

July 7, 2010

Sandra Paske  
Secretary to the Commission  
Public Service Commission of Wisconsin  
P.O. Box 7854  
Madison, WI 53707

Via: ERF

RE: Docket No. 1-AC-231 Wind Siting Rules

Dear Ms. Paske:

I am filing these written comments as a supplement to the comments I made at the public hearing in Fond du Lac, Wisconsin that was held June 28, 2010.

I am a resident of Brown County and have been approached to lease property for the construction of wind turbines, which has caused me to look into the effects of wind turbines on people and property.

With regard to the rules of the siting of wind turbines, I have three principle areas of concern:

- Health and Safety of people who live and work near wind turbines
- Property values in the area of wind factories
- Placing wind turbine factories in areas with sensitive geological features

## **I. Health and Safety**

With regard to health and safety of the people who would live or work within the area of a wind turbine factory, I would first bring to your attention the recommendation of the Brown County Board of Health. A copy of that recommendation is attached.

I would refer the Public Service Commission to the following reports which were made a part of the record during my comments at the Fond du Lac hearing:

1. World Health Organization "Night Noise Guidelines for Europe"
2. World Health Organization Final Implementation Report for Night Noise Guidelines
3. Report compiled by Dr. Keith Stelling – October, 2009
4. Health Survey Report for the Ontario, Canada Government
5. Dr. Nina Pierpont – March, 2006
6. Vestas Wind Systems of Denmark – Mechanical Operating and Maintenance Manual

Based on the above scientific expert analysis of wind turbine factory noise outputs, I would ask the PSC. to impose setbacks of at least one mile from an adjoining property owner's property line and to set an audible noise level of 30 dB at an occupied structure.

## II. Property Values

Regarding property values, Appraisal Group One of Oshkosh, Wisconsin studied the sales of property within two wind factories in Wisconsin:

Blue Sky Green Field in Fond du Lac County and Forward in Fond du Lac and Dodge County

The Report included a literature review, an opinion Survey and a Sales Study

The conclusions from the Sales Study were that “the impact of wind turbines decreased the land values from -12% to -47% with the average being -30%.”

The Wind Energy companies normally rely on a study from the Lawrence Berkeley National Laboratory to show no or little effect on property values.

This Lawrence Berkeley National Laboratory study has been debunked in several articles. The statistical methodology used (Multi-Site Hedonic Analysis) by LBL is not appropriate for this type of study. The authors failed to follow any of the well-developed and tested standards for performing regression analysis on property sales.

This is a significant problem because out of the 7,500 sales in the study, less than 10% had ANY view of turbines, and only 2.1% had a view rated greater than minor. That is 158 homes out of 7,500 nationwide.

Because of the dramatic effect that wind turbines have on adjoining property owners and their land value, the Public Service Commission should establish setback standards from property lines, not occupied structures. By establishing setbacks for wind turbines related to existing homes or other occupied structures, the Public Service Commission will be depriving property owners of the use of their property should the property owners wish to construct a residence or occupied structure within the setback area that encroaches upon adjoining property.

The State – or local government - may ultimately be financially responsible to adjoining landowners who have lost the right to the use and enjoyment of their property.

The legal doctrine of inverse condemnation is recognized in Wisconsin.

The case of Piper vs. Ekern 180 Wis. 586 (1923) recognizes that a State regulation meant for the public good, but which reduces property value, may be a “taking” even though no formal condemnation has been initiated. In that case, the State was required to compensate the property owner who suffered economic harm as a result of the State regulation. (Related to the height of buildings near the State Capital). Also the case of Zimm vs. State 112 Wis. (2d) 417 (1983) stated that the State was responsible to the land owner for property lost when the DNR raised the water level of a lake and the property became accessible to the public.

In order to protect adjoining property owners and to preserve the rights of property owners to the use of their property, the Public Service Commission should establish setbacks for wind turbines of one mile from property lines.

### **III. Placing Wind Turbine Factories in Areas With Sensitive Geological Features**

My residence is located on the Niagra Escarpment. My water needs are supplied by a private well. Because of that, I am very concerned about the possible effects of ground water contamination from the construction of the foundations for Wind Turbines and the trenching for the necessary cabling to connect the turbines to the electrical grid. The Niagra Escarpment is a unique geological feature in Northeast Wisconsin. The rock that forms the escarpment has many fractures and in certain areas the bedrock is exposed or very near the surface. The term for that condition is Karst fractures.

It is very important that the Public Service Commission not allow wind farms to be built along the Niagra Escarpment where Karst fractures exist to prevent contamination of the ground water supply in these particularly sensitive areas.

In conclusion, I would urge the State of Wisconsin to fully study the issues that have recently been coming to light. Europe has had wind turbines for decades and is only within the recent past begun to become aware of the negative side effects of wind turbines. There are many other issues that need to be addressed, including the effect of wind turbines on domesticated and wild animals, as well as interference with communications and television and radio reception.

Do not allow additional residents of Wisconsin to be guinea pigs to be studied after the fact. Let's fully understand the consequences of locating Wind Turbine Factories in areas where people live and work before the wind turbines are installed.

If wind turbines are to be located in Wisconsin before we study and understand their effects, the setback should be one mile from adjoining property owners' property line and an audible noise level of 30 dB at an occupied structure.

Very truly yours,



Carl W. Kuehne

Attachment

# HEALTH DEPARTMENT

## Brown County

610 S. BROADWAY STREET  
P. O. BOX 23600  
GREEN BAY, WI 54306-3600

PHONE (920) 448-6400 FAX (920) 448-6449 TDD (920) 448-6448

**JUDY FRIEDERICHS, R.N., B.S.N.**

[www.co.brown.wi.us/health](http://www.co.brown.wi.us/health)

Director

June 18, 2010

To: Patrick Evans, Chairperson  
Brown County Health and Human Services Committee  
Brown County Board of Supervisors

From: Audrey Murphy, Chairperson  
Brown County Board of Health Members

Re: Requested Written Report on Health and Safety Issues related to Wind Turbines

**The Brown County Board of Health has extensively reviewed the following:**

1. Invenergy:  
Statement on health and safety of existing installations.
2. Wisconsin Department of Health Services  
A review of available literature was presented to the Board of Health by the WI Department of Health Services. The department's conclusion was that "evidence does not support the conclusion that wind turbines cause or are associated with adverse health outcomes." They further stated that "gaps remain in our knowledge of the impact that wind energy may have on human health." At this point, they have declined to take a position.
3. Wind Siting Rules given before the Public Service Commission of Wisconsin (5/17/10 text of proposed rule).
4. Various studies from Europe (including Great Britain and Scandinavia), Canada, U.S., Australia, New Zealand; and guidelines from the World Health Organization.
5. Testimony from the Brown County Citizens for Responsible Wind Energy.
6. Presentation from Bill Hafs, Director of the Brown County Land Conservation Department; and Kristin Morehouse, P.E. for Brown County Citizens for Responsible Wind Energy.
7. The Wisconsin Air Medical Council position statement regarding Wind Turbines and Safe Landing Zones, March 2010; and Eagle III Emergency Air and Ground Life Express policy statement.
8. The Board of Health received legal opinions from John Leutscher and Fred Mohr. John Leutscher was present at the June 15<sup>th</sup> meeting.

**The Board of Health has identified the following issues of concern:**

1. Sound / Noise / Shadow Flicker

Studies reviewed recommend that wind turbines be placed such that sound measurements do not exceed 30 db outside of any occupied structure in order to prevent sleep deprivation and other noise-related health issues. This is based on general World Health Organization guidelines for nighttime noise.

Literature reviews suggest that there should be a minimum setback of 2,640-3,168 feet (.5-.6 mile) between a wind turbine and an occupied structure. This is consistent with existing ordinances in some of the municipalities in the area. This is in contrast to the Wisconsin Public Service Commission (PSC), Chapter 128 proposal which recommended a setback of 1,290 feet from occupied structures; the Board of Health disagrees with the PSC recommendation.

2. Ground Water Contamination

We reviewed presentations by Kristin Morehouse, P.E. of the Brown County Citizens for Responsible Wind Energy; and Bill Hafs, Director of the Brown County Land Conservation Department. Both reports indicate that Southern Brown County's unique topography presents considerable difficulties in safely installing wind turbines or any construction which would disrupt the ground in this area. The density of these Karst features is not replicated anywhere else in the state.

Information presented indicated that from 2005 to 2010, areas of southern Brown County with Karst features characterized by sink holes, fractured bedrock, exposed bedrock and shallow soils over bedrock, have been conduits of serious groundwater contamination caused by runoff from land application of waste near these Karst features, and resulting in pollution of groundwater and contamination of over 100 wells by bacteria, E-coli and nitrates.

**Conclusions and Recommendations:**

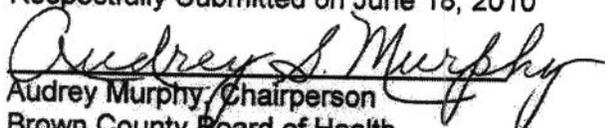
Wind turbines should be placed such that sound outside of any occupied structure be measured at no greater than 30dB at night.

Required setback placements should be a minimum of 2,640 to 3,168 feet (.5-.6 mile) between a wind turbine and an occupied structure.

Wind farms should not be installed in areas of Southern Brown County with Karst features. The historical record of groundwater contamination in the southern Brown County area and the fragile geological formations, when coupled with other potential health concerns deem this area unsafe for installation of a wind farm.

The Board of Health also recommends a moratorium on wind turbine construction in southern Brown County until P.S.C.W. Chapter 128 (Wind Energy Systems) becomes a valid section of the Wisconsin Administrative Code.

Respectfully Submitted on June 18, 2010

  
Audrey Murphy, Chairperson  
Brown County Board of Health