by the Task Force that we have seen would not pass a peer review by professionals in our field. They, also, should not be used as the basis for guidelines in Wisconsin.

Second, to suggest the use of L_{10} as a descriptor of background sound levels is an egregious mistake. On what scientific basis has this recommendation been made? L_{10} is not a descriptor of background sound; L_{90} is the proper descriptor for background sound. L_{10} is a descriptor of noisiness from transient events. The wind turbines will produce steady sound emission for protracted periods of time. They should not be judged against transient events, but against the steady background sounds that occur during the periods of the day when quiet is expected.

Wind turbine siting guidelines for noise in Europe and many other parts of the world have adopted L_{90} to define the sound levels in communities prior to construction of wind farms. In New Zealand, L_{95} is used. The International Energy Agency (IEA) recommends the use of either L_{90} or L_{95} to define background sound levels.[3] L_{90} has been accepted and incorporated into documents developed by wind industry groups. For example, the British Wind Industry Association (BWEA) recommends that turbine sound levels should be kept to within 5 dBA of the average existing evening or nighttime background noise level and defines background noise level as the L_{90} sound level.[4]

It should be noted that even when these stricter guidelines are followed that experiences in Europe, Britain and New Zealand show that residents near the wind farms are often subjected to turbine noise that are considered objectionable.

Finally, if the mission of the task force is to enable the mission of the DNR:

> "To provide a healthy, sustainable environment and a full range of outdoor opportunities.
>
> "To ensure the right of all people to use and enjoy these resources in their work and leisure.
>
> "To work with people to understand each other's views and to carry out the public will."

Then, the views of the communities and citizens of Wisconsin who look to the State for guidance on what amounts to the industrialization of rural Wisconsin

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[3] Recommended Practices for Wind Turbine Testing, Chapter 10.

[4] BWEA Wind Turbine Noise Working Group Guidelines.

should be considered as positive and constructive efforts. Their concerns about noise and other new risks being introduced into their communities are valid. They should not be discredited by labeling their concerns as some form of NIMBYism or obstructionism as was implied in earlier drafts of the policy documents. Doing so devalues the input of Wisconsin's citizens to the State's efforts to promote renewable energy.

We appreciate the Task Force taking the time to consider our concerns and hope that they are taken in the most constructive light possible.

Sincerely,

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P.S. from George Kamperman

I feel the wind turbine siting issues are so critical in many areas that I would welcome an opportunity to be a part of the PSC committee responsible for determining wind turbine siting guidelines for the State of Wisconsin. If the State is interested in my involvement in this endeavor I offer my services at no cost.