STATE REPRESENTATIVE
Garey Bies
1ST ASSEMBLY DISTRICT

Written Testimony of Representative Garey Bies
Senate Committee on Commerce, Utilities, Energy, and Rail
Clearinghouse Rule 10-57 – Siting of Wind Energy Systems

Good afternoon Chairman Plale and committee members, I appreciate the opportunity to submit my testimony on Clearinghouse Rule 10-57, relating to the siting of wind energy systems.

We have a full room today so I will keep my comments brief. What I would like to see is that these rules be thrown out, along with the change in oversight to the Public Service Commission (PSC) of where wind farms are constructed in local communities. My belief is that the regulation for the siting of wind farms should remain with local government who best understand the needs of their residents.

However, understanding that this is not the issue before the committee today, I would then request that these proposed administrative rules be set aside pending further research on what impact wind turbines have on residents in close proximity to them.

Today the committee is going to hear testimony from people who live close to giant wind turbines and the committee will learn about the impact of these turbines on their lives. These are not people here lobbying against the placement of a wind farm in their backyard, that deed has already been done. They are here to share their experiences of having a wind farm in their backyard so that the committee can understand the potential consequences to other Wisconsin residents.

If a utility company receives approval for the placement of wind farm, and builds the giant turbines, those turbines are permanent and the impacts of those turbines are permanent. It is not a matter of simply taking down some scaffolding and moving them when it turns out the turbines are harming nearby residents. Too many questions remain in this regard and it only makes sense to me, that the state takes a step back and further investigates the potential harm to those living close to wind turbines.

Once again, thank you for the opportunity to submit my testimony on Clearinghouse Rule 10-57. Again, I would request that these rules be set aside pending further research.

First for Wisconsin!

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State of Wisconsin
Jim Doyle, Governor

Department of Agriculture, Trade and Consumer Protection
Randy Romanski, Secretary

October 12, 2010

Senator Jeffrey Plale, Chair
Committee on Commerce, Utilities, Energy, and Rail
Room 313 South
State Capitol
P.O. Box 7882
Madison, WI 53707-7882

Re: Proposed Wind Siting Rule - PSC 128

Dear Senator Plale:

This letter provides comments on the proposed wind siting rule that the Legislature is currently considering. Wisconsin must promote homegrown renewable energy to reduce its dependence on out-of-state energy sources, achieve Governor Doyle's goal of 25% renewable energy by 2025, and keep Wisconsin agriculture strong. Our state needs to continue to build upon its strengths to develop this homegrown renewable energy opportunity. Whether it is wind generation, biomass from our fields and forests, biofuels, or biogas from manure digesters or other waste-to-energy opportunities, Wisconsin must go forward in its innovation and development of renewable energy options.

The Department of Agriculture, Trade and Consumer Protection acknowledges the significant efforts made by the Public Service Commission (PSC) to draft the rule, and we are pleased that the rule addresses two concerns that DATCP identified in its earlier comments to the PSC. These are related to stray voltage testing and marking of meteorological towers. However, DATCP raised some additional issues that could still be addressed in the rule:

Aerial Applications on Farmland

DATCP is concerned about the potential impact of some wind turbines on vegetable production in Wisconsin. Aerial applicators have stated that it is not safe to aerially apply within one-half mile of wind turbines because they are a barrier to safe application and create a wind wake that can be dangerous to the pilot.

Vegetable production relies heavily on aerial applications of plant protection products in order to ensure yield and quality products. Multiple aerial applications on high-value vegetable crops are often required and must be applied quickly after a pest problem or disease is identified. Under wet conditions, aerial application is the only alternative.

Locating wind turbines in intense vegetable production areas exposes these fields to risk of crop revenue loss. It affects not only the growers, but the vegetable processors that depend on reliable production and quality levels to run their processing facilities efficiently. Processing facilities are often located near areas of intense vegetable production and are a significant employer in the local economies.

Aerial application of pesticides on vegetables is concentrated in limited areas of Wisconsin. In general, these are areas not identified as having higher wind energy production potential.

The Wind Siting Council Draft Rule version 1.0 dated 4-13-10 included a provision that allowed a political subdivision to require a developer, owner or operator to provide compensation to farm operators on nonparticipating properties within an unspecified distance from a wind turbine site for reductions in crop production or increased application costs due to the wind energy system's effect on aerial spraying.

The Commission has not included this provision in the draft rule submitted to the Legislature. DATCP has been working with UW-Madison on methods to assess these crop losses and believes that a workable process can be established that would provide justifiable compensation. We would be pleased to provide the Committee with updated information on this process.

Working Lands Legislation

Wind turbines can generate clean renewable energy and supplement farm income. But they also have the potential to change the landscape and create possible land use conflicts. Wisconsin recently enacted major "Working Lands" provisions as part of the state biennial budget act (2009 Wis. Act 28). DATCP has recommended that the PSC should consider these provisions as it proceeds with its wind turbine siting rule and should design the rule to minimize or eliminate any potential inconsistency between the rule and the farmland preservation statute. DATCP has raised this issue with the PSC and is awaiting a response. Given the importance of the recent Working Lands legislation in protecting our state's valuable farmland, we believe this issue needs clarification.

Siting/Construction Issues

Wind turbines, access roads, transmission lines and other structures needed to connect the wind turbines to the transmission system remove cropland from production. These facilities should be sited in a manner that maintains the productivity of farm operations as much as possible. This can be accomplished by locating wind turbines and access roads along field edges or in non-agricultural areas. This would minimize the severance of fields into smaller misshaped remnant parcels that are difficult and less efficient to farm.

Farmers expect that their cropland restored after construction will be returned to its pre-construction productivity. But there are several soil impacts that can result from wind farm construction:

- Topsoil mixing with the underlying soil reduces soil tilth, organic matter and cation exchange capacity, and alters soil structure and distribution of particle sizes. It can also increase rock content and concentrations of harmful salts near the surface. This can lead to reduction in crop yields.

- Compaction of subsoil and topsoil can take place due to the heavy equipment used during construction of the wind projects. Compaction reduces uptake of water and nutrients by crops, restricts rooting depth, decreases soil temperature, increases the proportion of water-filled pore space at field moisture capacity, decreases the rate of decomposition of organic-matter, decreases pore size and water infiltration, and increases surface runoff. The greater the depth to which soil compaction occurs, the more persistent it is. Soil compaction can lead to crop yield reductions that continue for decades.

- Damage to drainage systems can occur during construction of wind energy systems. During construction, drainage tile can be crushed or cut resulting in wet fields that cannot be tilled. In addition to damaging drainage tile, wind energy system construction can permanently alter the soil profile, thereby affecting drainage patterns. The resulting de-stratification, or alteration, of soil horizons may result in ponding or seeps that cause crop yield losses.

DATCP has developed guidelines that are intended to maintain the productivity of the farmland associated with wind energy projects. These guidelines should be addressed during the planning process by wind energy system developers when siting and constructing these facilities to minimize the negative impacts agriculture.

Thank you for the opportunity to comment on the proposed Wind Siting Rule (PSC 128). DATCP values the Legislature's work in passing Act 40 and the Public Service Commission's efforts in promulgating these important wind siting rules. Promoting renewable energy resources through sensible legislation and rules is crucial to the state's economy and energy independence.

Sincerely,

Randy Romanski

Randy Romanski
Secretary

MWFPA
Midwest Food Processors Association, Inc.

To: Senate Committee on Commerce, Utilities, Energy, and Rails
From: Nick George, Midwest Food Processors Association
Date: October 13, 2010
Re: CR 10-057 – Wind Siting Rules

Thank you for agreeing to hear concerns regarding Clearing House Rule 10-057, relating to procedures to site large wind turbines in Wisconsin. The Midwest Food Processors Association (MWFPA) represents the majority of the fruit and vegetable processing industry in Illinois, Minnesota, and Wisconsin. Our members produce and process more vegetables in the Midwest than in any other area of the country with Wisconsin providing the second highest value of vegetables in the nation. Wisconsin's fruit and vegetable industry generates more than $6 billion in economic activity and provides over 20,000 full-time jobs.

The MWFPA is NOT opposed to wind energy nor are we opposed to land owners opting to site a wind turbine on their property. We believe alternative energy sources can be beneficial to Wisconsin and that a land owner has the right to utilize their property as they see fit. That being said, it is important that growers, processors, landowners, and energy companies understand the impact wind farms will have on the vegetable processing industry.

A combination of growing and processing expertise, horticultural and pest research, geographic location and abundant natural resources, make Wisconsin a great place to grow high value vegetables. Wisconsin ranks first in the production and processing of snap beans, second in sweet corn, third in potatoes, and third in green peas. The success of these crops is due in part to Integrated Pest Management Programs of which wind farms will impact.

Our concern with the siting of wind farms specifically has to do with the availability of aerial applicators to deliver timely pest and disease controls on large areas of vegetable crops. Without aerial application high intensive vegetable production areas like that found in the Central Sands, Antigo Flats, Arena-Spring Green-Wisconsin River area, and Green Lake and Fond du Lac Counties would be compromised. We fear that the siting of wind turbines in these areas will limit the use of aerial application which will negatively impact the production of processing vegetables in the following ways:

- **Aerial Application Will Be Limited** – Many air applicators refuse to fly within one half mile of a large wind turbine because the turbines are inherently dangerous. Guy wires, wind turbulence, and flight distraction all contribute to increased risk for the pilots. The Wisconsin Agricultural Aviation Association adopted a resolution in 2009 refusing any aerial crop protection applications inside a grouping of wind turbines.
- **Timely Application Is Important** – High value vegetable crops rely on timely application which can only be delivered via air. Vegetable crops are not like row crops or grain crops

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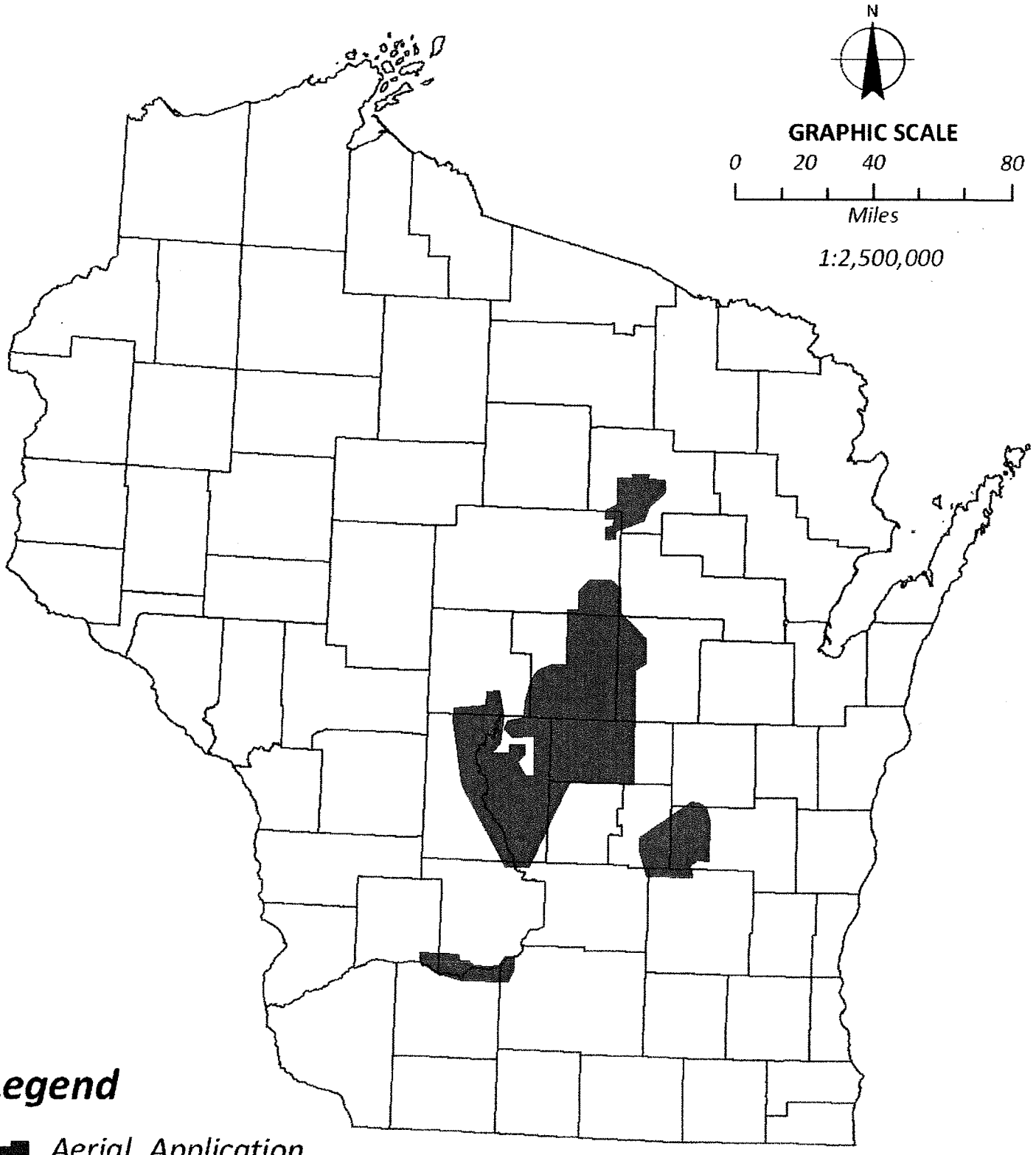
which rely on air application for fertilizer and not pest and disease control. You cannot compare row crop treatment to vegetable treatment. Timely treatment is essential.

- **Increased Risk Means Increased Costs** – If a pilot chooses to risk flying in a grouping of wind turbines, the costs will reflect the increased risk.
- **Insurance Factors** – Insurance costs will go up once the industry understands the increased risk. In some cases insurance will not be available putting that aerial applicator off limits for most growers and processors.
- **Ground Application is Not an Option** – Some people think that ground treatment is an alternative. It is not. If the ground is too wet (which is the present case) and there is a pest infestation, ground applicators will not be able to apply controls in a timely manner. In addition there is acreage loss with ground treatment which in turn lowers the yield and increases costs.
- **Cost of Vegetable Crops Will Increase** – the inability to use aerial application means yields will be down due to loss by ground rig tracks, pest issues and control tools. There will be losses to disease and insects due to application timing resulting in poor recovery and substandard quality.
- **Vegetables Play a Unique Role in the Agricultural Landscape** – If processors cannot grow enough high quality vegetables for processing they will go to a different area forcing growers to find alternatives for large sections of land. This will have many unintended consequences for them and others such as the dairy and beef industry which rely on certain crops for land spreading, feed, and other uses.
- **Grower Options will be Limited** – Many growers use vegetable production as a rotating option, to keep the land healthy and maximize its use. Taking vegetables out of the growing mix limit's a grower's flexibility and increase costs.
- **Irrigation Options Limited** – In areas that use irrigation, wind turbines could eliminate or obstruct future development of full circle pivots. This could have a devastating impact in some areas of the state.
- **Limitations Extends Beyond the Turbine** – Due to the one-half mile flying restriction, the influence of wind turbines will go well beyond the owner and extend to neighboring land. In the case of a wind farm with several turbines, large areas could be affected and possibly taken out of production even though a turbine is not located on a growers land.
- **Increased Operating Costs for All** – the loss of growing and aerial application options will increase costs for applicators, growers, and processors leading to fewer crops and higher costs.
- **Loss of Land Value** – The loss of cropping options may have a negative impact on the value of production land which could bring down the value of everyone's land.
- **Increased Carbon Footprints** – The ultimate irony of using wind farms as "green energy" may be the increased use of carbon fuels by food processors. The increased use comes in many forms including trucking raw product from locations outside of the wind farm to increased fuel use for ground application. The current system locates processing facilities near growing areas which lowers the amount of fuel needed to bring a crop to processing.

The above comments clarify the vegetable processing industry's thoughts on the siting of wind farms. Wisconsin is home to a large and strong vegetable processing industry which provides thousands of manufacturing and agricultural jobs. The placement of wind turbines for energy purposes in intensive vegetable growing areas will have consequences for the industry. With proper planning and cooperation between growers, processors and energy interests, Wisconsin can continue to provide good jobs while becoming less dependent on carbon based fuels.

Intense Vegetable Production Areas Reliant on Aerial Application



Legend

Aerial_Application

county

Sweet corn, green bean, and pea field locations provided by Wisconsin vegetable processors. Potato/Vegetable rotation fields identified via high capacity well data from Dr. George Kraft, UW-Stevens Point. Data reviewed for accuracy by Wisconsin Potato and Vegetable Growers Association. Mapped by A.T. Dehnicken.

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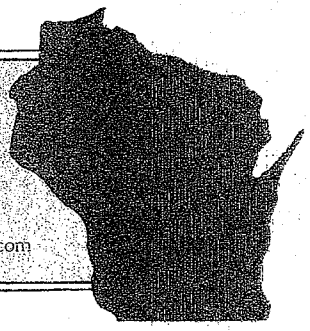
Telephone: 715/623-7683 · Fax: 715/623-3176 · e-mail: wpvga@wisconsinpotatoes.com · web: www.wisconsinpotatoes.com



October 13, 2010

To the Wisconsin Senate, Committee on Commerce, Utilities, Energy and Rail

RE: Comments for Wind Energy Siting Rule Development

My comments are intended to inform you of the critical need for aerial application in the potato and vegetable industry of Wisconsin. We hope these comments will be given great consideration when making decisions on the siting of wind energy power plants and the possible effects this will have on Wisconsin vegetable production.

The Wisconsin potato and vegetable industry is very reliant on aerial application of crop protection products. About half of the potato and vegetable growers in the WPVGA (approximately 65 out of 130) use aerial application each year to protect their crops. Nearly 200,000 crop acres are treated annually.

Even the growers who don't regularly use this method of application have indicated that the AVAILABILITY of aerial application is extremely important in situations where ground application may be difficult or impossible. These growers see aerial application as an important insurance policy. Large and small growers alike know that their fields must be treated in a timely manner to avoid pest explosions, whether it be insects, weeds or diseases. To lose this crop protection service in areas of intense vegetable production would be devastating to the growers and to Wisconsin's economy.

Wisconsin is the nation's third-largest producer of potatoes, raising approximately 63,000 acres annually. With a yield of 460 cwt./acre, Wisconsin produced 28,980,000 cwt. of potatoes in 2009. With market averages ranging from $8-$12/cwt., the Wisconsin potato crop is worth approximately $250-$350 million annually. Wisconsin ranks second in the US for both harvested acreage and production of processing vegetables and third in production value. Key processing crops in Wisconsin include potatoes, sweet corn, snap beans, green peas, carrots, cucumbers and onions. According to a recent study by the University of Wisconsin Department of Agricultural and Applied Economics, specialty crop production and processing together account for approximately $6.4 billion in economic activity (which is about 3% of Wisconsin's overall economy) and nearly 35,000 jobs.

<u>The Need for Aerial Application</u>

There are many pest-related risks to a potato crop that place yield, crop quality and economic returns in jeopardy. These include the diseases late blight and early blight as well as infestations of insects such as Colorado potato beetles, leafhoppers and aphids.

The proliferation of any of these pests can have devastating consequences for the grower and/or processor. Potato crops typically receive multiple pesticide applications during a growing season. Treatment is an essential component of producing a high value crop so that the harvested produce is of the highest quality.

The response to pests with pesticide applications is of the utmost importance. There are times when aerial application is the only way to achieve a timely response to pest outbreaks, as well as thorough coverage of affected plant parts. This timely response reduces the risk to other area growers and crops. This timely response can also reduce area-wide pesticide use by containing a pest outbreak to a small area and not exposing the entire region to a pest problem. Proper response can also prevent an outbreak from occurring.

The advantages of aerial application include: (1) the speed to cover large acreages in a short period of time when the weather is conducive to pest outbreaks; (2) the ability to apply crop protection products when ground spraying has been delayed due to weather conditions such as strong winds and heavy rain and there is a great need to catch up; (3) the ability to apply crop protection products at times when ground spraying is simply not possible due to overly wet soils; and (4) safety. There are times when crop maturity and harvest date are advancing more quickly than expected and pest problems are present that must be treated. Most crop protection product labels have a use requirement of a certain number of "days before harvest" that must be carefully followed to avoid pesticide residues on the resulting crop. Thus, to ensure timely pest control, to ensure the safety of the crop grown, safety of the environment, safety of farm workers and safety of the consumers, there are times when aerial application is the only option.

If a large-scale wind energy plant were to be sited in an area of intense vegetable production, the result would be devastating crop losses. The WPVGA feels strongly that there needs to be a compensation provision for vegetable growers and processors as part of a state-wide siting standard. Potato growers invest approximately $4,000 per acre on average in cost of production; the resulting potato crop is expected to return approximately $4,500 per acre on average. The WPVGA looks forward to working with the Public Service Commission, the WDATCP, the Midwest Food Processors Association and the University of Wisconsin on developing values for compensation in the event of losses due to the siting of wind energy facilities.

Sincerely,

Tamas Houlihan
Communications Director
WPVGA

NATIONAL AGRICULTURAL AVIATION ASSOCIATION

October 13, 2010

Senator Jeffrey Plale, Chair
Committee on Con
Room 313 South
State Capitol
P.O. Box 7882
Madison, WI 53707-7

1-sided originals

Senator Plale:

These comments are to ... National Agricultural Aviation Association's (NAAA) concerns regarding the timely and ...ough treatments of crop protection products to crops within or near wind energy power plants.

The NAAA, founded in 1966, represents more than 1,600 members in 46 states. NAAA supports the interests of small business owners and pilots licensed as professional commercial aerial applicators that use aircraft to enhance food, fiber and bio-fuel production, protect forestry and control health-threatening pests.

It has come to our attention that Wisconsin is in the process of developing rules regarding the placement of wind energy power plants. As wind energy continues to develop, aerial applicators throughout the country are learning that timely and thorough application of crop protection products to crops within or near wind energy power plants is not possible with aerial application equipment. This is not to say that aerial application within or near wind energy power plants is not possible, simply that complete coverage of parcels within or near wind energy power plants is not possible. The complication is the result of compounding risk factors compromising the safety of the pilot and his ability to either completely or partially access a field requiring treatment. These risk factors include the number of obstructions, the height of the obstructions, turbulence, visual distractions, and the nearly invisible MET towers located near the wind energy power plants. As a result of the above complications, a number of NAAA members that conduct aerial applications in the vicinity of wind turbines and MET towers are advising their customers when timely and thorough application is required, aircraft might not be a possible form of application to use.

The NAAA feels strongly that this is especially significant to Wisconsin. Wisconsin is the second largest producer of vegetables raised for processing. These vegetables require timely and thorough application of crop protection products for two main reasons. One, timely and thorough application prevents unsustainable crop losses, and two, timely and thorough application significantly reduces pesticide usage. With that said, should wind energy power plants be placed in or near intense vegetable production areas in Wisconsin, the result will be significant financial loss and significant increases in pesticide usage due to the inability of these crops to be treated by aircraft.

In summary, due to safety and land accessibility concerns, it is an industry accepted Best Management Practice (BPM) for aerial applicators to deny service to a customer that requires timely and thorough coverage of parcels of land within or near wind energy power plants. Wind energy rulemaking officials in Wisconsin must understand that timely and thorough application to vegetable crops in intense vegetable production areas within Wisconsin is not possible with aerial application equipment with wind turbines and associated MET towers present.

Sincerely,

Andrew D. Moore
Executive Director

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REABE SPRAYING SERVICE, INC.
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July 6, 2010

Public Service Commission of Wisconsin
610 North Whitney Way
P.O. Box 7854
Madison, WI 53707-7854

RE: Docket Number 1-AC-231
Comments for Wind Siting Rule Development

To the Public Service Commission of Wisconsin:

This letter is intended to inform you of the hazards to aerial applicators when performing aerial applications in or near wind energy power plants, why those hazards will make effective aerial applications to vegetable production fields impossible, the differences between aerial applications to vegetable crops and grain crops, the resolution adopted by the Wisconsin Agricultural Aviation Association to refuse treatment to crops within a wind power plant, and the possible effects this will have on Wisconsin vegetable production.

First I would like to give you a brief background of my aviation and agriculture experiences. I grew up and worked on a 400 acre vegetable production farm and aerial application company in south central Wisconsin. After graduating with a Bachelor of Science degree in Aviation from Mankato State University I pursued a career in corporate aviation. My corporate aviation career lasted fifteen years as an FAA certified Airline Transport Pilot of large corporate jets providing worldwide executive transportation. During that time I also began a part time career as an aerial applicator. I have logged over 10,000 flight hours performing aerial applications and corporate flights. Eighteen months ago I resigned from corporate aviation and accepted a position as President of Reabe Spraying Service, Inc. Reabe Spraying Service is Wisconsin's largest aerial application company and has been a family owned and operated business since 1949.

In 2009 aerial applicators treated one million acres in Wisconsin. Eight percent of those applications were grain crops, eleven percent were forest treatments, and the remaining 81% were to vegetable crops.[1] Given that vegetables raised in Wisconsin are treated on average 3.9 times per season[2], and that Wisconsin raised 286,400 acres of vegetables[3], we can determine that aerial application protected 71% of Wisconsin's vegetable production from insects and disease.[4] In the publication, "Status of Wisconsin Agriculture," published by the Department of Agriculture and Applied Economics, UW-Madison and UW-Extension, the value of all Wisconsin vegetable crops in 2009 was $600 million. Using a modest Two-Time economic multiplier, aerial applicators protected $852 million of Wisconsin's agriculture economy. In a document titled "Clean Energy Wisconsin—A Plan for Energy Independence" outlining Governor Doyle's

[1] Source: DATCP RFP #AG0950239 for gypsy moth control and polling of Wisconsin aerial applicators by Damon Reabe 2/17/10.
[2] Source: Sample by Damon Reabe of 45% of aerial vegetable treatments to determine average treatments per season. The result was an average of 3.9 applications per season.
[3] Source: USDA National Agricultural Statistical Service
[4] Divided total vegetable acres treated by air in 2009 by 3.9 to determine vegetable acreage protected by air.

renewable energy initiatives, producing 25% of Wisconsin's energy from renewable sources would generate nearly one billion dollars for the Wisconsin economy. Obviously, wind energy will only be a part of the economic impact and has the potential to put $852 million of vegetable production at risk if measures are not taken to protect it.

It is important to understand the pests that place vegetable yield, quality, and economic returns in jeopardy and the methods used to protect them from pests. Pests such as late blight, early blight, Colorado potato beetle, leafhoppers, aphids, bacterial blights, white mold, European corn borer, earworm, and armyworm are just some of the pests that if allowed to develop can have a devastating effect on the grower and vegetable processor. Timely treatment and thorough treatment of all plant parts is a critical tool utilized by growers and processors to eliminate pests and reduce pesticide usage. When timely treatment is needed and wet soil conditions make ground application impossible, aerial application is the only treatment alternative. Additionally, the speed at which aerial application can cover large acreages allows for control of pests when the crop nears maturity eliminating an area wide outbreak which results in significant increases in pesticide usage. To help illustrate the importance and environmental benefits of timely applications to vegetable crops I have attached a letter from Walter Stevenson, Professor Emeritus of Plant Pathology, University of Wisconsin – Madison. Simply said, access to aerial application is a necessary component of vegetable production. (If it wasn't, we wouldn't be here.)

There are four inherent design elements of a large scale wind power plant that make thorough aerial application of vegetable plants impossible:

- Modern wind turbines are very large structures, measuring approximately 400 feet high with a blade diameter of up to 270 feet. When you combine the physical size of these structures with blade rotation, the result is a visual distraction. Aerial applicators must divide their attention between aircraft systems, treatment volumes, swath spacing, aircraft performance, weather, and obstruction avoidance. When operating within a wind power plant, the visual distraction created by the wind turbines further divides the pilot's attention, exponentially increasing the likelihood of a life threatening error.

- In a typical commercial wind power plant there are approximately 5 or 6 turbines per square mile. In any given aerial application operation, a radius of three quarters of a mile from the target site is utilized for maneuvering between swath runs, clean up passes, and target site surveillance; equating to an operations area of two square miles. This results in 10 to 12 turbines within the operations area. Unlike other obstructions that aerial applicators must avoid, wind turbines are taller than the maximum height achieved during the turnaround. This means that a pilot never reaches a safe altitude allowing the pilot to check aircraft systems, treatment volumes, etc. Simply said, the number and height of wind turbines within an aerial application area, exponentially increase the likelihood of a life threatening error.

- Modern wind power plants utilize small, lightweight towers within the power plant known as MET towers. These towers utilize guy wire type construction and are typically unmarked. Due to their lightweight construction the guy wires are invisible to pilots in many lighting conditions. Obviously, invisible obstructions pose a serious risk to aerial applicators.

- Finally we come to the hazard of wake turbulence. This hazard is the most dangerous because it is invisible. All airfoils in motion create wake turbulence. The turbulence

created is proportional to the weight and angle of attack of the airfoil; the heavier the weight and greater the angle of attack, the greater the wake turbulence. A commercial wind turbine's three blades can weigh as much as 40,000 pounds and operate at a very high angle of attack. The result is turbulence severe enough to induce loss of control to an aerial application aircraft. Again, this hazard is invisible and difficult to avoid while performing all of the other tasks necessary to perform an aerial application safely.

The above four risk elements preclude an aerial applicator from performing thorough treatments required to protect vegetables from pestilence with any degree of precision or safety within a wind power plant. It is important for the Commission to understand that in intense vegetable production areas growers and processors are dependent upon timely and thorough application. These growers and processors utilize aerial application as the primary means to achieve their pest control objectives for both environmental and economic reasons. To help illustrate vegetable producer's reliance upon timely treatments I have attached a letter from the Wisconsin Potato and Vegetable Grower's Association (WPVGA) outlining their concerns. Additionally, I would like to direct the Commissioner's attention to a letter submitted from the Midwest Food Processor's Association (MWFPA), an association that represents Wisconsin vegetable processors. Finally, I have attached a letter from the Wisconsin Crop Production Association (WCPA), an association that represents custom ground applicators in Wisconsin, outlining their concerns and limitations regarding ground application to Wisconsin vegetable crops.

The Public Service Commission of Wisconsin must understand that there is a significant difference between aerial applications of vegetable crops versus aerial application of grain crops. In many parts of the country aerial applicators are treating fields within wind power plants. These are treatments to grain crops. Products applied to grain crops by air are typically used to enhance production. If part of a treatment area becomes inaccessible to aerial application due to large obstructions such as wind turbines, that area of the field can be left untreated without devastating effects. In contrast, areas of a vegetable production field left untreated will host pests leading to area wide outbreaks, increased pesticide usage, and significant crop loss.

Another significant difference between the treatments of grains versus vegetables is timing. Most production enhancement products applied to grain crops have a treatment window that lasts a week or longer where the treatment window for a vegetable field may be as little as 24 hours. Vegetable crops will be treated on average roughly four times per season where a grain crop may only be treated once every other year. In summary, the certainty of treatment, thorough coverage requirements, high crop values, critical timing, frequency of treatments, and the compounding risk factors to aerial application pilots render effective aerial application to vegetable crops within a wind power plant impossible.

In an earlier draft of Wind Siting Standards the PSC had a compensation provision for non participating farm entities that lost access to aerial application. Due to the significant losses that will be incurred by growers and vegetable processors in the event that a wind power plant is constructed in areas of intense vegetable production, I respectfully request the PSC reinsert that provision with the following changes:

- Paragraph "(j)" should be an approval condition instead of a permitted ordinance provision. Farm operators that utilize aerial application in the production of vegetables typically operate in many political subdivisions. The purpose of creating a statewide siting standard is to eliminate "patchwork" standards. Patchwork standards will have little

or no effect in protecting Wisconsin's vegetable producers. I have attached a map that identifies intense vegetable production areas of Wisconsin that rely upon aerial application. This map was developed using planting data provided to me by Wisconsin vegetable processors and other data from University of Wisconsin faculty. The Wisconsin Department of Agriculture, Trade and Consumer Protection has reviewed this map and confirmed these locations to be consistent with their data. I suggest that the operator of any proposed wind energy development that lies within these areas be required to compensate non participating farm operators for their losses as a result of lost access to aerial application.

- Wisconsin vegetable processors can be viewed as "farm operators" with a large financial stake in the vegetable crop. They provide significant inputs to vegetable crop production and rely on aerial application as a crucial management tool. The financial impact on the processors of losing this tool should be reflected in any damages provided due to the limitations wind facilities place on aerial applications.

- The statement "...farm operator has a reduction in crop production or increased application costs..." should be changed to "...farm operator has a reduction in crop production and/or value or increased application costs..." This change ensures vegetable producers would receive compensation for not only a loss of volume, but also loss of quality, i.e. downgraded potatoes due to wheel tracks.

- The distance from a turbine to a non participating land owner's parcel regarding this provision should be one half mile. Meaning any field where all or part of the field is within one half mile is eligible for loss compensation for all of the acreage within that field.

I understand that the above provision was removed due to the concern that quantifying losses would be difficult. While I am not qualified to quantify the value of losses, I am confident that the Wisconsin Department of Agriculture, Trade, and Consumer Protection, the University of Wisconsin, and vegetable production trade associations have the resources to quantify values that could be used to develop a workable compensation system.

Respectfully submitted,

Damon Reabe
President
Reabe Spraying Service, Inc.
PO Box 112
Waupun, WI 53963

Enclosures (5):
Wisconsin Agricultural Aviation Association Resolution
Letter to the Public Service Commission of Wisconsin from Professor Walt Stevenson
Letter to the Public Service Commission of Wisconsin from the WPVGA
Letter to the Public Service Commission of Wisconsin from the WCPA
Map of intense vegetable production areas reliant upon aerial application

WAAA WIND GENERATOR RESOLUTION
5/11/09

WHERE AS; we acknowledge the need for affordable electric power and the efficient distribution of that power to the point of its consumption:

WHERE AS; we acknowledge the environmental benefits of wind generated electrical power:

WHERE AS; the wind generator tower and blade structures are too tall for a loaded ag-aircraft to climb over, forcing the ag-aircraft to fly around them increasing the danger:

WHERE AS; the wind generator's rotating blades generate turbulence which makes controlling a loaded ag-aircraft much more difficult if not dangerous:

WHERE AS; the wind generator's rotating blades create an optical illusion which distracts and often disorients the ag-pilot, increasing the danger:

WHERE AS; the grouping of these wind generators, increases the danger to the ag-pilot and forces the ag-pilot to "Run the Gauntlet" in amongst the wind generators while still maintaining management of the cockpit instruments and staying alert for changes to the on going and ever changing situation in and around the field while still maintaining concentration on the many other factors needed to safely make an application:

WHERE AS; the summing and compounding of all these added hazards and distractions makes the risk of aerial crop protection amongst wind generators unacceptably high and dangerous:

WE HEREBY RESOLVE; to refuse any aerial crop protection applications inside a grouping of wind generators.

We also resolve to refuse an aerial crop protection application, which the pilot deems dangerous, due to its proximity to a wind generator.

Jim Kazmierczak, Executive Director WAAA

319 MILLSTON AVE • LODI, WISCONSIN 53555 • 608-592-5809 • FAX SAME# • kazair1@aol.com

COLLEGE OF
AGRICULTURAL
& LIFE SCIENCES
UNIVERSITY OF WISCONSIN-MADISON

Department of Plant Pathology

(608) 262-6291

July 5, 2010

Public Service Commission of Wisconsin
610 North Whitney Way
P.O. Box 7854
Madison, WI 53707-7854

RE: Docket Number 1-AC-231
Comments for Wind Siting Rule Development

To the Public Service Commission of Wisconsin:

A focus on using wind energy to reduce Wisconsin's dependence on fossil fuels for energy use has sparked interest in locating wind turbines within economically important potato and vegetable production areas of Wisconsin. Without entering into the pro's and con's surrounding the use of wind turbines for this purpose, I wish to comment on the area of pest and crop management that would likely be indirectly affected by the positioning of the turbine towers in an actively farmed area.

Since 1979, I served the State of Wisconsin as Professor of Plant Pathology and Extension Plant Pathologist at the University of Wisconsin-Madison. I retired in January 2008, but continued to work part time for the University to bridge the gap in coverage between my departure and the hiring of my replacement. My duties focused on the management of plant diseases affecting the production of potatoes and vegetable crops in Wisconsin. I conducted research and extension programs throughout Wisconsin, but because of the intensive production areas in the Central Sands area, Antigo Flats area, Arena-Spring Green-Wisconsin River area, and Mackford and Green Lake Prairies in E. Green Lake County and W. Fond du Lac Counties, I spent a significant part of my career working with potato and vegetable growers in these regions of the state. By working directly with growers, extension agents and agribusiness, we were able to greatly improve the management of plant diseases, reduce the use of pesticides through the adoption of effective Integrated Pest Management Programs, reduce grower losses related to plant disease and improve the profitability of production.

Potatoes and processing vegetable crops are prone to infection by several plant pathogens. One of the important disease control tactics used by growers is to treat with safe and effective fungicides which can be applied by ground and aerial equipment. While most growers have ground-based sprayers on their farm, a significant acreage in Wisconsin is routinely treated with aerial equipment – fixed wing and helicopters. Treatment of fields is done on 5-10 day intervals depending on pest pressure, weather factors and the equipment used. In times of wet soils due to excessive rainfall, aerial application allows growers to treat large acreages quickly and in a timely manner to insure that economically important diseases are managed at their inception, rather than after they've reached epidemic proportions. In the case of potato late blight, growers who have difficulty in treating their fields in a timely manner run the

risk of the development of this disease on their property and the risk is elevated for the entire region to suffer the consequences of a region-wide epidemic. In years when late blight is active and control is insufficient to contain this disease at the earliest stages, it is estimated that this costs the Wisconsin potato industry an additional $12 million in extra fungicide applications and losses in storage. By working closely with the growers, we now have every grower on the same page and closely following university recommendations. The results are seen in the fact that we have not observed a significant outbreak of potato late blight in our state since 2002, an estimated savings of over $84 million during this period accompanied by significant reductions in pesticide use. These results are in stark contrast to the situation in neighboring states where late blight has continued to be a significant periodic problem with associated high cost of control.

Another disease where timely application of control measures is critical to control is white mold on snap beans. Control depends on application of fungicides during a narrow 7-10 day interval when the plants begin to bloom. This window is especially critical during seasons when wet soils and frequent rainfall overlap the blooming process. Fields that cannot be treated in a timely fashion run the risk of total field rejection by the vegetable processors. As little as 5% pod infection by the white mold fungus can lead to a total crop loss for the grower, thereby emphasizing the need for the use of timely application of effective fungicides. I could discuss other diseases and pests affecting potato and vegetable crops where the timeliness of control is critical to management and to minimizing the use of pesticides, but I think the late blight and white mold situations clearly illustrate the need for the combined efforts of growers, the university, ground and aerial applicators and agribusiness in timely crop and pest management activities.

The concern I have with the site selection for wind turbine towers is the effect this will have on disease and insect management on a wide range of vegetable crops grown in Wisconsin. When towers are positioned in or near production fields where aerial application of pesticides is currently used for pest management, aerial applicators are justifiably refusing to treat these fields with pesticides due to the enhanced potential for personal and property risk. This potentially leaves significant production areas with one less tool that can be used for timely and safe pest and crop management activities. In short, this increases the risks for pest outbreaks, increased use of pesticides and reduced farm profitability for an industry that are key to the economic success of this region. I hope that these comments help you in your discussions as you consider if and where wind turbines will be located in Wisconsin. If you have questions related to what I've discussed above, please feel free to contact me at 608-231-3163 or wrs@plantpath.wisc.edu.

Sincerely,

Walter R. Stevenson

Walter R. Stevenson
Professor Emeritus of Plant Pathology
University of Wisconsin - Madison
WRS

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Wisconsin Potato & Vegetable Growers Association, Inc.

P.O. Box 327 · Antigo, Wisconsin 54409-0327

Telephone: 715/623-7683 · Fax: 715/623-3176 · e-mail: wpvga@wisconsinpotatoes.com · web: www.wisconsinpotatoes.com

July 1, 2010

Public Service Commission of Wisconsin
610 North Whitney Way
P.O. Box 7854
Madison, WI 53707-7854

RE: Docket Number 1-AC-231
Comments for Wind Siting Rule Development

To the Public Service Commission of Wisconsin:

This letter is intended to inform you of the critical need for aerial application in the potato and vegetable industry of Wisconsin. We hope these comments will be given great consideration when making decisions on the siting of wind energy power plants and the possible effects this will have on Wisconsin vegetable production.

The Wisconsin potato and vegetable industry is very reliant on aerial application of crop protection products. About half of the potato and vegetable growers in the WPVGA (approximately 65 out of 130) use aerial application each year to protect their crops. Roughly 200,000 crop acres are treated aerially, receiving multiple applications per growing season.

Even the growers who don't regularly use this method of application have indicated that the AVAILABILITY of aerial application is extremely important in situations where ground application may be difficult or impossible. These growers see aerial application as an important insurance policy. Large and small growers alike know that their fields must be treated in a timely manner to avoid pest explosions, whether it be insects or diseases. To lose this crop protection service in areas of intense vegetable production would be devastating to the growers and to Wisconsin's economy.

Wisconsin is the nation's third-largest producer of potatoes, raising approximately 63,000 acres annually. With a yield of 460 cwt. / acre, Wisconsin produced 28,980,000 cwt. of potatoes in 2009. With market averages ranging from $8-$12/cwt., the Wisconsin potato crop is worth approximately $250-$350 million annually. When a very modest, two-time economic impact multiplier is used, that means the value of the potato crop in Wisconsin is between $500 and $700 million. When you consider all the farm workers along with the suppliers to the agricultural industry, and factor in all the businesses they support financially, the potato industry has a huge, highly significant impact on the economy in the state of Wisconsin.

<u>The Need for Aerial Application</u>

There are many pest-related risks to a potato crop that place yield, crop quality and economic returns in jeopardy. These include the diseases late blight and early blight as well as infestations of insects such as Colorado potato beetles, leafhoppers and aphids.

The proliferation of any of these pests can have devastating consequences for the grower and/or processor. Potato crops typically receive multiple pesticide applications during a growing season. Treatment is an essential component of producing a high value crop so that the harvested produce is of the highest quality.

The response to pests with pesticide applications is of the utmost importance. There are times when aerial application is the only way to achieve a timely response to pest outbreaks, as well as thorough coverage of affected plant parts. This timely response reduces the risk to other area growers and crops. This timely response can also reduce area-wide pesticide use by containing a pest outbreak to a small area and not exposing the entire region to a pest problem. Proper response can also prevent an outbreak from occurring.

The advantages of aerial application include: (1) the speed to cover large acreages in a short period of time when the weather is conducive to pest outbreaks; (2) the ability to apply crop protection products when ground spraying has been delayed due to weather conditions such as strong winds and heavy rain and there is a great need to catch up; (3) the ability to apply crop protection products at times when ground spraying is simply not possible due to overly wet soils; and (4) safety. There are times when crop maturity and harvest date are advancing more quickly than expected and pest problems are present that must be treated. Most crop protection product labels have a use requirement of a certain number of "days before harvest" that must be carefully followed to avoid pesticide residues on the resulting crop. Thus, to ensure timely pest control, to ensure the safety of the crop grown, safety of the environment, safety of farm workers and safety of the consumers, there are times when aerial application is the only option.

If a large-scale wind energy plant were to be sited in an area of intense vegetable production, the result would be devastating crop losses. The WPVGA feels strongly that there needs to be a compensation provision for vegetable growers and processors as part of a state-wide siting standard. Potato growers invest approximately $4,000 per acre on average in cost of production; the resulting potato crop is expected to return approximately $4,500 per acre on average. The WPVGA looks forward to working with the WDATCP, the Midwest Food Processors Association and the University of Wisconsin on developing values for compensation in the event of losses due to the siting of wind energy facilities.

Sincerely,

Tamas Houlihan
Communications Director
WPVGA

WISCONSIN CROP PRODUCTION ASSOC. WCPA

2317 International Lane, Suite 102, Madison, WI 53704-3154
Phone: 608 249-4070 Fax: 608 249-5311

July 6, 2010

Public Service Commission of Wisconsin
610 North Whitney Way
P.O. Box 7854
Madison, Wisconsin 53707-7854

RE: Docket Number 1-AC-231; Comments for Wind Siting Rule Development

Dear members of the Public Service Commission of Wisconsin:

I am writing to encourage the PSC to only consider wind energy siting standards that also include a compensation provision for potato and vegetable growers and processors when they are negatively impacted by wind energy systems. Potato and vegetable production is a critical portion of Wisconsin's agricultural economy, and without careful planning, Wisconsin's potato and vegetable growers could suffer considerable losses because the location of wind energy systems may prohibit aerial application of plant health products.

The Wisconsin Crop Production Association represents many sectors of Wisconsin's diverse crop production industry, including agricultural retailers and custom ground applicators of plant health and crop protection products. In areas of the state where there is intense potato and vegetable production, it is not economically feasible to replace aerial application with ground application methods. It would require up to six ground application sprayers to do the work of just one aerial application plane. Additionally, the window for the application of these products is very short for potato and vegetable production. It would not make economic sense for ag retailers to invest in the additional equipment and to hire and train the additional staff that would be necessary to replace the work that is done by aerial applicators.

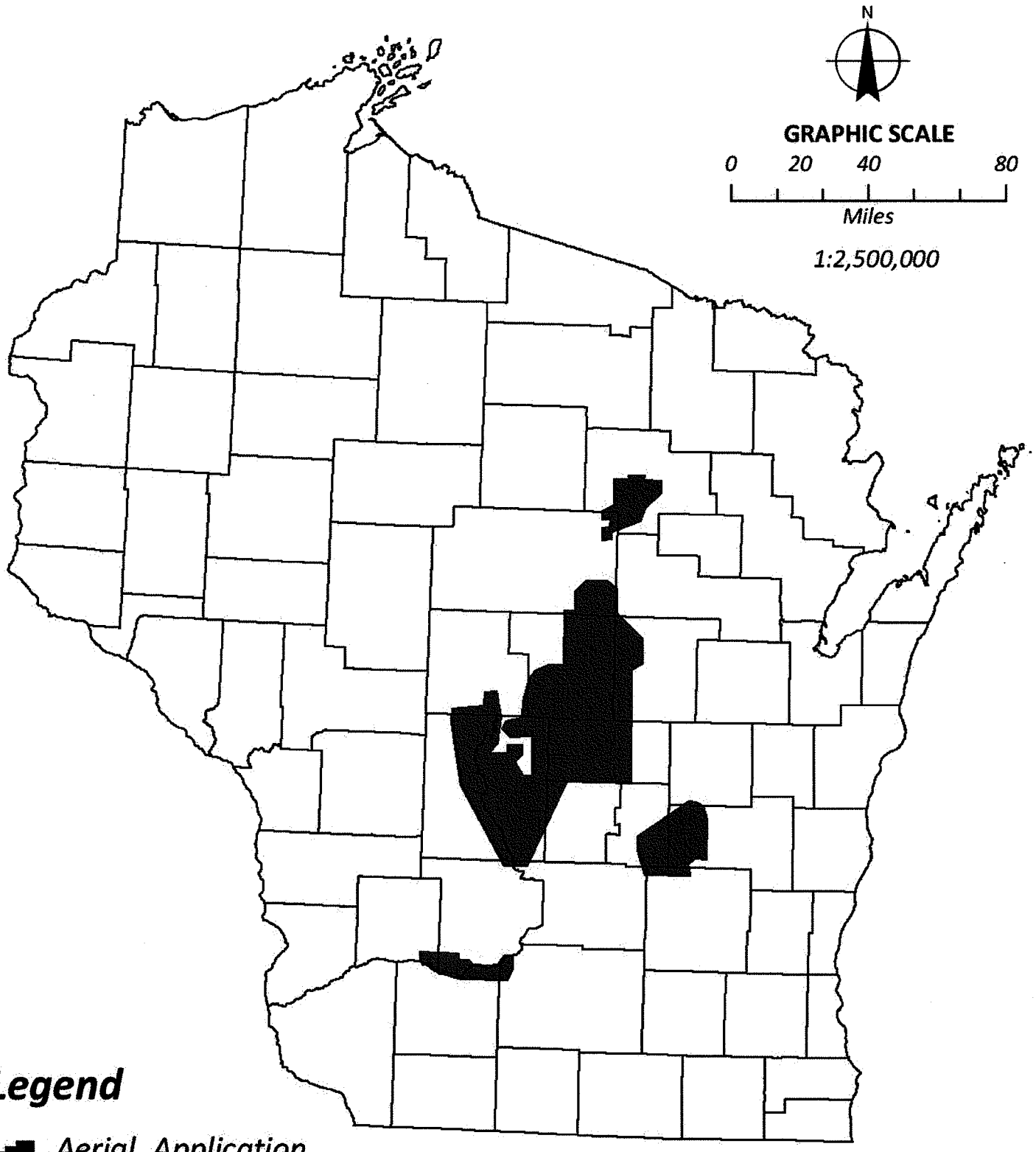
Finally, soil conditions due to excessive rainfall may make ground application difficult or impossible when a particular treatment is necessary during a critical stage of crop development. This complication is not a problem when growers have access to timely aerial application.

For these reasons, I urge you to thoroughly consider the impacts of wind energy systems on Wisconsin's agricultural industry and to also include in the siting standards adequate protections for growers and processors who rely on aerial application for a healthy and abundant harvest.

Sincerely,

Rob Poehnelt, CAE
Executive Director

Intense Vegetable Production Areas Reliant on Aerial Application



Legend

Aerial_Application

county

Sweet corn, green bean, and pea field locations provided by Wisconsin vegetable processors. Potato/Vegetable rotation fields identified via high capacity well data from Dr. George Kraft, UW-Stevens Point. Data reviewed for accuracy by Wisconsin Potato and Vegetable Growers Association. Mapped by W.T. Oehmichen.

July 6, 2010

Public Service Commission of Wisconsin
610 North Whitney Way
P.O. Box 7854
Madison, WI 53707-7854

RE: Docket Number 1-AC-231
Comments for Wind Siting Rule Development

To the Public Service Commission of Wisconsin:

These comments are to inform you of the vegetable processing industry's concerns regarding the siting of wind turbines in intense vegetable growing areas of Wisconsin.

The Midwest Food Processors Association (MWFPA) represents the majority of the fruit and vegetable processing industry in Illinois, Minnesota, and Wisconsin. Our members produce and process more vegetables in the Midwest than in any other area of the country with Wisconsin providing the second highest value of vegetables in the nation. Wisconsin's fruit and vegetable industry generates more than $2 billion in economic activity and provides over 8900 full-time jobs.

A combination of growing and processing expertise, horticultural and pest research, geographic location and abundant natural resources, make Wisconsin a great place to grow high value vegetables. Wisconsin ranks first in the production and processing of snap beans, second in sweet corn, third in potatoes, and third in green peas. The success of these crops is due in part to Integrated Pest Management Programs of which aerial application plays a major role.

High value vegetable production requires timely aerial application of pesticides. The siting of large wind turbines will have a direct impact on a grower or processor's ability to use aerial application due to safety concerns. Without aerial applicators a crops quantity, certainty, and quality could be jeopardized forcing vegetable processors to find alternative acreage.

An aerial applicators concern for safety in and around a wind farm is not unfounded. Many air applicators refuse to fly within one half-mile of a large wind turbine because large turbines are inherently dangerous. Guy wires, wind turbulence, and flight distraction all contribute to increased risk for the pilots. The Wisconsin Agricultural Aviation Association adopted a

resolution in 2009 refusing any aerial crop protection applications inside a grouping of wind turbines. No doubt some applicators may try to fly within a wind farm but that person would be taking undue risks. Once there is one accident within a wind farm insurance companies will be forced to raise rates or deny insurance which will ultimately shut down the use of applicators altogether.

Without the "tool" of areal application in intense vegetable growing areas, Wisconsin's vegetable processing industry will be forced to find new land in which to meet the demands of the national and international processed vegetable market. Finding new growing areas will have unforeseen consequences beyond the immediate industry. For example, the beef and dairy industry rely on vegetable by-product for plentiful and affordable feed. Vegetable fields also provide a valuable crop for rotation purposes for growers who can maximize the use of their land and maintain high nutrient values. The loss of crop flexibility limits a grower's options and ultimately increases costs.

At one time the PSC tried to find a mechanism to compensate growers for their losses due to wind farms. The difficulty of calculating such losses required the commission to remove the language. We believe that such a calculation can be made with cooperation between growers, processors, and the University of Wisconsin. We look forward to participating in those discussions if the commission deems it necessary.

However, compensating growers and processors for something that "could have been" does not minimize the impact of wind farms on the vegetable processing industry. There is room in Wisconsin's energy portfolio for wind energy if siting is done honestly, openly, and with full awareness of the economic and agricultural impacts. We support the right of land owners to use their land as they see fit. We only ask that the commission consider the economic impact wind farms have on Wisconsin's vegetable processing industry when making siting decisions.

Wisconsin is home to a large and strong vegetable processing industry which provides thousands of manufacturing and agricultural jobs. The placement of wind turbines for energy purposes in vegetable growing areas will have negative consequences for the industry. With proper planning and cooperation between growers, processors and energy interests, Wisconsin can continue to provide good jobs while becoming less dependent on carbon based fuels.

Sincerely,

Nickolas C. George, Jr.
President

State of Wisconsin
Jim Doyle, Governor

Department of Agriculture, Trade and Consumer Protection
Rod Nilsestuen, Secretary

July 7, 2010

Public Service Commission of Wisconsin
610 North Whitney Way
P.O. Box 7854
Madison, WI 53707-7854

RE: Docket Number 1-AC-231
Wind Siting Rule

To the Public Service Commission of Wisconsin:

Thank you for the opportunity to comment on the proposed Wind Siting Rule (PSC 128). Wind energy development in Wisconsin can help us reduce our dependence on fossil-based energy sources. It is also a key component of Governor Doyle's efforts to promote the use of homegrown, renewable energy options like biomass, biogas, solar and wind. Wind energy can also be an additional source of income for Wisconsin farmers.

Although the wind is free, capturing the wind is not. Large wind energy systems are land-intensive and can have an impact on the land where they are located - which is primarily on farmland in Wisconsin. These systems should be sited in a way that does not unduly disrupt agricultural production in the areas where they are located.

Working Lands Legislation

Wind turbines can generate clean renewable energy and supplement farm income. But they also have the potential to change the landscape and create land use conflicts. Wisconsin recently enacted major "Working Lands" provisions as part of the state biennial budget act (2009 Wis. Act 28). The new law completely overhauls Wisconsin's 30-year-old farmland preservation program under ch. 91, Wis. Stats. and creates a new program for the purchase of agricultural conservation easements (PACE) under s. 93.73, Wis. Stats. DATCP recommends that the PSC consider the Working Lands law when drafting the Wind Siting Rule.

Under the newly-revised farmland preservation program, farmers may qualify for tax credits if they are covered by a county or local farmland preservation ordinance that is certified by the Department of Agriculture, Trade and Consumer Protection (DATCP). DATCP may certify an ordinance, for tax credit purposes, if the ordinance meets minimum farmland preservation standards in ch. 91. Wis Stats. A wind energy system with a nameplate capacity of less than 100 MW that generates power primarily for the grid may not be allowed in a certified farmland preservation zoning district, *except* under a conditional use permit issued by the zoning authority. The proposed wind turbine project must meet applicable conditional use permit standards in s. 91.46(4), Wis. Stats. The PSC should consider these provisions as it proceeds with its wind turbine siting rule, and should design the rule

to minimize or eliminate any potential inconsistency between the rule and the farmland preservation statute.

Stray Voltage

DATCP supports section 128.17 of the draft rule, which provides for testing for stray voltage prior to wind turbine construction and the requirement to rectify any stray voltage problems arising from the construction and operation of a wind energy system. This would help ensure the wind energy system is not producing stray voltage or would correct the problem if it were identified.

Wind Lease Requirements

DATCP supports the landowner protections included in section 128.11.of the Council Draft Rule. In particular, the wind lease prohibitions in section 3 should be retained.

Aerial Applications on Farmland

Aerial applicators have expressed concerns about the danger associated with applying plant protection products in areas where wind turbines are located. Wind turbines, which can be over 400 feet tall, provide a significant obstacle and a danger to aerial applicators. In addition, the invisible turbulence created by the wind turbines can endanger the applicator. For these reasons, many aerial applicators are indicating that they are not planning to apply pesticides within one-half mile of a wind energy system.

Meteorological towers are installed prior to construction of a wind farm to determine whether local wind speeds meet the criteria for successful operation of a wind farm. These towers can be more dangerous than wind turbines because they are less visible and have guy wires that are difficult to see. Meteorological towers should be painted brightly and the guy wires and supports should be marked and visible.

Aerial applications of plant protection products are an important management tool for Wisconsin agriculture. They are particularly important to the growers and processors of high-value vegetable crops, including potatoes, sweet corn, green peas and snap beans. Wisconsin ranks high nationally in production of these crops: 1st for processing snap beans, 2nd for processing sweet corn, and 3rd for potatoes and green peas for processing. These crops often require more frequent applications of plant protection products to control insects and disease. In addition, the timeliness of the applications to these crops is particularly important. The value of a vegetable crop is more subject to quality concerns than are crops grown for livestock or commodity grain crops where yield is the most important concern. Consequently, timely applications, which can only be provided through aerial application, are crucial to the vegetable industry.

The Council Draft Rule dated 4-13-10 included a provision that allowed a political subdivision to require a developer, owner or operator to provide compensation to farm operators on nonparticipating properties within an unspecified distance from a wind turbine site for reductions in crop production or increased application costs due to the wind energy system's effect on aerial spraying. The farm operator would need to demonstrate a history of aerial application (PSC 128

(1)(j)). This section was removed from the Council Draft Rule dated 5-20-10. DATCP recommends including this section in the final rule.

There is legal precedent for compensating landowners for energy projects that render adjacent lands less accessible. Wisconsin Statutes currently allow compensation for damages when land is rendered less accessible to farm implements and aircraft used in crop production as a result of locating transmission lines and associated facilities. These damages apply to the lands not directly taken for the project (Wis. Stats. s. 182.017 (7)(b)).

Wind turbine development does not currently utilize eminent domain authority (Chapter 32, Wis. Stats.) to acquire property as may be the case with high-voltage transmission lines. However, it is similar in that it can impact landowners by limiting access to aerial pesticide applications on adjacent lands owned by these non-participating landowners. Consequently, there is statutory precedent for compensating for this type of damage resulting from an energy project.

DATCP is working with the University of Wisconsin and vegetable grower and processor trade associations to assemble the data and develop estimates of the damages that could result from restrictions placed on aerial application of plant protection products. The majority of farmers growing vegetable for processing in Wisconsin have contracts with the vegetable processors and a common condition of these contracts is that the processors control application of pesticides. The processors keep extensive data on their pest control applications, the efficacy of these applications, and the associated pest damage and yields. We are currently acquiring these and related crop production data from vegetable processors and farmers to develop these estimates. Dr. Paul Mitchell, Agricultural and Applied Economics at the University of Wisconsin, an expert in estimation of pest damages to crops, will use these data to estimate these losses.

Siting/Construction Issues

Wind turbines, access roads, transmission lines and other structures needed to connect the wind turbines to the transmission system remove cropland from production. These facilities should be sited in a manner that maintains the productivity of farm operations as much as possible. This can be accomplished by locating wind turbines and access roads along field edges or in non-agricultural areas. This would minimize the severance of fields into smaller misshaped remnant parcels that are difficult and less efficient to farm.

Farmers expect that their cropland restored after construction will be returned to its pre-construction productivity. But there are several soil impacts that can result from wind farm construction:

- Topsoil mixing with the underlying soil reduces soil tilth, organic matter and cation exchange capacity, and alters soil structure and distribution of particle sizes. It can also increase rock content and concentrations of harmful salts near the surface. This can lead to reduction in crop yields.

- Compaction of subsoil and topsoil can take place due to the heavy equipment used during construction of the wind projects. Compaction reduces uptake of water and nutrients by crops, restricts rooting depth, decreases soil temperature, increases the proportion of water-filled pore space at field moisture capacity, decreases the rate of decomposition of organic-matter, decreases pore size and water infiltration, and increases surface runoff. The greater the depth to which soil compaction occurs, the more persistent it is. Soil compaction can lead to crop yield reductions that continue for decades.

- Damage to drainage systems can occur during construction of wind energy systems. During construction, drainage tile can be crushed or cut resulting in wet fields that cannot be tilled. In addition to damaging drainage tile, wind energy system construction can permanently alter the soil profile, thereby affecting drainage patterns. The resulting de-stratification, or alteration, of soil horizons may result in ponding or seeps that cause crop yield losses.

Many of these potential impacts can be mitigated through development and implementation of an Agricultural Mitigation Plan. Wisconsin Electric Power Company developed a mitigation plan for the Glacier Hills Wind Farm Project that was reviewed and approved by DATCP. The purpose of the plan was to avoid and minimize both construction impacts and long-term operational impacts. The plan is intended to help ensure that all disturbed agricultural land not used for permanent facilities are restored to a productive state. See Glacial Hills Wind Park Final Environmental Impact Statement, Volume 1, Appendix B.

DATCP is developing guidelines that are intended to maintain the productivity of the farmland associated with Wind Energy System projects. These general guidelines will be posted to the DATCP website and can be referenced when siting and constructing wind energy systems.

Thank you for the opportunity to comment on the proposed Wind Siting Rule (PSC 128). If you have any questions about our comments, please contact Peter Nauth at 608.224.4650.

Sincerely,

Rod Nilsestuen
Secretary

To Senate Committee on Commerce, Utilities, Energy, and Rail
From: Douglas Zweizig, Ph.D., Vice Chair, Wind Siting Council
Re: Clearinghouse Rule #10-057; PSC Wind Siting Rules proposed Chapter 128
Date: October 13, 2010

Good afternoon. My name is Douglas Zweizig. I am retired from teaching at the UW—Madison School of Library and Information Studies where I taught in the areas of management and research methods. I am also a member of the Town of Union (Rock County) Plan Commission, and I chaired that Plan Commission through a sixteen-month process as it developed a licensing ordinance for wind energy systems. I am an advocate for alternative energy use and have installed geothermal and solar photovoltaic systems at my home. I am speaking today from my experience as Vice Chair of the Public Service Commission-appointed Wind Siting Council. At the formation of the Wind Siting Council, I was hopeful that this broadly representative group could work together to recommend responsible uniform rules for the siting of wind turbines, but I came to see that the process being followed was flawed, and I was one of the authors of the Council's minority report.

It seems appropriate for your committee to be holding a hearing on the Public Service Commission-proposed rules as there is considerable evidence that the Public Service Commission did not take seriously the directives in Act 40, the legislation that directed the PSC to appoint the Council and that instructed it in the work that the Council was to carry out. I know that there were a lot of statements made in support of the legislation about the intentions for the Wind Siting Council, and there are descriptions in the Council report of the working of the Wind Siting Council that sound like it worked the way it should have, but the behaviors do not fit that description.

Others will present concerns with the substance of the rules proposed by the Public Service Commission. I want, as a member and Vice-Chair of the Wind Siting Council to report to you on the process of the Council and the ways in which that process did not match the requirements of Act 40.

When the members appointed to the Council were announced, there was widespread objection to the appointments. The minority report of the Wind Siting Council (selection appended on pages 9-14) details some of these concerns, but in brief, even though Act 40 was clear in specifying a balance of interests in the Council, the appointments heavily favored persons with financial interests in the development of large wind energy systems in Wisconsin. I am aware that the Commissioners believe that the legislature desires increased development of wind energy systems, but I don't believe that the legislature desired a bias in the Council that would pre-determine rules favorable to the wind industry and harmful to the health and home values of Wisconsin residents.

I'm going to touch on several aspects of what Act 40 called for the PSC to do with the Wind Siting Council and report on what, in my view, happened. For example, in Act 40, you clearly specified the make-up of this critical committee, the Wind Siting Council. You asked for a balanced Council that would address the concerns of the various parties and that would provide recommendations that accommodated those concerns to the degree possible. What you got was a Council front-loaded in support of wind development, that contained an imbalance of those with financial interests in the development of wind energy systems, and that did not seek to evolve creative solutions to the tensions, only to override any opposition. In choosing a Chair for the Council, the Public Service Commission could have used its opportunity of appointing two public members to appoint someone with stature, skills, and neutrality who could serve as Chair—someone who could help the different interests in the Council listen to each other and craft recommendations that the Public Service Commission and you could move forward with. The appointments of public members that the PSC made squandered that opportunity. Instead, the PSC put forth as Chair someone who was an executive with an electric utility, who had previously issued permits for wind farms as a PSC chair, and who was chair of CREWE (Clean, Responsible Energy for Wisconsin's Economy), an organization even at that time lobbying for an extended and increased Renewable Portfolio Standard.

While the Chair did make some efforts to urge members to work toward solutions, there was no effort made by the wind industry block to negotiate solutions that would have begun to adequately address non-industry concerns.
Even though you sought a Council that would contain knowledge and experience from a variety of perspectives, this knowledge and experience was either missing or for the most part unused and sometimes misused. Fortunately, there is an almost complete record of the over 30 hours of Wind Siting Council meetings, from observers' videos and, from midway through the process, on Wisconsin Eye (wiseye.org), so observations about the conduct of the Council can be verified.

Here are some examples of how the knowledge and professionalism of Council members was neglected.

- The two realtors on the Council, previously little acquainted with the particular issues regarding siting of wind turbines, were concerned to find that unlicensed and unregulated agents were signing up landowners to long-term leases on their land and then requiring them to sign a confidentiality clause so that the nature of the transaction would remain secret. They became aware that a property's proximity to large wind turbines was negatively affecting property values to a severe degree. Their concerns were waved aside.
- The two representatives of environmental groups spoke most often to the **business** environment of wind energy companies and were unconcerned about the living environments of wind farm neighbors.
- The one Council member who actually lived in a wind farm, Larry Wunsch, fully communicated his experience to the Council, but was largely ignored and not allowed to bring in a recording to a meeting so that the Council could hear what he was talking about. The Council Chair, when he was PSC Chair, had permitted the wind farm in which Larry lives. He repeatedly apologized to Larry for what was done then, but Chaired a Council that recommended standards that were essentially unchanged from existing PSC practice. I should mention that the other person, who was **supposed** to live "adjacent to

or in the vicinity of a wind energy system," actually lives 3,700 feet from a turbine—this setback distance is much further than was ever discussed by the Council, was one that could actually be acceptable, and is half a mile further from a turbine than the rule put forth by the PSC.

- The representatives of the energy industry neglected to use their own expertise. When a wind developer claimed that he could decommission a 400 foot turbine—that is, bring in special trucks and a crane to take away the turbine tower, nacelle and its 120 foot blades, then remove the tons of reinforced concrete foundation to a level of four feet below grade, and restore the soil and roads to their original condition—that he could do all of this for $21,000, none of the Council members with knowledge of what this would entail objected. They sat silent. It took one of the realtors to reveal this estimate's absurdity by reading out from a report of actual decommissioning costs.

One would only have to look at a randomly-selected hour of video of a meeting to see the lack of critical thinking that was operating, and this is the process that produced the recommendations of the Council.

You also directed the Council to inform itself about local government regulations, about health impacts, and about regulation in other states and countries. For example, you asked in Act 40 that there be "one member representing towns and one member representing counties," (15.797 (1) (b) 2.) and said that "the initial member of the wind siting council [appointed as a town or county representative] shall represent a town or county that has in effect . . . an ordinance regulating wind energy systems." (Section 14 (2) (b).) It seems clear from this requirement that you wanted the Council to consider and benefit from the local ordinances that had been developed for the regulation of wind siting. Since the major argument made for the need for state-level uniform standards for wind turbine siting was the existing "patchwork" or "hodgepodge" of local ordinances and since the statute stipulated that a member of the Wind Siting Council should have direct experience with such an ordinance, it may be surprising to you that no examination or consideration of

these local ordinances occurred. I had provided copies of my Town of Union's ordinance to members of the Council, but it was never taken up in a meeting. While it was easy for frustrated wind developers to rail against having to understand and comply with local government concerns, the fact is that local governments spent considerable time and resources to carry out their responsibilities to their constituents. In the case of my small township, sixteen months and an estimated $40,000. was spent preparing a licensing ordinance for wind energy systems. We did not take this task lightly, and we believe that our investigations and work resulted in an ordinance that would allow wind development in our township while being protective of our citizens, but our experience and the experience of other local jurisdictions were not considered as anything other than impediments.

The Wind Siting Council ignored the work that had been done by local governments across the state because it seems the focus of the Council was on the needs of the wind industry and not on the equally legitimate concerns of local jurisdictions.

In a specific case, when I tried to address the issue of complaint resolution and provided language from our ordinance that described our approach (appended pages 15-17), it was not taken as a motion or seriously discussed. Instead, the Chair repeatedly asserted that the approach used by WE Energies should be taken as a model to be used throughout the state.

You asked that "one member who is a University of Wisconsin System faculty member with expertise regarding the health impacts of wind energy systems" (15.797 (1) (b) 8.) be on the Council.

It is pretty clear that you were asking for the best qualified person to be found in public higher education in Wisconsin to inform the recommendations of the Wind Siting Council on this issue of central concern. We now have hundreds of Wisconsin families who are living adjacent to large wind turbines, we have reports of serious health concerns and suspected consequences among these families, we have households abandoning their unlivable homes in order to avoid the effects of wind turbines—it is important to be as sure as we can be that policy decisions on wind turbine siting will not result in compromising the health of wind farm hosts or

neighbors. This is why you specified clearly that you wanted to be guided by the highest quality of information.

What you got was not a University of Wisconsin System faculty member but someone who had been hired to teach a course in the medical school, someone whose highest research qualification is a masters degree, someone who had begun to investigate the literature on the "health impacts of wind energy systems" just a few months before being appointed to the Wind Siting Council, and someone who had done no independent investigation of the health impacts of exposure to wind energy systems. It is difficult to understand how this appointment came about, but it is clear that the Public Service Commission did not, as was asked for, look throughout the UW System, but only at the UW—Madison and then, finally, in the Wisconsin Department of Health Services.

To further underscore your concern with health impacts, you specified that the Wind Siting Council "shall survey the peer-reviewed scientific research regarding the health impacts of wind energy systems" (Section 12, (e).)

The Wind Siting Council did not conduct any such survey. One member of the Wind Siting Council, having a masters degree in Public Health and working for a state agency that had already taken a position denying the health impacts of wind energy systems, was asked to prepare a presentation to be given to the Wind Siting Council. Immediately following the PowerPoint-assisted presentation, there was a limited time for questions. The written text of the presentation was initially promised to be provided, but then was withheld. It is now taking a Freedom of Information Act request to obtain a copy of this paper prepared by a state employee as part of his work. Without this text, the basis for the presentation cannot be evaluated. The Wind Siting Council was not provided access to any of the research studies by either copies or links, and the section on Noise in the report of the Wind Siting Council cites studies that were not part of the presentation and that were unknown to the Council. This critical part of your direction was simply not carried out.

In addition, you required that the Wind Siting Council "shall . . . study state and

national regulatory developments regarding the siting of wind energy systems." (Section 12, (e).) How did that go? I don't believe that state or national regulations ever appeared on an agenda for the Wind Siting Council. There were no briefing materials prepared or provided to WSC members. When I provided information on New Zealand's reconfirmed and revised noise standard of 5 decibels over background sound levels (appended pages 18-19), a standard that they have found workable and that is supported by both the government and the industry-based New Zealand Wind Energy Association, consideration of it was dismissed by a wind developer by saying that we should not consider any standards from other countries. The Chair, and other industry supporters, thought that was an adequate response.

The only report on regulation from any other states that I have seen from the PSC was appended to the Rules sent to you at the end of August as Attachment A1, "Comparison with Similar Rules in Surrounding States." This information was **not** provided to the Wind Siting Council. So, for example, we never learned that Michigan PSC has recommended that "setback requirements and noise limitations should continue to be decided at the local level where feasible so that the needs of local citizens can be appropriately considered." We never learned about the Michigan PSC's recommendation that the noise standard should be measured from the property line, not the residence. We never learned that in Minnesota "a county may adopt standards for large wind systems that are more stringent than those in Minnesota PUC rules or permit standards." And given these differences found in neighboring states, there is a good chance that we could learn a great deal from an unbiased survey of state and national regulatory siting regulation, but that survey was apparently never conducted or at least was not shared with the Council.

While I have been impressed with the professionalism and diligence of the PSC staff, it is clear that the PSC-directed process of the Wind Siting Council has failed to comply with the requirements you included in Act 40

- in making appointments to the Council,
- in learning from local government experiences with regulation of wind

energy systems,

- in responsibly investigating the concerns with health impacts, and
- in incorporating state and national regulatory developments in wind siting.

This outcome is not what Chairman Callisto promised this committee in May of last year when he said, "I pledge to you a rule-making process that will be open and inclusive. I have no desire to send you a rule that gives you heartburn. My job is to get the rule done right the first time."

I think that you and I would agree that the health and property of Wisconsin citizens and the energy future of the state are all important issues and deserve better attention than they received in the Wind Siting Council. It is sad that the Public Service Commission was not able to make better use of the opportunity provided by Act 40 to develop rules that would promote sustainable wind development for Wisconsin, that would be fair to all parties, that would be workable, and that would promote community acceptance of wind energy systems.
I respectfully request that the rules be sent back to the Public Service Commission to improve the Council membership and process and to carry out the charge contained in Act 40.

Thank you for this opportunity to report to you. I would be glad to respond if you have any questions at this or any other time.

Douglas Zweizig
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Evansville, WI 53536
(608) 882-4335
dougzweizig@hotmail.com

FROM THE MINORITY REPORT (APPENDIX E) OF THE WIND SITING COUNCIL'S *FINAL RECOMMENDATIONS TO THE PUBLIC SERVICE COMMISSION*, AUGUST 9, 2010

Wind Siting Council Membership

Wind turbine siting has been a contentious issue in this state—separating families, communities and abandoning Wisconsin residents to their fate. Recognizing this state of affairs, the legislature in Act 40 designated appointments to a Wind Siting Council that were intended to produce an evenly-balanced composition. Unfortunately, the appointments made were heavily weighted on the side of members having a direct or indirect financial interest in promoting wind development in the state.

It may have been more appropriate to have had all three Commissioners discuss these appointments at one of their open meetings. In future, there may be need for some legislative committee oversight in future Wind Siting Council member selection, since these decisions ultimately promote outcomes that could unnecessarily burden Wisconsin citizens in the name of "the greater good."

The following is the language in the statute that prescribed the composition of the Wind Siting Council:

2009 WISCONSIN ACT 40

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

SECTION 1. 15.797 of the statutes is created to read:
15.797 Same; council. (1) WIND SITING COUNCIL.
(a) In this subsection, "wind energy system" has the meaning given in s. 66.0403 (1) (m).
(b) There is created in the public service commission a wind siting council that consists of the following members appointed by the public service commission for 3-year terms:

1. Two members representing wind energy system developers (Developer Members)
2. One member representing towns (Towns Member) and one member representing counties (Counties Member)
3. Two members representing the energy industry (Energy Members)
4. Two members representing environmental groups (Environmental Members)
5. Two members representing realtors (Realtor Members)
6. Two members who are landowners living adjacent to or in the vicinity of a wind energy system and who have not received compensation by or on behalf of owners, operators, or developers of wind energy systems (Landowners)
7. Two public members (Public Members)
8. One member who is a University of Wisconsin System faculty member with expertise regarding the health impacts of wind energy systems (UW Faculty Member)

The Table following indicates the degree of compliance with the legislation and identifies those with direct or indirect financial or organizational interests in the promotion of wind energy systems in the state. Commentary is found on the pages following the table:

Membership on the Wind Siting Council called for in 2009 Wisconsin Act 40
As appointed by the Public Service Commission
a check with the legislative language and
identification of financial or organizational interests in the promotion of wind energy systems

SECTION 1. (b) There is created in the Public Service Commission a wind siting council that consists of the following members appointed by the Public Service Commission for 3-year terms:

NAME	AFFILIATION	APPOINTMENT MATCHES LEGISLATIVE	INDEPENDENT OF FINANCIAL OR ORGANIZATIONAL INTEREST IN THE PROMOTION OF WIND ENERGY SYSTEMS?
1. Two members representing wind energy systems developers.			
Tom Green	Wind Capitol Group	YES	NO
Bill Rakocy	Emerging Energies of Wisconsin, LLC; CREWE Member	YES	NO
2. One member representing towns and one member representing counties.			
Doug Zweizig	Town of Union (Rock Co.) (Town wrote an ordinance)	YES	YES
Lloyd Lueschow	Green County (no industrial wind activity)	YES	YES
3. Two members representing the energy industry.			
Andy Hesselbach,	WE Energies; CREWE Member	YES	NO
Dan Ebert,	WPPI Energy; CREWE Chair	YES	NO
4. Two members representing environmental groups.			
Michael Vickerman	RENEW Wisconsin	YES	NO
Ryan Schryver	Clean Wisconsin	YES	NO
5. Two members representing realtors.			
George Krause Jr.	Choice Residential LLC	YES	YES
Tom Meyer	Restaino & Associates	YES	YES
6. Two members who are landowners living adjacent to or in the vicinity of a wind energy system and who have not received compensation by or on behalf of owners, operators, or developers of wind energy systems.			
Dwight Sattler	Landowner 3,700 feet from a turbine	YES	YES
Larry Wunsch	Landowner 1,100 feet from a turbine	YES	YES
7. Two public members.			
David Gilles	Godfrey & Kahn former WPSC General Council	NO	?
Jennifer Heinzen	Lakeshore Technical College, Pres. RENEW WI	NO	NO
8. One member who is a University of Wisconsin System faculty member with expertise regarding the health impacts of wind energy systems.			
Jevon McFadden	Assigned to the Wisconsin Department of Health Services. Employed by the Federal CDC. Admitted non-expert on this subject.	NO	?
Number of members not matching the legislative language		**3**	
Number of members independent of financial or organizational interest			**6**

Commentary on the composition of the Wind Siting Council:

- Three of the members of the Wind Siting Council were also members of the Coalition for Clean, Responsible Energy for Wisconsin's Economy (CREWE), having a history of working in concert on the wind siting issue. "CREWE is a coalition group that formed to advocate meaningful energy policy change consistent with the Governor's Global Warming Task Force final report, which will have a positive impact on Wisconsin's economic development and security and foster job creation. CREWE's membership consists of Alliant Energy, EcoEnergy, Johnson Controls, Xcel Energy, C5•6 Technologies, Madison Gas and Electric, Orion Energy Systems, Forest County Potawatomi Community, Wisconsin Energy Corp., Emerging Energies of Wisconsin, MillerCoors, American Transmission Co. and WPPI Energy." http://wicrewe.com/

- The legislation called for two "public members," presumably, in the simplest term, persons who represent the best interests of the public.
  The definition of "general public" found at allwords.com (http://www.allwords.com/word-general+public.html) would be:
  1. *Those members of the public who have no special role in a specific public area, such as an airport, hospital or railway station; there will typically be restrictions on their access.*
  2. *Members of the public not in the attentive public of any given issue; laypersons.*

  The two people appointed were far from laypersons on the issue of wind energy systems in Wisconsin:

  "**David J. Gilles** is a shareholder and a member of the environmental and energy law practice group in the Madison office and has expertise in energy regulatory law matters. He also works with the antitrust, consumer protection and government practice team.
  Prior to joining the [Godfrey & Kahn] firm, Dave served as General Counsel to the Public Service Commission of Wisconsin (2003-2007). The Commission is an independent regulatory agency, responsible for overseeing public utilities providing electric, gas, water and telecommunications services to the public. As General Counsel, Dave was responsible for all legal matters affecting the agency. Dave supervised and directed legal representation in state and federal courts and before the Federal Energy Regulatory Commission and Federal Communications Commission. While at the agency, legislation streamlining procedures for approval of energy facilities was enacted (2003 Wisconsin Act 89). In addition, legislation setting renewable resource portfolio standards for energy providers became law (2005 Wisconsin Act 141)." (http://www.gklaw.com/attorney.cfm?attorney_id=300)

Jennifer Heinzen is the President of RENEW Wisconsin. For an example of her advocacy for increased use of wind energy systems in Wisconsin, see her response to perceived anti-wind comments of State Representative Bob Ziegelbauer
http://renewmediacenter.blogspot.com/2009/01/response-to-comments-of-state-rep-bob.html

- Probably the most problematic appointment to the Wind Siting Council was the person appointed to serve as the "University of Wisconsin System faculty member with expertise regarding the health impacts of wind energy systems." The person appointed is an employee of the Wisconsin Department of Health Services, an agency that has taken a position on the issue of wind turbines and health: "the information currently available to the Division of Public Health does not support the conclusion that existing setback criteria would result in adverse health impacts to the public." (Letter from Seth Foldy, State Health Officer and Administrator, Division of Public Health to Kendall Schneider, Chair, Town of Union (Rock County) Town Board, September 4, 2009) This carefully worded conclusion is strikingly similar to McFadden's conclusion in his presentation to the Wind Siting Council on May 17, 2010: "Evidence does not support the conclusion that wind turbines *cause* or are *associated with* adverse health outcomes." As an employee of the Bureau of Environmental and Occupational Health, McFadden is presumably subordinate to Foldy and therefore constrained in his conclusions to those of his agency.

  Act 40 called for an independent researcher, a faculty member in the University of Wisconsin system. The person appointed is not a faculty member, but an adjunct assistant professor:

  > Definitions are found in the **Wisconsin Administrative Code: UWS 1.04 Faculty.** *"Faculty" means persons who hold the rank of professor, associate professor, assistant professor, or instructor in an academic department or its functional equivalent in an institution.*
  >
  > and the **Faculty Policies and Procedures University of Wisconsin—Madison** (As approved by the Faculty Senate on 15 May 1978, with subsequent amendments as of 4 May 2009)
  > *1.02. UNIVERSITY FACULTY. A. The university faculty consists of all persons who hold the rank of professor, associate professor, assistant professor, or instructor with at least a one-half time appointment in UW-Madison, or with a full-time appointment jointly between UW-Madison and UW-Extension.*)
  >
  > Directory search at the University of Wisconsin—Madison:
  > 1 match
  > Name JEVON MCFADDEN
  > E-mail
  > Phone
  > Title ADJUNCT ASST PROF
  > Division SCHOOL OF MEDICINE AND PUBLIC HEALTH
  > Department POPULATION HEALTH SCIENCES

Adjunct professors, as can be learned from Wikipedia, are "Typically part-time non-salaried, non-tenure track faculty members who are paid for each class they teach. This position does not always require a completed PhD."
(http://en.wikipedia.org/wiki/Professor#United_States_and_Canada)
Therefore the Wind Siting Council did not have the quality of instruction in the peer-reviewed literature on the health impacts of wind energy systems envisioned by the legislators. Instead of a researcher who is accountable to the University and the community of scholars for the quality of assessment on this question, the Council had a member who only looked like a faculty member, who has not published any investigation into such questions, and acknowledged that he had only informed himself in the relevant literature for a few years.

We want to be clear that our concerns about the composition of the Wind Siting Council are not criticisms of the individuals appointed. In each case, these individuals were appropriate representatives of their roles and organizations. They were hard-working and conscientious members of the Council. Our critique is with the effect that these appointments had on the process of the Council's deliberations and with the pre-determination of the recommendations contained in the Council report.

The legislatively-desired diversity of the Council was clearly distorted in the appointment process, and the consequences of that act can be seen in the conduct and product of the Council. At the first meeting, Council members are described in the Council report as sharing "his or her background, experience and thoughts on wind development." However, none of the three members of CREWE mentioned that part of their experience, even though they had been working together to advance that organization's agenda at that time. It is clear that those expecting regulation from the Commission's rules and those Council members associated with them would have a strong voice in the recommendations for those regulations.

The Council Chair repeatedly urged the Council to work toward a consensus and even suggested specific ways in which opposing positions might be accommodated, but the majority operated to deflect information or proposals that might interfere with the agenda of ensuring that local jurisdictions would not be able to restrict wind farm development. The imbalance in favor of increased ability to site wind farms resulted in

- an inadequate and biased review of the scientific literature,
- little review of state and national regulations,
- no examination of the ordinances passed in Wisconsin by local jurisdictions (even though these ordinances were frequently cited as the rationale for the Council), and
- a series of majority votes in favor of relaxed regulation of wind energy systems.

The pattern of voting by this block of members can be seen in the *Wind Siting Council Straw Proposal Amendment Ballot: Data Tabulation* distributed on July 9, 2010.

Had the Commissioners vetted the Wind Siting Council applicants as a group in an open meeting, perhaps the council would have been a more diverse group applying equal consideration for the promotion of wind development and minimizing burdens for the residents of Wisconsin.

To: Wind Siting Council
From: Doug Zweizig, member
Date: May 20, 2010

I would like to propose that we explore an alternate approach to handling complaints from residents regarding the operation of wind turbines in their vicinity.
The present approach in the draft rules—having complaints handled by the wind farm operator (see p.21 line 3 and following of the "Proposed Draft Rule (5.14.10))—puts one of the parties to a dispute in control of the outcome. In order to see how this might work, I have reviewed the record that we have of the complaint procedures at Marshfield (found at http://townmarshfield.com/wind-tower-concerns/). The process there is limited in the concerns it will address, appears to take excessive time to resolve complaints, and provides resolutions arbitrarily determined by the operator.
An equitable process would be overseen by a neutral third party administering well-established criteria for performance and resolution of complaints and following an efficient process. The party granting the license or permit to the wind system operator would be the handiest arbiter for such complaints. That party is the one that set the requirements for the permit or license and would have the interest and responsibility to see that the requirements are being adhered to.
I am proposing this approach as a concept that I hope others on the Council will evaluate and improve. One of the issues that would have to be addressed is how this activity would be financed.

As one example of how this might be drafted, I am providing the section from the TOWN OF UNION, ROCK COUNTY, WISCONSIN ORDINANCE NO.2008-06, WIND ENERGY SYSTEMS LICENSING ORDINANCE that was previously provided to the Council. It can be found at http://www.tn.union.wi.gov/docview.asp?docid=4904&locid=173.
I am not proposing this language for adoption by the Council, but to illustrate how such a provision might read and to stimulate suggestions for an improved process that is efficient and equitable. It is hard to see the process in the draft rules as either efficient or equitable.

1. **20.01 VIOLATIONS AND PENALTIES; COMPLAINTS AND MODIFICATION, SUSPENSION OR REVOCATION OF LICENSE**

a. (a) Violations of This Ordinance. It shall be unlawful to construct or operate any WESF or part thereof in violation of any provision of this Ordinance, a WESF License, or a WESF License Agreement. Any person who violates or fails to comply with any provision of this Ordinance, a WESF License or a WESF License Agreement shall, upon conviction thereof, be subject to forfeitures of not less than $250.00 and not more than $700.00, and shall pay all costs and expenses of enforcement, including attorney and other fees incurred by the Town. Each day a violation exists or continues shall constitute a separate offense.

(b) Complaints and Modification. Revocation or Suspension. The Town Board shall retain continuing jurisdiction to modify, suspend or revoke all WESF Licenses in accordance with this section. Such authority shall be in addition to the Town's authority to prosecute violations and take other enforcement action.

1. In this section, "violation" means a violation of this Ordinance, or a violation of a WESF License issued under this Ordinance, or a violation of a WESF License Agreement entered into under this Ordinance.
2. Any resident of the Town or Town official may file a written complaint with the Town Clerk alleging that a WESF Licensee has committed or is committing a violation. Such complaints shall be forwarded to the Town Plan Commission.
3. The Town Plan Commission shall preliminarily review the complaint. In connection with its preliminary review, the Town Plan Commission may require the Town building inspector, engineer, attorney or other person or persons to conduct such investigations and make such reports as the Town Plan Commission may direct. The Plan Commission may request information from the holder of a WESF License, the complainant, and any other person or entity to assist with its preliminary review.
4. Following its preliminary review, the Town Plan Commission may:
   a. Dismiss the complaint;
   b. Refer the complaint to the Town attorney for prosecution; or
   c. Conduct a hearing to determine whether the alleged violation(s) have occurred, and what remedial action should be taken. Prior to such hearing, notice of the hearing shall be given to the holder of the WESF Licensee and the complainant, and in accordance with the Open Meeting Law. The holder of the WESF License and the complainant, and any other person, may appear at the hearing and may offer testimony and other relevant evidence, and may be represented by any attorney. If the Plan Commission concludes that violations have occurred, the Plan Commission may:
      (1) Impose conditions on the WESF License to the extent reasonably necessary to discontinue the violation(s) or avoid any recurrence thereof; or
      (2) Suspend the WESF License until such time as the WESF License holder presents a plan, satisfactory to the Plan Commission. that will discontinue the violation(s) or prevent any recurrence thereof, and on such further conditions as the Town Plan Commission deems appropriate to discontinue and prevent further violations; or
      (3) Revoke the WESF License and direct decommissioning of the WESF, if the Town Plan Commission concludes that no reasonable modification can be made to the WESF to discontinue or prevent violations; or
      (4) Refer the matter to the Town attorney for prosecution, subject to Town Board approval; or
      (5) Take no action, if the Town Plan commission concludes that no

further action is needed to discontinue or prevent violations, and that prosecution is unwarranted.

d. Following any such hearing, the Plan Commission's written decision shall be furnished to the WESF License holder and to the complainant. An appeal from a decision of the Town Plan Commission may be taken to the Town Board as provided in this section.

e. An appeal from the decision of the Town Plan Commission may be taken to the Town Board by the WESF License holder or a complainant. Such appeal must be in writing and must specify the grounds thereof, and must be filed with the Town Clerk within ten days after the final action of the Town Plan Commission. The Town Clerk shall provide any appeal to the Town Board. The Town Board shall fix a reasonable time for the hearing of the appeal, and shall give public notice thereof as well as due notice to the WESF Licensee and the complainant. The action of the Town Plan Commission shall be sustained unless the Town Board, by a favorable vote of the majority of all members of the Town Board, reverses or modifies the Town Plan Commission's determination. An appeal from a decision of the Town Board shall be by certiorari review, which shall be commenced within 30 days after the decision of the Town Board.

new zealand wind energy association

www.windenergy.org.nz

The New Zealand Wind Farm Noise Standard

There are a number of New Zealand Standards that deal with the management of environmental noise. Some deal with sound in general (NZS 6801 and NZS 6802), while others deal with particular sources of sound, such as construction (NZS 6803), airports (NZS 6805), heliports (NZS 6807) and ports (NZS 6809).

NZS 6808 is the New Zealand Standard that recommends limits on noise from wind farms. The 2010 edition replaces the earlier edition published in 1998.

WHY IS A SPECIFIC STANDARD NEEDED FOR WIND FARM NOISE?

General acoustics standards such as NZS 6801 are designed for measurements in wind speeds below 5 metres per second (m/s), which is relatively calm. However, wind turbines operate in wind speeds typically from 4 m/s to 25 m/s and their sound levels vary with wind speed. High wind speed conditions also create increased environmental sound from vegetation and can affect the microphones used to measure the sound.

For these reasons, to accurately assess and measure sound from wind turbines a specific method is needed that enables sound to be measured and assessed in windy conditions. The Wind Farm Noise Standard provides this.

The 1998 version of the Wind Farm Noise Standard was written prior to significant wind farm development in New Zealand. The basic methodology of the 1998 Standard was robust, but experience and research in intervening years had highlighted the need for refinements and enhancements. The Energy Efficiency and Conservation Authority (EECA) and the New Zealand Wind Energy Association (NZWEA, the industry association representing companies involved in New Zealand's wind energy sector), co-funded Standards New Zealand to undertake an independent revision of the 1998 Standard to incorporate this research and experience.

WHAT DOES THE STANDARD DO?

NZS 6808:2010 provides suitable methods for the prediction, measurement and assessment of sound from wind farms that takes into account the factors that are specific to that sound. It also recommends limits on the level of sound that can be heard from locations near wind farms. It will be used by wind farm developers, acoustics specialists, councils and others involved in setting and monitoring wind farm noise limits in resource consent conditions.

The noise limits recommended in the Standard are intended to provide protection against sleep disturbance and maintain a reasonable amenity at locations surrounding a wind farm.

People living near a wind farm may still hear the wind farm at times, but if the limits recommended in the Standard are properly applied the level of sound will not be unreasonable or out of place with other sounds in the environment. This approach is consistent with how sound from other sources is managed, such as from ports and airports.

The original NZS 6808:1998 was used as the basis for conditions for all wind farms granted consent since its release. The new version is likely to be the basis for consent conditions for all newly consented wind farms in New Zealand. It has been specifically written with such application under the Resource Management Act (RMA) in mind.

The Standard includes model consent conditions designed to ensure correct implementation. These conditions will provide local councils with practical enforcement measures when included in a consent or designation.

WHAT LIMIT DOES THE NEW STANDARD RECOMMEND?

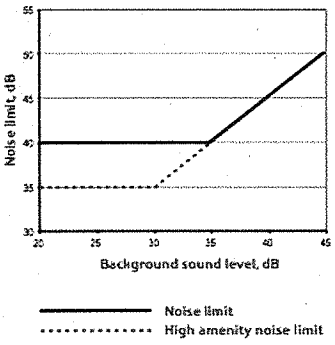
The 2010 version retains the recommended noise limits in the 1998 version, which is that the level of sound from a wind farm should not exceed the background sound level by more than 5 decibels (dB), or a level of 40 dB $L_{A90(10\ min)}$[1], whichever is the greater.

40 dB is typical of a quiet residential area with only light traffic and natural sounds such as the wind in the trees. In contrast, sound levels along-side an urban road would be around 60 to 70 dB during the day and about 50 to 60 dB at night.

There are some locations that are particularly quiet at times and so the recommended limit of 40 dB would be considered to be unreasonable.

In recognition of this the 2010 Standard introduces the provision for a lower, more stringent limit where a local authority has identified in its district plan the need to provide a higher degree of protection of acoustic amenity. The Standard recommends that when particular conditions are met, the sound from the wind farm during the evening and night time should not exceed the background sound level by more than 5 dB or a level of 35 dB $L_{A90(10\ min)}$, whichever is the greater.

Figure 1 – Relationship between background sound level and recommended noise limits



HOW ELSE DOES THE 2010 VERSION DIFFER FROM THE 1998 VERSION?

In addition to the provision for a lower, more stringent limit in special circumstances, a number of technical changes have been made and additional guidance added to the Standard that reflects the knowledge and experience gained from the use of the original edition of the Standard.

The measure of sound levels has changed from L95 to L90[2] to bring the Standard into line with the L90 descriptor used in other updated New Zealand Standards.

1. The A-frequency-weighted L90 centile level (expressed as $L_{A90(10\ min)}$) is the metric used in the Standard for wind farm sound. This metric avoids sound measurements being dominated by sound levels only present for a small part of the time and reduces contamination by the sound of wind on the microphone when levels are being measured.

2. Meaning the sound level equalled or exceeded for 90% of the time.

The new Standard provides better protection for communities by explicitly addressing issues such as:

- cumulative effects from multiple wind farms or wind farms developed in stages
- forewarning prospective residents of an area already affected or permitted to be affected by wind farm sound (reverse sensitivity)
- specific audible characteristics (amplitude modulation).

The prediction and measurement methods have both been tightened up. The prediction method now requires more refined calculations, with consideration of a wider range of factors affecting sound propagation, including different frequency components. The measurement method is now more robust with numerous refinements, including wind speed reference at the turbine hub-height to avoid errors from wind shear estimation.

WHY DOES THE STANDARD RECOMMEND A LIMIT THAT IS RELATIVE TO THE BACKGROUND SOUND LEVEL?

Both the 1998 and new 2010 versions of the standard recommend a relative noise limit of the 'background sound level plus 5 dB', to provide a reasonable level of protection for noise sensitive activities while acknowledging the variable effects of wind on background sound levels.

In many instances when the wind is blowing the background sound may be over 40 dB. Restricting the operation of wind farms to 40 dB when the background sound is louder – and so likely to mask sound from a wind farm – provides no benefit to nearby residents and would prevent verification of the wind farm's sound level.

WOULDN'T IT BE SIMPLER JUST TO KEEP WIND TURBINES A MINIMUM PHYSICAL DISTANCE AWAY FROM HOMES?

A number of factors influence the level of wind farm sound heard at any given location, including:

- the shape of the land and its ground cover
- speed and direction of the wind
- ambient (or background) sound levels
- acoustic characteristics of the sound itself
- the number, size and type of turbines in the wind farm.

For this reason a set physical distance would not be sufficient to ensure residents were protected from unreasonable noise, unless that distance was made so large as to prevent reasonable wind farm development. The Standard provides a way of determining the actual noise effects of a wind farm that takes into account all of these factors, and so ensures that nearby residents are not exposed to unreasonable sound levels. This approach is consistent with the Resource Management Act.

WHO WAS INVOLVED IN THE DEVELOPMENT OF THE 2010 STANDARD?

The Standards New Zealand committee that developed the Standard included representatives of local authority and community interests, engineering and scientific experts in acoustics, practitioners in planning, resource management and environmental health and wind farm developers.

They were nominated by:

- Energy Efficiency and Conservation Authority
- Executive of Community Boards
- Local Government New Zealand
- Massey University
- Ministry for the Environment
- Ministry of Health
- New Zealand Acoustical Society
- New Zealand Institute of Environmental Health Inc.
- New Zealand Wind Energy Association
- Resource Management Law Association
- University of Auckland.

Each nominating organisation had one vote on the committee.

When preparing the revised Standard, the committee combined their extensive practical experience of wind farm sound with the reviewed literature. Where there was an area of debate, the committee turned back to the scientific evidence and analysed and tested that evidence to determine the appropriate resolution.

The committee began its work in July 2008 and produced a draft Standard for public comment in February 2009. The public comment period lasted two months. A total of over 600 comments were received from a wide range of submitters. Each comment was reviewed by the committee and, where appropriate, changes were made to the draft before the committee reached consensus on the final published version of the Standard.

This Standard represents the best efforts of the committee members to find a solution to all issues raised. The consensus view of the committee is that the Standard provides a reasonable way of protecting health and amenity of nearby noise sensitive locations, without unreasonably restricting the development of wind farms.

WHAT THOUGHT DID THE COMMITTEE GIVE TO THE ALLEGED HEALTH EFFECTS OF WIND TURBINES?

When drafting the Standard the committee considered a wide range of published material on the effects of wind farm noise on people's health, including the effects of low frequency sound. The committee determined that, based on available evidence at the time the Standard was drafted, the noise limits in the Standard provide protection against adverse health effects.

Recommendations in both the 1998 and new 2010 versions of NZS 6808 are based on the World Health Organisation's guideline noise limit of 30 dB L_{Aeq} inside bedrooms to prevent sleep disturbance. This equates to the noise limit in the Standard of 40 dB $L_{A90(10\ min)}$ outside, as sound attenuates – or become quieter – as it travels through walls and windows.

WILL THE STANDARD APPLY TO ALL SIZES OF WIND TURBINE?

The Standard generally applies to wind turbines with a swept rotor area greater than 200 m^2 (for example, individual blade lengths greater than approximately eight metres). Wind turbines with a smaller swept area are generally covered by the provisions of Standards relating to general environmental noise (NZS 6801 and NZS 6802), although they may require special measurement procedures to account for the effects of wind noise.

Local authorities may chose to apply the Standard, in whole or in part, to small wind turbines.

More Information

Find out more about wind energy and wind farms in New Zealand at www.windenergy.org.nz.

NZS 6808 can be purchased from www.standards.co.nz

NZ Wind Energy Association

PO Box 553, Wellington 6140,
New Zealand

The New Zealand Wind Energy Association (NZWEA) is an industry association that works towards the development of wind as a reliable, sustainable, clean and commercially viable energy source. We aim to fairly represent wind energy to the public, government and the energy sector. Our members include 80 companies involved in New Zealand's wind energy sector, including electricity generators, wind farm developers, lines companies, turbine manufacturers, consulting firms, researchers and law firms.

new zealand wind energy association

February 2010

X

October 13, 2010

TO: Senate Committee
Commerce, Utilities, Energy, and Rail

SUBJECT: Clearinghouse Rule 10-057
Siting of wind energy systems

Committee Members,

I strongly urge you to veto Clearinghouse Rule 10-057 for the following reasons:

Several of the Council members did not meet the requirements as stated in Act 40

There are currently people adversely affected by wind development pointing to the fact that a 3.1 times turbine height setback is not sufficient. A ½ mile setback would be acceptable

An allowable 45dba level is an arbitrary number. It should be 5dba above ambient

The guidelines are in direct conflict with our Comprehensive Plan

The State would be well advised to conduct a health study on the existing wind developments in Wisconsin

Please vote against Clearinghouse Rule 10-057.

Respectfully,

Mike Luethe

Mike Luethe
Chairman, Ridgeville Township
22676 County Highway T
Norwalk, WI 54648
608-823-7740

TOWN OF RIDGEVILLE

WIND ENERGY CONVERSION SYSTEMS ORDINANCE

The Town Board of the Town of Ridgeville, County of Monroe, State of Wisconsin, ordains as follows:

I. GENERAL PROVISIONS

A. Title. These regulations shall officially be known, cited and referred to as the Wind Energy Conversion Systems (WECS) Ordinance of the Town of Ridgeville, and hereinafter will be referred to as "The Ordinance."

B. Findings. Under state law, electric generating facilities of less than 100 megawatts ("MW") are subject to regulations enacted by counties and local units of government. The Town of Ridgeville is under the Monroe County Zoning and Wind Energy System Ordinance, which regulates such facilities. However, the Monroe County Zoning and Wind Energy System Ordinance has insufficient standards to protect the public health and safety of the residents and property owners of the Town of Ridgeville. Therefore, this Town of Ridgeville licensing ordinance has been adopted under the Town of Ridgeville's town and village powers and Wis. Stat. § 66.0401. The Town finds that Wind Energy Systems which may be constructed and operated in the Town require special licensing by the Town in addition to any restrictions that may be imposed by Monroe County, in order to protect the public health and safety of Town residents and property owners. In this regard, the Town finds that the report issued by the National Research Council entitled *Environmental Impacts of Wind-Energy Projects*, May 2007 ("2007 NRC Report"), addresses several important public health and safety issues relative to WECS that require regulation by the Town. The Town further finds that the provisions of the "Draft Model Wind Ordinance for Wisconsin," as promoted by the State of Wisconsin's Department of Administration, are inadequate to reasonably protect public health and safety.

C. Purposes and Intent. The purposes and intent of this Ordinance are to protect the public health and safety of the residents and property owners of the Town of Ridgeville who may be affected by the development and operation of WECS. Such purposes and intent shall be accomplished by regulating noise, protecting emergency communications, regulating shadow flicker, ensuring adequate fire protection, establishing adequate setbacks, protecting water quality, preventing soil erosion, regulating visual obstructions, preventing conflicts between incompatible land uses, ensuring proper installation of WECS, and ensuring safe and complete decommissioning of WECS.

II. DEFINITIONS

Ampacity: Means the current carrying capacity of conductors or equipment expressed in Amperes.

Glen R. Schwalbach
920-680-2436

Hearing on Clearinghouse Rule #10-057
PSCW Wind Siting Rules

Senate Committee on Commerce, Utilities, Energy, and Rail
October 13, 2010

Testimony by Glen R. Schwalbach, P.E.
for
Towns of Glenmore, Morrison, and Wrightstown of Brown County

Thank you, Senator Plale and Committee Members for providing us this opportunity to comment upon the specific wind siting rules as proposed by the Public Service Commission.

Besides my testimony, I have presented your clerk with a letter from Todd Christensen, Chairman of the Town of Morrison. Mr. Christensen wants you to understand the rigorous process the towns have gone through to be sure our comments to the PSCW and, now to you, are as credible as can be.

Certainly, progress has been made but an essential element in the process is still lacking--that is the fact that rules or standards intended to protect the health and safety of people must be based upon scientific fact rather than scientific opinion. We still lack statistically-controlled epidemiological studies to assess wind turbine impacts on humans and animals. There are peer-reviewed scientific studies which say that significant evidence of negative impacts exists and peer-reviewed reports which stress there is no true scientific studies which show that turbines are harmful. Both groups of authors, including our own State Board of Health, are correct. There are no controlled scientific studies, period. This also means we have found no controlled scientific studies which determined that wind turbines are safe.

Wisconsin has an opportunity to do epidemiological studies in their existing wind farms. The University of Wisconsin and the State Board of Health are capable of doing such studies. Such studies could be done in a year or so and still provide time for any Wisconsin utility which needs more wind by 2015 to do so.

We call upon the wind energy industry to help fund such studies because the use of better science would improve their designs, speed their project application process, and help reduce their liability. I, personally, call upon the licensed Professional Engineers in the wind industry to remind themselves that, as P.E.'s, they have an ethical responsibility to the public which goes beyond obligations to their employers or their clients. Their designs and operational procedures must be based on good science. They should voice support for controlled epidemiological studies.

We don't know whether the legislature or the PSCW has a process to delay these rules or delay projects until proper studies are done. Emergency rules may have a role here. It seems the PSCW could delay approvals of the large turbine

complexes of 100 megawatts and larger by determining an application is not complete until the design is based on more adequate science. For projects smaller than 100 megawatts, the PSCW could delay the proposed rules since the legislation has no deadline for issuing them.

We ask you to support Public Service Commissioner Lauren Azar's proposal to address individual hardships from medical problems. This is especially relevant while we lack the results of controlled epidemiological studies.

That said, we offer comments on the proposed rules regarding the most serious issues.

Compared to the PSCW's model ordinance of 2007, the proposed rules have shortened the setbacks for participating residences and lengthened them for non-participating residences. It seems risky to shorten the setbacks for participating residences. The disparity between setbacks for different landowners is strong evidence that the decision lacks a credible scientific basis.

Historically and reasonably, setbacks have been defined as a distance from property lines--until wind turbine projects came along. Ironically, wind turbines which greatly exceeded traditional height restrictions for structures in local ordinances were approved for construction while, at the same time, the state decided to allow wind turbines to have direct impact beyond the property line as to the neighbors' use of their land. The model ordinance and the proposed rules set up the situation where a neighbor to a wind turbine now is excluded from putting up his own turbine, to build a residence, to sell land for a school, or, otherwise, develop the property. For many town landowners, their land represents their retirement fund or their legacy for their children. Adequate setbacks from property lines are necessary to minimize financial impact for non-participating landowners.

The PSCW in its response to public comments states that the proposed rules do not prevent a political subdivision from negotiating a mutually agreeable property value protection plan with the wind energy system owner. Yet that option is not listed in the proposed rules as other options are. Such efforts by a town could be argued by a wind owner as more restrictive than the state allows. The right of a town to broach this subject needs to be in the rules.

Notice periods to towns and landowners are too late in the process for adequately informing the landowners and the public. We had proposed that developers of projects be required to contact the PSCW for a temporary franchise so that the developers are comfortable with notification before they even contact landowners. Along with this, we proposed that the rules require developers to provide a "truth in negotiating wind easements" brochure to any landowner whom they contact. Such information is available but needs to be put in the hands of landowners. Both adequate notice and information would minimize situations which we now see where contract signers for proposed projects want out of their contracts and where the public gets surprised by

projects which seem to be done-deals. [Ref. PSC 128.105(1) and PSC 128.14(6)(b)]

The rules allow owners of nonparticipating residences or such buildings as schools and churches to waive setbacks. Setbacks are to protect health and safety, albeit not yet based upon the best science. For such owners, who are not usually wind turbine experts, to be allowed to waive health and safety protections is not prudent and may cause hazards for other occupants. [Ref. PSC 128.13(1)(d)]

The rules specify a nighttime noise limit of 45 dBA and apply only to a nonparticipating residence or occupied community building. The World Health Organization did a six-year study involving thirty-five experts for the European Union. The report was published last year and sets forth a limit to protect the public of 40 dBA at night at the outside wall of bedrooms. This resource is the best we have seen and should be adopted until better science is available. Support for this nighttime limit has been supported by all the towns of Brown County. The rules should protect participating properties as well. It would be irresponsible to not do so. Also, allowing an owner of a non-participating property to waive the sound limit is questionable since different individuals in a household are likely to be affected differently. [Ref. PSC 128.14(2)(a), (3)(a), and (5)]

The rules should clarify that it is not allowable to consider whines, screeches, etc. as normal sound. [Ref. PSC 128.14(3)(b)]

And, finally, our area of Brown County is an extremely sensitive part of the Niagara Escarpment which is susceptible to ground water impacts. If wind turbine installations with their cable connector trenches create new pathways for surface substances such as manure or chemical treatments to contaminate the groundwater, we are told the law now provides the farmer, who spread the substance as a normal routine, will be the one fined, not the persons or company who created the pathways. Obviously, the rules need to put some of the responsibility upon the wind turbine owners. Also, the rules default this issue to the Department of Natural Resources and don't provide the towns and counties enough authority to disallow a turbine structure or trenches in a weak geological formation or require construction methods which would mitigate the risk.

We commend the PSCW on its proposed rules for stray voltage and decommissioning.

Thank you for your consideration.

Senate Committee on Commerce, Utilities, Energy, and Rail
Public Hearing
Clearinghouse Rule 10-057, Relating to Siting Wind Energy Systems

Wednesday, October 13, 2010

By: Richard R. James, INCE

Thank You for the Opportunity to Speak Today,

My name is Richard R. James. I am an acoustical consultant with 40 years of experience. I have been a member of the Institute of Noise Control Engineers (INCE) since 1973. I offer my services through my company, E-Coustic Solutions which is located in Okemos, MI.

I am speaking on behalf of Calumet County Citizens for Responsible Energy (CCCRE), a non□profit organization which supports responsible, efficient renewable energy while protecting the health and safety of people and the environment. I have worked with CCCRE on matters related to siting wind turbines in Wisconsin since 2007. My most recent work was as an expert witness for the hearing held on Glacier Hills Wind Park.

Because time for my comments is limited I will focus on two parts of the proposed requirements in the Public Service Commission's Chapter 128 rules for Wind Energy Systems. I have made extensive comments on proper siting requirements in my testimony for Glacier Hills as part of the official record that I ask be considered as an extension of these brief comments. The requirements I wish to address today are:

- The nighttime sound limit of 45 dBA proposed in PSC 128.14 Noise Criteria, section 3) Noise Limits, part (a), and,
- The setback of 3.1 times the maximum blade tip height to nonparticipating homes and 1.1 times the maximum blade tip height to nonparticipating property lines proposed in the PSC Chapter 128.13 Siting Criteria Section (1) Setback Distance And Height Requirements. Part (A), Table 1.

  The turbine dimensions WE Energies used to calculate the setbacks for Glacier Hills set the turbine height to blade tip at 400 feet. Applying the 3.1 setback multiplier yields a setback of 1240 feet from turbine to any home and the 1.1 setback multiplier yields a property line setback of 440 feet.

The problems that are producing complaints and litigation in Fond du Lac county's Blue Sky, Green Fields, and Forward Wind utilities are not unique nor should they be unexpected. Setting a nighttime limit of 45 dBA is not going to change this outcome for future projects. I have seen many wind turbine utilities where sound levels are 45 dBA at the nonparticipating residences and all of them have similar community problems with similar complaints. I have personally observed this at wind projects in Maine, New York, Pennsylvania, West Virginia, Vermont, Illinois, Wisconsin, Iowa, Minnesota, and Ontario. We do not have to wait until new wind turbine projects are constructed in Wisconsin to know whether the Wind Siting Council's and Public Service Commissions

recommendations to permit 45 dBA at night will be acceptable to the non-participants who live near the utility. In each of these states, I have clients who, as a result of wind turbine noise measured at 45 dBA are reporting:

- Ongoing sleep disturbance,
- Other adverse health effects (AHE), and
- Loss of use of their outdoor property for recreation and development.

These homes are located at distances between 1300 feet to 2500 feet.

At 1500 feet a single turbine can produce sound levels of 45 dBA. For people living in areas where there are multiple turbines surrounding their property, a setback of 2200 feet will still result in sound levels of 45 dBA. Table 1's setback of 3.1 times the maximum blade tip height offers no protection against nighttime noise disturbance. Sound levels at that distance will exceed 50 dBA for homes downwind of turbines. This has been confirmed by direct measurement. Even a setback of 5.5 times the maximum blade tip height (2200 feet) will result in nighttime noise levels at the wall of the home being 45 dBA or higher under commonly occurring conditions.

While there may be some nights when the turbine noise is not as loud, studies of wind utilities in New York and Maine show that high levels of wind turbine noise occurs about one out of every three nights during the warm season. These are usually nights with little surface wind to create leaf rustle in trees and vegetation that might mask even part of the wind turbine noise. Wind turbine noise dominates the community on such nights.

Permitting wind turbine utilities to produce noise resulting in sound levels of 45 dBA at night will expose the public to unsafe nighttime noise. The World Health Organization's (WHO) most recent guidelines for nighttime noise sets 40 dBA as the Lowest Observed Adverse Effect Level (LOAEL). This was established in 2007/2009 by WHO as the night-time sound level outside the wall of a home at which adverse health effects are first noticed in the more vulnerable groups. These groups include children, seniors, and others with pre-existing medical conditions that interfere with sleep.

One might think that the difference between 40 and 45 dBA is not a significant increase. However, every 3 dB increase means that the acoustic energy has doubled. A 5 dBA increase from 40 to 45 dBA is almost a quadrupling of the sound energy. This is a very significant increase.

Sleep disturbance and annoyance brought on by the noise of wind turbine installations that are located too close to homes are responsible for the majority of symptoms and negative health effects that are being reported in Wisconsin and other places around the eastern part of the US. Chronic sleep disturbance causes a cascade of pathological responses causing a host of serious diseases that reduce quality of life and affect life expectancy. The link between chronic sleep disturbance and these illnesses is proven and unimpeachable. That is why airports limit flights over residential communities at night and why we are seeing more and more noise barriers along busy sections of

expressways. The link between nighttime noise and adverse health effects is not just a concern when it is wind turbine noise.

Wisconsin needs to reconsider its current position with respect to permitted sound levels during nighttime hours at the homes of non-participating properties. Permitting 45 dBA noise levels will expose people to unnecessary health risks and for non-participating members of the community this risk is not with their consent.

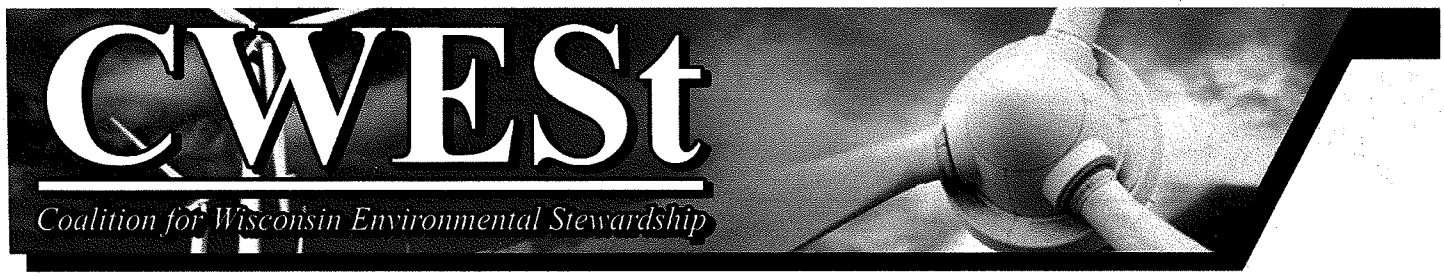
Companies involved in developing and operating wind turbine utilities may be willing to gamble with the health of the residents of the State of Wisconsin by advocating a nighttime limit of 45 dBA. It is necessary for Wisconsin's PSC and the Legislature to protect its citizens against the harm that may come from that gamble.

Responsible planning and siting must use the best available science to set the limits for wind turbine noise and those limits must include adequate margins for error. Permitting 45 dBA at night does not do either of these. It is one thing for private companies and their investors to gamble with the public's health by asking for limits that provide them with the greatest opportunity for profits at the expense of the community's health and welfare, but it is another thing if the public officials who are responsible for protecting both the health and economic welfare of the state's citizens to decide to gamble with them.

The Wisconsin's Legislature and PSC should limit the sound level from turbine noise at nonparticipating homes to no more than 40 dBA. This is based on known health risks. The minimum setback to any home should be increased to at least 5.5 times the height of the blade tip, (2200 feet).

Nighttime sound levels in rural communities, like those in Fond du Lac County, are 20 to 30 dBA. WHO's nighttime noise guidelines say that levels below 30 dBA promote healthy sleep. Even if the goal is to help a new industry, it is not right to promulgate regulations that result in people who are currently safe in their homes having to accept living in mandated conditions that put them at risk of adverse health effects. A nighttime noise limit of 40 dBA will provide room for the wind turbines to raise current background sound levels, but not raise them to the extent that people's health will be at risk.

Thank you for your time.



Dedicated to making sure that wind turbines get sited the *RIGHT WAY.*

October 13th, 2010

To: **Senate Committee on Commerce, Utilities, Energy and Rail**

RE: PSC Wind Siting Rules – Chapter 128

The Coalition for Wisconsin Environmental Stewardship (CWESt) has been integrally involved in the debate surrounding wind turbine siting in Wisconsin for several years. We are the only statewide organized group to represent those people directly affected by wind turbines. We would like to make several important comments on the proposed wind siting rules as they are now before the legislature.

The process to date has not been set up to get a fair and balanced result. As you have heard, the Commission appointed a Wind Advisory Council that was heavily weighted toward members who were active in supporting wind projects. The Public Service Commission itself has been actively involved in promoting wind energy, especially providing vocal support for the Clean Energy Jobs Act. They have hardly carried out their traditional role of protecting the public in this area of wind turbine siting. We ask the legislature to call for 2 very important changes to the rules.

First, **create a setback of one-half mile from the property line,** but allow developers to purchase easements if they wish to locate closer to the property. This solves several problems.

Neighbors located more than a half mile from turbine development report many less problems with noise and health issues. The dB levels at one half mile are significantly reduced compared to those living at the 1200' setback outlined in the rule draft. Shadow flicker issues also diminish with distance.

Most importantly, the significant drop in property values that those immediately adjacent to the turbines experience would be ameliorated. This is perhaps the best way to avoid the serious constitutional issues of uncompensated "takings" from neighbors. *If you live inside of one-half mile from a turbine development – you ARE a participant* and should either be compensated or have a right to say no. The PSC has had to at least partially recognize this by authorizing "good neighbor" payments within the half mile radius.

Secondly, **support a noise standard of no more than 40 dB.** Many studies show that repeated noise levels of 45 dBA can have adverse consequences on human health. These studies, done by agencies such as the World Health Organization, have been done most frequently by airports, where the occurrence of the noise is MUCH less frequent than with the turbines. To say that we will build the turbines first and then wait for the studies is irresponsible. Also the current PSC noise protocol referenced in the rule is a classic case of the "fox guarding the henhouse". Once a turbine is up and running is a wind developer really in a position to submit a non-compliance finding to the local government? This is an extreme conflict of interest.

Current setbacks and noise limits are not supported by any scientific study and have no rational basis. The numbers have clearly been selected for the convenience of the developers. Even Vestas, a turbine manufacturer, recommends using ambient background noise levels plus something like 5 dBA.

In conclusion, CWEST finds that the proposed draft rules are completely inadequate to protect the health, safety, and property rights of those living near proposed industrial wind turbine developments. Please act to create a balanced wind siting law by sending this rule back to the PSC for modifications. Thank you!

Coalition for Wisconsin Environmental Stewardship
22 North Carroll Street – Suite 310 – Madison, WI 53703
608.819.0150 | contact@cwestonline.org | cwestonline.org

Public Testimony 10-13-2010 Clearinghouse Rule 10-057

To: Senate Committee on Commerce, Utilities, Energy and Rail
RE: PSC Wind Siting Rules-Chapter 128

In 2004 the Energy Center of Wisconsin[1] published a report for the State of Wisconsin Department of Administration Division of Energy entitled, "A Study of Wind Development in Wisconsin, A Collaborative Report". On page 48, under "Turbine Placement" it states:

> *The first generation of wind power projects in Wisconsin (particularly in Kewaunee County) showed that unless developers pay attention to the placement of turbines, noise and blade flicker could become significant issues for nearby residences. The importance of turbine placement and wind farm design cannot be overemphasized. Developers need to make use of visual rendering tools to ensure their project explicitly evaluates the potential effect of noise levels and blade flicker on host landowners and adjacent property owners.*

The proposed Wind Siting Rules do very little to ensure the fulfillment of this industry supported recommendation.

Wind development stakeholders will testify that these rules are the strictest wind siting rules in the nation.[2] Last week, Goodhue County in Minnesota, became the second county in **Minnesota** in the last year to adopt wind siting rules which included a key provision that would impose a wind turbine setback of 10 "rotor-diameters" or about 1/2mile, from homeowners not participating in a commercial wind project — **unless** those homeowners agree to less stringent standards.[3] Some wind siting council members were prepared to discuss other ordinances in the U.S. and internationally as provided in Act 40. The subject wasn't opened for discussion. In fact, Wisconsin is breaking ground by taking away all local control in the development of wind projects.

Shadow flicker modeling and noise modeling standards are left to the discretion of each wind developer. This is one area that should have more uniformity set by the PSC for input parameters. Wind developers are not vetted by the state. There are no consequences for bad actors or modeling errors.

Impacts should be mitigated with proper siting. There is too much emphasis on band aid methods to comply and mitigate after the turbine installation instead of being confident that the PSC has put forth accurate siting rules. Having a rule for notice of process for making complaints sent to all residents within a ½ mile before construction just signals the

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[1] http://www.ecw.org/prod/231-1.pdf
[2] http://renewwisconsinblog.org/2010/08/30/vickerman-wisconsin-poised-to-adopt-the-strictest-statewide-siting-rule-on-large-wind-turbines-in-the-nation/
[3] http://www.republican-eagle.com/event/article/id/69492/

community that problems are most certainly expected.

Under the complaint process in the wind siting rules, the rule states that a complaint shall be made first to the owner of the wind energy system pursuant to a complaint resolution process developed by the owner. The permitting authority is the local government. Complaint resolution should be administered by them. Unlike a wind turbine owner, the town or county boards are elected officials who have the intrinsic responsibility to protect the health, safety and welfare of their constituents. The rules should be clear on what procedural methods and tools the local governments have to investigate complaints. For example how do they determine if noise limits are exceeded? What is the definition of "curtailment" and how shall that be measured? There should be a stipulation for funds to be collected before project construction, and held in escrow to address investigation of complaints after the project is operational, as provided for in the permitting and construction process. In addition there should be a clear procedure for an appeal process to the PSC if the wind turbine owner determines the complaint resolution is unreasonable and refuses to comply.

The rules are silent on mechanisms of enforcement. Local governments need to know what their enforcement authority is. Most towns do not have authority to issue citations for non-compliance in operations in their towns. What tools does a local government have to ensure that the siting standards are met without burdening the community with litigation costs for 25 years?

A wind project may be the single most intrusive development that engulfs a community. Have the Wisconsin legislators carefully reviewed the evidence that wind energy will live up to the marketing rhetoric; reduce our dependency on foreign oil, reduce C02 emissions, reduce imports of fossil fuels and create jobs? If so, then more lessons need to be learned from our existing installed wind projects to make continuing development sustainable. Accepting the same methods of planning developments as in the past has done nothing but fuel opposition. The wind siting rules as written have done nothing to minimize this.

Cathy Bembinster
18002 W Cty Rd C
Evansville, WI 53536

TESTIMONY TO THE SENATE COMMITTEE ON COMMERCE, UTILITIES, ENERGY, AND RAIL

ATTORNEY JEFF VERCAUTEREN ON BEHALF OF
RENEW WISCONSIN, WIND ON THE WIRES, AND WIND FOR WISCONSIN

OCTOBER 13, 2010

Chairman Plale and members of the Committee, thank you for agreeing to hold this hearing on the draft wind siting rules submitted by the Public Service Commission. I would be remiss if I did not begin by first thanking you Senator Plale for your hard work in passing Act 40, and the members of this committee who supported its passage. Act 40 was desperately needed to establish a fair and reasonable approach to regulating wind energy systems in Wisconsin. Far too many wind projects in our state remain stalled because of local ordinances that make such projects infeasible.

Act 40 charged the PSC with drafting the standards local units of government would apply to wind energy system, providing a very clear legal and policy directive to the PSC. While the PSC in many instances did establish the fair and reasonable provision Act 40 was intended to implement, in several key areas the agency has proposed regulations that exceed its statutory authority and that are contrary to legislative intent.

It is important to remember the statutory framework for the draft rules before you. For many years prior to Act 40, Wisconsin law prohibited municipalities from regulating wind energy systems unless the regulation related to health or safety issues or did not increase the cost of the system. Wis. Stat. § 66.0401. Act 40 maintained these restrictions and directed the PSC to operate within their bounds. Therefore, with these rules, it was the duty of the PSC to work within this longstanding regulatory framework. The PSC simply cannot use these rules to give municipalities additional regulatory authority that they are explicitly prohibited from exercising by statute. Unfortunately, the PSC had made this mistake in several instances in these rules, overstepping its statutory authority.

I. GOOD NEIGHBOR PAYMENTS.

The draft rules mandate that wind developers offer to pay landowners within one-half mile of a wind turbine an amount equal to 25 percent of what a landowner receives for hosting a wind turbine. PSC 128.33(3). This proposal has nothing to do with health and safety and obviously significantly increases the cost of projects. It is therefore contrary to Act 40.

As a policy matter, the legislature has shied away from such requirements. In a different context, the legislature has prohibited rate recovery for utilities that enter into similar agreements with municipalities. Wis. Stat. § 196.20(5). Whether it is payments to

municipalities, or payments to affected neighbors, the legislature should not impose such requirements on generators.

II. SETBACKS.

Prior to the PSC adopting these rules, the Wind Siting Council met to review the key issues that the Commission would need to address, including setbacks. This group was a diverse, 15-member body appointed to review existing information on wind energy development. The Council recommended a safety setback of 1.1 times turbine height as sufficient to protect public health and safety.

The rules include a setback of 3.1 times wind turbine height from community buildings and nonparticipating residences. This results in a setback of over 1,500 feet for many newer, more efficient turbines. There is no health or safety justification for a larger setback, which will increase development costs and make many projects infeasible.

III. SOUND AND SHADOW STANDARDS.

The rules establish a sound standard of 50 dBA day and 45 dBA night. The rules require mitigation of shadow impacts exceeding 20 hours per year and require turbine curtailment if shadow impacts exceed 30 hours per year. These standards eliminate otherwise feasible wind turbine sites, even though there are no demonstrated health impacts from wind turbine sound or shadow. We support a sound standard of 50 dBA at all times and a shadow standard of 45 hours per year.

IV. DECOMMISSIONING.

The rules grant political subdivisions substantial control over decommissioning requirements, including the authority to extensively regulate the type and form of financial assurance that must be provided. The rules need to be clarified to ensure that developers can choose the type of financial assurance that is to be provided and the manner in which to decommission their projects, consistent with Act 40.

V. OTHER.

In my testimony, I have attempted to hit the major points that will impact project viability, but there are other changes that should be made as well. We would be happy to work with the Committee to identify these changes and to make the rules consistent with the law and policy of Act 40. Thank you.

For additional information, please contact:

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Madison, WI 53703
608.251.0101
vercauteren@cwpb.com

STATEMENT OF POSITION ON WIND SITING RULES

Last fall, Wind for Wisconsin helped pass legislation (2009 Act 40) which directed the Public Service Commission to create uniform wind siting standards across the state. The intent of Act 40 was to establish reasonable and workable rules for landowners, political subdivisions, and developers. Yet the rule as submitted to the legislature by the PSC creates a problematic permitting environment in Wisconsin, creating additional impediments to development in our state, contrary to the law and policy of Act 40.

In fact, certain provisions within the PSC rule are more restrictive than previous PSC wind construction decisions and would establish the most stringent rules in the country for wind development. For example, the rule allows political subdivisions to require developers to make annual payments to nonparticipating landowners. This requirement is inconsistent with the goals of Act 40, unrelated to health or safety, and increases development costs. Mandatory payments to nonparticipating landowners are a first for any statewide wind permitting rule in the United States and should be removed from the rule.

Additionally, the proposed setback of 3.1 times turbine height from nonparticipating residences will result in setbacks of over 1,500 feet for some turbines, thereby eliminating otherwise developable turbine sites and making some projects infeasible if not impossible to develop.

Currently, over 600 MW of planned wind developments are stalled across Wisconsin due to difficult regulations and procedures. Practical wind siting rules will signal to the growing wind industry that Wisconsin is open for business, making our state more competitive in attracting investment capital.

The businesses and organizations listed below support reasonable rules which allow for the development of wind in Wisconsin. Overly burdensome provisions that do not protect health or safety will add costs and burdens to wind development with little or no benefit to our state, our economy, or individual landowners.

CAMPAIGN SUPPORTERS

- Addison Wind Energy, LLC
- AgWind Energy Partners
- American Lung Association Wisconsin
- American Transmission Company
- American Wind Energy Association
- Associated General Contractors of Wisconsin, Inc.
- Babcock & Brown
- Boldt Construction
- Broadwind Energy
- Citizens Utility Board
- Clean Wisconsin
- Construction Business Group
- Customers First Coalition
- Dairyland Power Cooperative
- EcoEnergy, LLC
- Eden Renewable Energy, LLC
- Element Power
- Emerging Energies of Wisconsin, LLC
- Federal Marine Terminals, Inc.
- Fednav
- Great Lakes Utilities
- Horizon Wind Energy
- Iberdrola Renewables
- IBEW 2150
- IBEW 965
- Invenergy, LLC
- IUOE Local 310
- Lake Michigan Wind and Sun
- League of Women Voters – Wisconsin
- Madison Gas & Electric
- Michels Wind Energy
- Midwest Renewable Energy Association
- Midwest Wind Energy
- Municipal Electric Utilities of Wisconsin
- Operating Engineers Local #139
- Orion Construction Group
- Orion Energy Systems
- Port of Milwaukee
- Renewegy
- RENEW Wisconsin
- Ritger Law Office
- Seventh Generation Energy Systems
- Sierra Club – John Muir Chapter
- Stantec
- United Steel Workers
- Uriel Wind, Inc.
- Wausaukee Composites
- WES Engineering
- Wind Wisconsin
- Wisconsin Agribusiness Council
- Wind Capital Group
- Wind on the Wires
- Wisconsin Commercial Ports Association
- Wisconsin Environment
- Wisconsin Farmers Union
- Wisconsin Farm Bureau Federation
- Wisconsin Industrial Energy Group
- Wisconsin Laborers' District Council
- Wisconsin League of Conservation Voters
- Wisconsin Manufacturers and Commerce
- WPPI Energy
- Wisconsin State Council of Carpenters
- Wisconsin Utilities Association
- Xcel Energy

Note: While the endorsing entities support the proposal as summarized herein, their endorsement should not be construed as a blanket endorsement of future legislative or regulatory changes to permitting wind energy systems in Wisconsin.

Wisconsin Towns Association

Richard J. Stadelman, Executive Director
W7686 County Road MMM
Shawano, Wis. 54166

Tel. (715) 526-3157
Fax (715) 524-3917
Email: wtowns1@frontiernet.net

To Senate Committee on Commerce, Utilities, Energy, and Rail
From: Richard J. Stadelman, Executive Director
Re: Clearinghouse Rule #10-057; PSC Wind Siting Rules proposed Chapter 128
Date: October 13, 2010

On behalf of the Wisconsin Towns Association, I would respectfully request the Senate Committee on Commerce, Utilities, Energy, and Rail refer the draft rule on Wind Siting, proposed Chapter 128, back to the Public Service Commission (PSC) with directions to modify at least two key provisions in the draft rule plus review additional provisions.

First, we want to state that the state legislature by authorizing the PSC to promulgate these rules which will limit the local governments' authority to regulate the siting of wind turbines, the state has preempted local government authority to protect their residents and property owners for public health, safety and welfare to no greater restrictions than as allowed under the rules. Therefore local governments must rely on the PSC rules to ensure that public health, safety and welfare are protected. It is our opinion and many of our members who have followed the rule development that at least two key provisions listed below should be modified by the PSC to provide the needed protections for residents and property owners of the state.

The first provision that warrants modification is the **setback of large wind turbines from nonparticipating residences on Table 1.** The setback should at the minimum be from the property line of a nonparticipating property, not the residence. The draft rule of 3.1 times the maximum blade tip height from a nonparticipating residence results in a "taking" of the nonparticipating property owners use of his or her property between the residence and the property line, without compensation. Increasing this setback to the property line also reduces some of the other impacts of large wind turbines, such as noise and shadow flicker effect. We would also suggest that the PSC consider a greater setback from the nonparticipating property line than 3.1 times the maximum blade tip height or at the minimum conduct more studies on noise before setting the distance as proposed.

The second provision that warrants modification is the **maximum noise limits at 50 dBA during daytime and 45 dBA during nighttime hours.** It is my belief that based upon existing studies that noise levels at these levels will have negative health impacts on many people in the immediate proximity of the large wind turbine (such as living in a nonparticipating residence at 3.1 times the maximum blade tip height distance from a turbine). Decreasing these maximum noise limits in combination with increasing the setback from nonparticipating property lines will better protect public health, safety, and welfare.

We want to point out that in addition to the health impact upon individuals within the immediate proximity of large wind turbines, when the impacts of setbacks and noise levels that are perceived as insufficient to protect public health, safety, and welfare, the value of properties

adjoining wind turbines will likely decrease, reducing the tax base on the political subdivision, resulting on a shifting of tax burden on local property owners outside of the immediate proximate area of the large turbines. This is a negative impact on the town government that is not sufficiently reimbursed by the municipal aid payments (shared revenue) from the large turbines.

In addition to the two key provisions that we ask the Committee to direct the PSC to modify, we believe some other provisions warrant review and reconsideration by the PSC. These following provisions should be reviewed by the PSC:

(1) **PSC 128.02 (4) Individual Consideration**. While it may not be the intent of the current PSC to allow the future applicants for large wind turbines to have lesser standards than written in the rule, this section clearly provides the commission the authority to set lesser standards than written in the rule without limitation. This latitude creates uncertainty to local governments and the residents in the immediate proximity of proposed large wind turbines that the minimum requirements can be waived without any recourse or without protection to the public of health, safety, and welfare. This section should be modified to eliminate the authority of PSC to approve lesser standards than the minimum standards to protect the public.

(2) **PSC 128.33 (3) Monetary Compensation**. While we commend the PSC for allowing the local government to require the large wind turbine owner to compensate the owner of a nonparticipating residence, we question why it is limited to an amount not to exceed 25% paid to the owner of a turbine host property. With a setback maximum from the nonparticipating residence of 3.1 times the height of the maximum blade tip, a nonparticipating property owner could be closer than the owner of a host property's residence and be impacted to a greater extent than a host property owner. The 25% limit should be increased.

(3) **PSC 128.14 (4)(e) under Emergency Procedures.** While we support the requirement that the owner of the wind turbine should be required to provide annual training for fire, police, and other appropriate first responders, we would assert that the cost of time spent by the appropriate emergency personnel should be reimbursed by the owner. These large wind turbines are unique structures that warrant the special training and time spent by local emergency personnel in such training, but such time should be at the expense of the wind turbine owner.

(4) **PSC 128.32 (4) Effect of Ownership Change on Approval**. As written this section does not provide for the political subdivision to require the new owner to show proof of compliance with such requirements as general liability, financial assurance for decommissioning, bonds for possible road damage, or other requirements that may have been specific to the original owner but not necessarily the same documents and guarantees available to the new owner. The change of ownership should not be valid until the new owner has shown proof of compliance with all such specific requirements of the original owner. This language should be written into the rule.

In general we commend the work to date of the PSC in proposing the draft rule. However, there are the two major provisions listed above that should be modified and the other sections that need clarification or rewriting to ensure that the preemption of local government authority by setting these state standards does not do harm to public health, safety, and welfare. Again, we respectfully ask your committee to return this rule to the PSC with directions for modification.

Kurt C. Kielisch
ph 920-233-9836 (Bus)
920-303-1300 (home)

Senate Committee Testimony Outline

1. Greetings senators, gentlemen and women of the hearing, my name is Kurt C. Kielisch and I am a forensic appraiser specializing in eminent domain, stigmatized property and impact studies. My company is Appraisal Group One based in Oshkosh.
2. I would like to present to the panel my opinion of the impact of wind turbines and property value.
3. Our company has studied the impact of wind turbines last year and continue to do so this year.
    a. Our first study was based in Dodge and Fond du Lac Counties and included the wind farms of
        i. WE Energies – Blue Sky Green Field, north Fond du Lac county.
        ii. Invenergy- Forward in Fond du Lac and Dodge Counties
4. I would like to direct your attention to two areas of this study: the Realtor survey and the empirical study.
5. Realtor survey.
    a. We surveyed 37 Realtors in the area of these wind farms.
    b. Of this amount 50% had sold real estate that had the influence of a wind turbine.
    c. The basic results of this survey was:
        i. In all cases the overwhelming majority of Realtors believed that the presence of a wind turbine had a negative impact on residential property value, both vacant land or improved.
        ii. The Realtors estimated a loss of 39%-43% if the property was within 600ft of a turbine.
        iii. Then estimated the losses to lessened the further away from the turbines, having a loss of 24%-29% when the property is one half mile or 2,640ft away.
6. Empirical studies.
    a. We investigated the sales of vacant residential land, 1-10 acres in size, that sold within the wind farm areas.
    b. Then, we found comparable sales outside of the influence of the wind farm area and compared the values using simple regression analysis.
    c. The WE Energies – Blue Sky Green Field wind farm had.

i. 68 total land sales.

ii. 6 sales were within the wind farm influence.

iii. The result showed a typical loss of value between 19%-23% with some extremes in the 60-74% loss area.

iv. An updated analysis of this data showed a range of 11% - 59% loss.

d. The Invenergy – Forward wind farm study had:

i. 34 total land sales

ii. 6 of which were in the wind farm.

iii. The result showed a typical loss of value between 12%-25%.

7. The conclusion of these studies indicated that:

a. Wind turbines have a negative influence on property value.

b. The negative influence ranges from 12%-25% at a distances of a half mile away, and the closer you are, the greater the negative impact.

c. The negative influence on property value is most likely attributable to aesthetics.

d. A typical loss in value of a $200,000 rural home one half mile from the view of a turbine would be $24,000-$50,000.

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President/Sr. Appraiser
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2010 Wisconsin State Journal

STEVE APPS - State Journal

A collection of 400-foot wind turbines tower over farmland in the town of Malone in northern Fond du Lac County. The turbines are part of the 88-turbine Blue Sky Green Field wind farm. New regulations being considered by the state Public Service Commission could open the way for more wind farms in Wisconsin.

Neighbors: Wind energy has its price

By CLAY BARBOUR
cbarbour@madison.com
608-252-6129

ST. CLOUD — Elizabeth Ebertz loves her garden, but the 67-year-old grandmother doesn't work in it much anymore.

The small vegetable patch, which has produced onions, carrots and tomatoes for many family dinners, sits behind her home, in a little valley about a half-mile from a dozen 400-foot-tall wind turbines.

The structures are part of the Blue Sky Green Field Wind Energy Center in northeastern Fond du Lac County, one of the state's largest wind farms, capable of producing energy for about 36,000 homes.

Unfortunately, said Ebertz, the turbines also produce enough noise to chase her from the garden — and most nights, disturb her sleep.

"Sometimes it sounds like a racetrack or a plane landing," she said. "You wouldn't believe how loud it gets."

The state Public Service Commission is considering a new set of wind farm regulations that could free up the industry and promote growth in Wisconsin, a state that has lagged the rest of the Midwest in using wind as an alternative energy source.

The PSC, which regulates state utilities, is expected to send the proposal to the Legislature by the end of the month.

If passed, the measure could go a long way toward helping Wisconsin reach its goal of generating 10 percent of its energy from renewable sources by 2015. Renewable sources account for 5 percent of the state's energy now.

The measure could also end what was years of localized fights — often spurred by well-funded

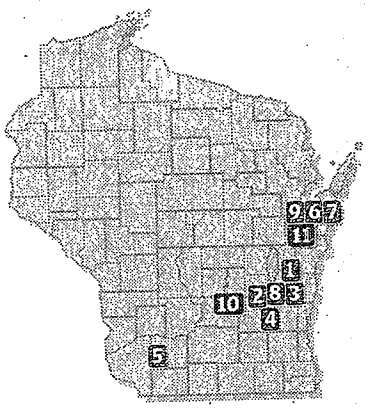
Please see **TURBINES**, Page A9

"I wish those things were never built here. ... Sometimes it sounds like a racetrack or a plane landing. You wouldn't believe how loud it gets."

ELIZABETH EBERTZ, turbine neighbor

Wind farms in Wisconsin

Proposed regulations could mean a flood of new wind farms across Wisconsin, after years of the state lagging behind the rest of the Midwest.



County	No. of turbines	Megawatts generated
1. Fond du Lac	88	145
2. Dodge/Fond du Lac	86	129
3. Fond du Lac	41	68
4. Dodge	36	54
5. Iowa	20	30
6. Kewaunee	17	11
7. Kewaunee	14	9
8. Fond du Lac	2	1
9. Brown	2	1
Under construction		
10. Columbia	90	162
11. Brown	8	20

SOURCE: RENEW Wisconsin — State Journal

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STEVE APPS - State Journal

Allen Hass, 56, looks over crops on his farm in Malone in Fond du Lac County. Hass hosts three wind turbines on his 600 acres, something he now regrets. He said the construction of the turbine damaged some of his farmland and the turbines have caused him health problems.

Turbines

Elizabeth Ebertz 1-920-795-4133

Continued from Page A1

anti-wind organizations — that have effectively killed at least 10 proposed wind farms in the past eight years and scared off several others.

But for those such as Ebertz, the rules mean more people will have to deal with wind turbines and the problems that come with them.

"I wish those things were never built here," Ebertz said. "They're just too close to people. I wish they were gone."

State far behind neighbors

Wisconsin spends about $1.5 billion on imported energy every year and ranks 16th in the country in available wind.

According to the American Wind Energy Association, Wisconsin has the capacity to produce up to 449 megawatts of energy from its existing wind farms — enough to power about 110,000 homes.

Yet the state trails other Midwestern states in wind energy production. Minnesota wind farms produce 1,797 megawatts, Illinois produces 1,848 and Iowa generates 3,670. "It's not even close," said Barnaby Dinges, an AWEA member and lobbyist from Illinois. "Wisconsin is danger of falling out of the wind game altogether. It's getting a reputation as inhospitable to the wind industry."

Dinges has lobbied for six wind farms in the past five years, three of them in Wisconsin. He said the state has a number of well-organized anti-wind groups that have endangered its 10 percent goal.

"This isn't like any grass-roots opposition we have seen elsewhere," he said. "These aren't just concerned citizens going to meetings. These are mass mailings, billboards, full-page ads. It's more professional and it costs a lot of money."

Jenny Heinzen — a professor of wind energy technology at Lakeshore Technical College, which has state campuses in Manitowoc, Cleveland and Sheboygan, and a member of the state's Wind Siting Council — said she has been amazed by the opposition.

"I have my suspicions that they are getting help from some groups from outside the state, but that has never been confirmed," she said, referring to persistent rumors of coal and natural gas companies helping kill wind projects here.

There are a lot of people who live near wind farms and never report problems. Still, the state is home to several anti-wind groups, including the Brown County Citizens for Responsible Wind Energy, the WINDCOWS, the Calumet County Citizens for Responsible Energy, Healthy Wind Wisconsin and the Coalition for Environmental Stewardship.

These groups have some powerful supporters, including several prominent lawyers, lobbyists and former state Sen. Bob Welch and Carl Kuehne, former CEO of American Foods Group.

But officials with the anti-wind groups say most of their members are simply residents who do not like the thought of living near a wind farm.

"We heard that criticism before — that we are a front group for oil and gas companies — but it's just not true," said Lynn Korinek, a member of WINDCOWS. "We are a group of about 200 members who hold rummage sales to fund our fight. There are no special interests behind us, believe me."

Some claim health problems

Most of the state's anti-wind groups say they have nothing against wind energy, they simply disagree with how it is imple-

Wildlife-How Industrial Wind Turbines Affect Them

January 31, 2009

This of course is not a scientific study. It is just from daily living inside an industrial wind farm and the affect it has had on wildlife on our property and others in the Town Of Byron area here in Fond du Lac County, WI. We used to see 16 to 20 turkeys if not every day every few days before construction of the industrial wind turbines began. Now that construction has been completed and since March 3rd of 2008 we have seen ONLY one turkey.

The same goes for deer. We used to see on a regular basis a deer or two down our lane behind the house or in one of our two gardens. We have 6+ acres of land with over 3 acres in heavy pine trees and an acre of wild flowers. That is pretty good habitat for deer. We have not seen a deer or deer tracks on our property since construction began.

Our neighbor, Dave C, across the road bought 40 acres when our neighbor discontinued farming. Part of that land has woods on it. Dave's father many years ago built a hunting stand on a corner of the woods in a tree and shot many deer from it. I later used that same stand and now Dave hunts from that very same tree. This year he saw no deer from that hunting stand. The only thing he saw was shadow flicker from industrial wind turbines and the annoying sound from those same turbines.

Another neighbor, Greg B, whom I have known since a child has a 19 acre woods between turbines 6 and 7. He used to feed the deer from his back yard deck. Since construction of the wind turbines began he has not seen any deer accept on opening day of deer hunting in November of 2008. Three deer were being chased and they ran through his yard.

At a town hall meeting today (1-31-9) with state senator Joe Liebham with about 80 people in attendance I mentioned this (not seeing wildlife) and I heard many yeses and agreeing head nods.

We don't see and hear the song birds like we used to at our feeders. If the turbines are turning we no longer hear song birds. A friend, who also lives in the project, recently told me he no longer sees the hawk that used to hang out by his home. We don't see kestrels or hawks and I no longer hear the owl that would frequent the woods adjacent to my property. Yes, there definitely is an affect on wildlife when industrial wind turbines take over the neighborhood.

We know residents two miles north of this wind factory and they are seeing more deer than before the industrial wind turbines were erected.

Update June 15, 2010. We continue to see no deer and no turkeys. We used to see hawks and hear owls at night. It was so neat to hear them. They have not been present since the turbines began turning. We do have some Cardinals and a few other song birds that come to our feeders. There are very few compared to what we had prior to the turbine construction.

October 10, 2010 – We heard and owl tonight. It is the second time I have heard an owl since construction began. We used to have owls in the woods behind our house on a regular basis.

One of the first siting council meetings in the PSC center in Madison I asked A PSC staff member about no mention of wildlife in the items to be discussed. I was told that would be up to the DNR to respond to. I have read the DNR letter concerning wind and wildlife. It is so weak it is pathetic. It is all generalizations and no requirements. These happenings are going on world wide wherever large industrial wind turbines are places. Why is the PSC blind on this? Instead of promoting wind energy why isn't the Sierra Club and other environmental groups striving to protect the wildlife rather than kill it and stress it? Why won't the wind energy victims be heard? $$$$$$$

Gerry Meyer
Brownsville WI

Environmental Impacts of Wind-Energy Projects

Committee on Environmental Impacts of Wind-Energy Projects

Board on Environmental Studies and Toxicology

Division on Earth and Life Studies

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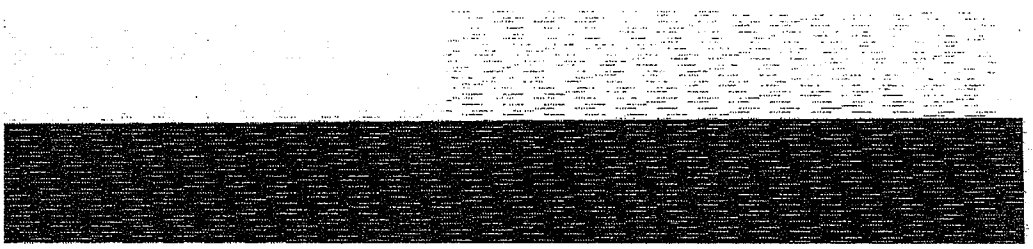

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NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the committee responsible for the report were chosen for their special competences and with regard for appropriate balance.

This project was supported by Contract No. EC25C001 between the National Academy of Sciences and Executive Office of the President, Council on Environmental Quality. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the organizations or agencies that provided support for this project.

International Standard Book Number-13: 978-0-309-10834-8 (Book)
International Standard Book Number-10: 0-309-10834-9 (Book)
International Standard Book Number-13: 978-0-309-10835-5 (PDF)
International Standard Book Number-10: 0-309-10835-7 (PDF)

Library of Congress Control Number 2007931763

Cover design by Liza Hamilton, National Research Council. Photograph of 1.5 mW turbines at San Gorgonio, CA, by David Policansky, National Research Council. Graph adapted from Figure 1-1, which was reproduced with permission from the American Wind Energy Association.

Additional copies of this report are available from

The National Academies Press
500 Fifth Street, NW
Box 285
Washington, DC 20055

800-624-6242
202-334-3313 (in the Washington metropolitan area)
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Printed in the United States of America.

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411 South

James Vollmer
W2486 County RD Q
Malone WI 57057
Phone (920) 795-1491 After 5:00 PM

Problems at home with turbines

-No TV Reception
-Dish does not work properly
-Radio does not work
-Cell Phone does not always work when needed
-Shadow Effects
-Headaches
-Noise
-Lack of sleep
-Can't think straight
-Blinds needed
-Property Value lost
  -House was for sale for with a realtor and could not sell
  -No buyers due to turbine concerns
-Cost over 1 million to rebuild the current buildings owned on another site
-Lawyers would not take the case with out large down payment and could cost up to $100,000 for case
-Chickens would not lay in spring
-Eggs have blood specks in eggs
-Eggs were not fertile
-Chickens birth defects
-Young chickens get sick during molt and die
-Chickens have same symptoms as United States Army Study done on the Effect of Vibration Frequency and Amplitude on Developing Chicken Embryos study

I have enclosed a copy of the cover letter of the Army study with the web address that directly relates to my problems.
I have also enclosed a copy of my house sale add and a copy one of the notes left after an open house where a customer directly stated that they had concerns over buying the house due to the turbines.

Internet Address - HTTP://handle.dtic.mil/100.2/ada288517

USAARL Report No. 95-1

Effect of Vibration Frequency and Amplitude on Developing Chicken Embryos

By

Samuel G. Shannon
Al W. Moran
Linda C. Shackelford

and

Kevin T. Mason

Aircrew Protection Division

October 1994

United States Army Aeromedical Research Laboratory
Fort Rucker, Alabama 36362-0577

2 of 4

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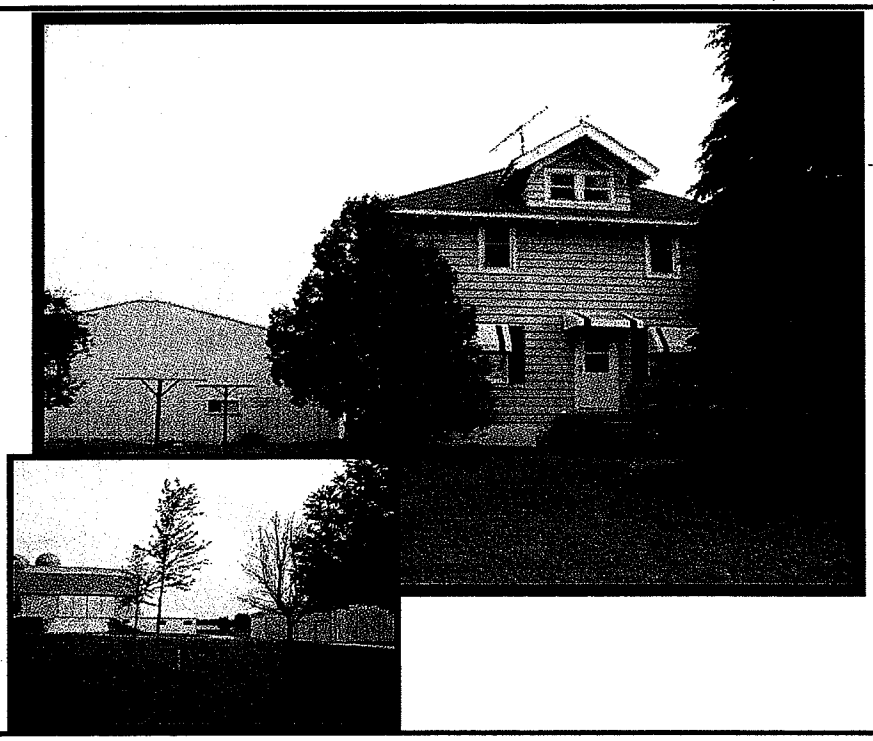


Directions: Hwy 151 north to Hwy WH, right to Lakeview Rd, left to Cty Rd. Q, right to address. (Right at stop sign in Johnsburg stays on Q) To Show: ELB- back door

District: 406 City of Fond du Lac County: Fond du Lac

ROOM	SIZE	LEVEL	FLR
Living Room	15' x 14'	M	C
Kitchen	15' x 13'	M	V
Dining/Fam Rm	14' x 13'	M	C
Office/Den	11' x 10'	M	C
Mstr Bdrm	13' x 11'	M	C
Bedroom	14' x 12'	U	HW
Bedroom	13' x 13'	U	C
Bedroom	11' x 13'	U	C
Bedroom	12' x 12'	U	HW
Bathroom	Full	M	V
Bathroom	Half	U	V

STYLE	2 Story	**APPROX. SQ. FT.**	2420
EXTERIOR	Aluminum		
AGE	50+ years	**TAXES**	$2,589.00
LOT SIZE	3.6 Acres	**BUDGET(H&E)**	N/A
HEAT TYPE	Oil F/A- WB	**A/C**	Central
OCCUPANCY	TBD	**FLOOD PLAIN**	TBD
SANITARY	Septic	**WATER**	Well
OUTBUILDINGS	2 Pole/ Barn	**BASEMENT**	Full
FIREPLACE	No	**WATER SOFTENER**	Owned
SCHOOLS	New Holstein		

INCLUSIONS: All window treatments, water softener, wood burner, and satelitte dish.

EXCLUSIONS: Seller's personal property, appliances are negotiable.

Lister: Brooke Boyle-Treleven Phone: 979-9225 Ad # 492

Hey Jim!
We had a good open house today. I had 2 sets through & one family was here for about a half hour. They took my card and said they would call about any questions. They were a little concerned abt. the turbines. We'll see. The other couple loved the buildings, but the house was too big and maybe too much work for them (they said). It's good to see positive interest! I will call soon!

Brooke

Lynda Barry-Kawula
Testimony for Wind Siting Rules Hearing
October 13, 2010

My name is Lynda Barry-Kawula and I live in the Town of Spring Valley in Rock County. I'm a writer and a cartoonist. I've written 17 books and my last one received the Wisconsin Library Association's 2009 Book of the year award. I am currently working on a book about residents of wind farms in Wisconsin.

My interest began right here, at a hearing like this about two years ago. That's where I first saw wind farm residents testify about the problems they were having with shadow flicker and nighttime turbine noise. They were asking for help, asking for someone to just come and spend the night in their homes to experience what they were going through.

After the hearing I went up to a few residents and said, "I'll come stay at your house."
And they said, "Who are you?"
I said, "Um, I'm a cartoonist?"

It must have been like someone calling for an ambulance and then a clown car shows up. But they were so desperate that a clown car was fine.

I've spent about ten nights in three homes in two different wind farms in Fond du Lac County and I've interviewed people from 20 households and have been following their stories over the last two years.

I now can tell you from first hand experience, no family should have to live with the nighttime noise, vibration and shadow flicker these families live with. These rules are nearly the same as the ones used to site those projects. They don't fix the problem. They don't even acknowledge a problem exists.

The standards in this rule are deemed safe based on a review of available medical literature that finds no direct link to negative health effects.

But how can the literature identify a problem unless someone talks to the people who are living with turbines. So far no one in the state is willing to do that. Not the health department, not the PSC, not even the doctor appointed to the wind-siting council. Dr. Jevon McFadden said he would not speak to wind farm residents. He said self-reported complaints and symptoms are not reliable and speaking to these people could bias his findings. He also refused to provide anyone with a written copy of the report he prepared and read to the council. Why?

His report found, not surprisingly, that the current literature indicates there are no problems.

To me this is like walking past someone who has been beaten and robbed on the side of the road and they are asking you for help and you say, "Don't worry, I've done a thurough review of the literature and it indicates there is no crime on this road, so the good news is you're fine."

Dr. McFadden did not explain why his recommendation for nighttime noise limits is louder than the standards of the World Health Organization.

The World Health organization has also reviewed the literature, and their conclusion is 40dbA is the top nighttime noise limit for healthy sleep.

McFadden's recommendation for rural Wisconsin is 50% louder.

Why?

I mean, bless his heart, but Dr. McFadden just graduated from medical school a year ago and he openly admits he is not an expert on wind turbine noise. Yet the PSC is taking his recommendation over that of the World Health Organization.

Why?

I was bothered that during council meetings Dr. McFadden had no questions for council member Larry Wunsch, who lives with a wind turbine 1100 feet from his door. I was bothered that the majority of the council expressed no interest in what Mr. Wunch has to say about his first hand experience and ignored his recommendations. I was especially bothered that the council would not allow Mr. Wunsch to play a recording he made of the turbine noise outside his door at 4AM.

Why?

I am very concerned that while we are all in the middle of this rule making, there are Wisconsin wind farm families who are suffering right now because of pour siting and they are getting no help. They are told by the state to go to the wind company for relief and the wind company tells them state standards allow the noise and shadow flicker.

The new rules say the same thing: If you have a problem, call the wind company, talk to their answering machine. Make an appointment and take time off of work so they can come to your house and tell you that according to state standards you have no problem.

Over the past two years I've seen families whose general health is declining because of lack of sleep. There is more stress in the home, more worry about loss of property value, and no way to get out because of homes that won't sell. And there is an increasing feeling of bitterness and anger. These rules will make

for more of the same.

You know, the beginning of these hearings feel like a big wind power parade. At the front is the brass band: The PSC, the utility guys, wind developers, lobbyists, union guys, construction guys all saying rah rah jobs power money rah rah, wind power is the best! That's the front of the parade. And I feel like I'm following behind it, seeing the mess that's left behind-- sort of like—what do you call it, the honey bucket crew? The guy that follows at the end the parade with the pail and shovel? I've seen what's left behind.

I've seen the damage done by siting standards like these and my hope is not only you all back up and take another look at this, but you'll find a way to send help to the wind farm families who are suffering right now because of standards like these. They are in this situation through no fault of their own and they deserve whole lot more than a clown car.

Wisconsin turbine related
2nd
Bat Kill s/highest
in North America

LYNDA BARRY-KAWULA

July 8, 2009

Dear Lauren Azar,

I'm a Wisconsin writer, cartoonist and writing teacher in the process of putting together a book proposal on what it's like to live inside of a wind farm. [Please google my name to quickly find out more about my work.]

In the course of my interviews with residents of the Blue Sky/Green Field and the Invenergy projects in Dodge and Fond du Lac Counties, I've met with people from nearly 20 households, and have been an overnight guest in the homes of residents who are experiencing the well known problems associated turbine noise and shadow flicker along with a multitude of lesser known problems such as interrupted radio and TV reception, and some completely unexpected minor annoyances such as the continuously spinning reflections of turbines on every shiny surface in a kitchen, from counter tops, to refrigerators and coffee pots.

While some of these things are merely annoying, there are problems that are much more severe than expected or predicted and are having a damaging effect, particularly on some of the elderly and disabled people I've interviewed. This is a new and important industry in our state, and I realize in many ways we are all learning as we go.

I have another round of interviews set up for August, and there seem to be many who are anxious to speak to me about their experiences not only living among turbines, but, more importantly, their experiences with trying to get complaint response and remedy from the wind company or local town board.

The stories I've collected are so troubling that I'd rather not wait until my manuscript is completed before I request an informal meeting with you. I'd very much like to speak face to face with you about what I've found.

For example, I interviewed a woman who has an epileptic son. The turbine nearest to her home is not 1000 feet away, as per the setback agreements, but 850 feet away. She contacted the wind company when the foundation went in, letting them know it was too close. They agreed it was too close but put the tower up anyway, then came to her door with a contract offering her $1500 a year for the trouble.

She didn't sign it. She doesn't have money to hire a lawyer, and can't find a lawyer willing to represent her on a contingency basis because she doesn't want money. She wants her 1000 foot setback. She says the night noise from the turbine has made sleeping difficult for both her and her son, and his epileptic episodes have increased since the turbines have gone on line.

I asked her if she'd contacted the PSC. She said no. I don't believe she even knew it was an option. That's why I'm contacting you.

It's clear to me that there is a disconnect between the PSC and the people living in PSC-approved wind farms. I'm not sure anyone is at fault in this, but surely we can make things better.

Wind farms are such a recent development at present and there are bound to be glitches. But unless you know what the specific problems are, resolution isn't likely.

While I realize you may not be the go-to person regarding this issue, I'm compelled to ask for 30 minutes of your time specifically.

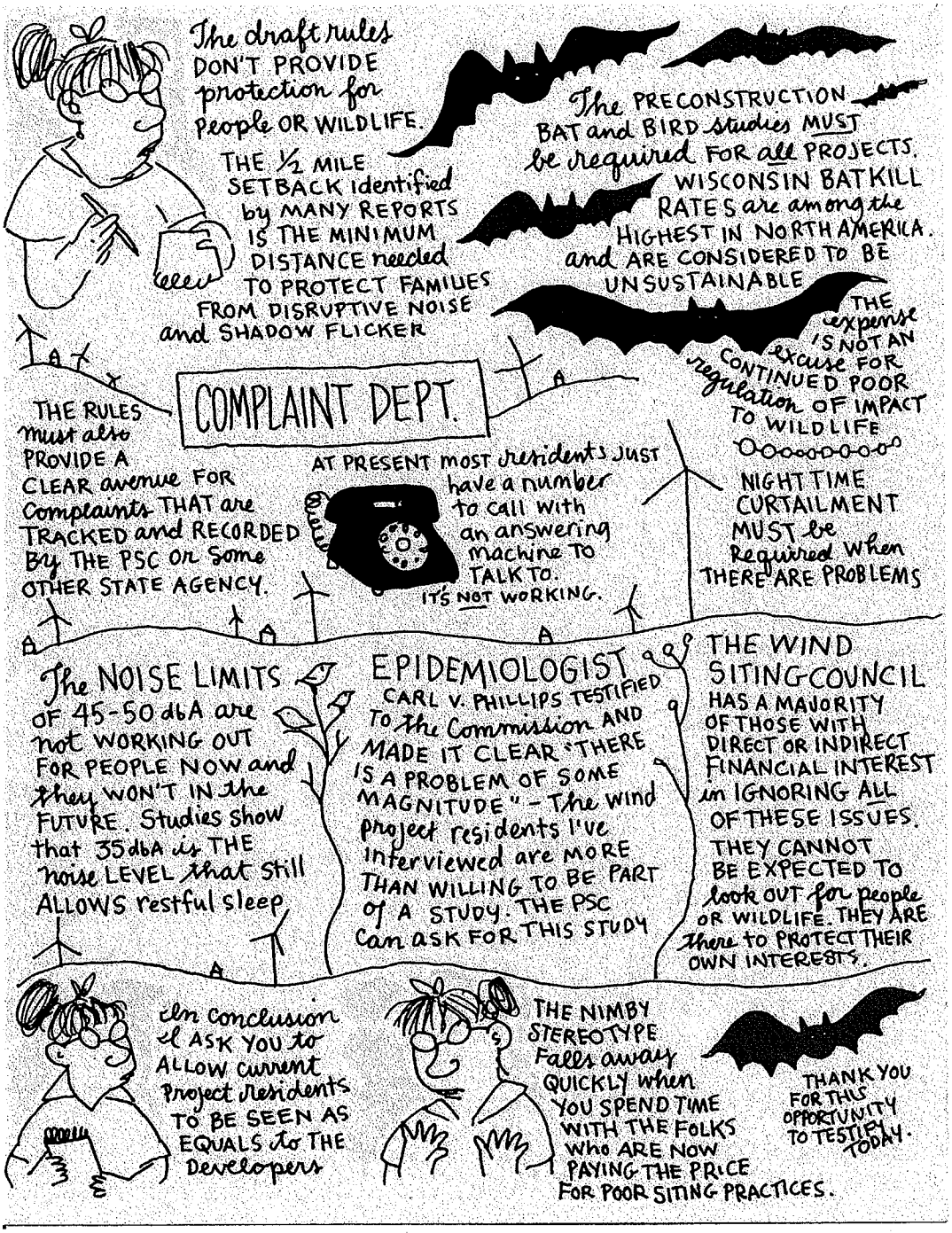
Again, this would be informal. I'd just like to let you know what I've found. Please let me know when we could meet. My schedule is open after July 22.

Best Regards,

Lynda Barry
Brodhead, WI 53520

note: Since this testimony I've completed another book - bringing the number to 17

Since the date of this testimony 2 more families I've interviewed have put their homes up for sale.


The draft rules DON'T PROVIDE protection for people OR WILDLIFE.
THE ½ MILE SETBACK identified by MANY REPORTS IS THE MINIMUM DISTANCE needed TO PROTECT FAMILIES FROM DISRUPTIVE NOISE and SHADOW FLICKER
The PRECONSTRUCTION BAT and BIRD studies MUST be required FOR all PROJECTS.
WISCONSIN BATKILL RATES are among the HIGHEST IN NORTH AMERICA. and ARE CONSIDERED TO BE UNSUSTAINABLE
THE expense IS NOT AN excuse FOR CONTINUED POOR regulation OF IMPACT TO WILDLIFE
COMPLAINT DEPT.
THE RULES must also PROVIDE A CLEAR avenue FOR Complaints THAT are TRACKED and RECORDED BY THE PSC OR Some OTHER STATE AGENCY.
AT PRESENT MOST residents JUST have a number to call with an answering machine TO TALK TO. IT'S NOT WORKING.
NIGHT TIME CURTAILMENT MUST be Required When THERE ARE PROBLEMS
The NOISE LIMITS OF 45-50 dbA are not WORKING OUT FOR PEOPLE NOW and they WON'T IN the FUTURE. Studies show that 35 dbA is THE noise LEVEL that still ALLOWS restful sleep
EPIDEMIOLOGIST CARL V. PHILLIPS TESTIFIED To the Commission AND MADE IT CLEAR "THERE IS A PROBLEM OF SOME MAGNITUDE" - The wind project residents I've interviewed are MORE THAN WILLING TO BE PART of A STUDY. THE PSC Can ASK FOR THIS STUDY
THE WIND SITING COUNCIL HAS A MAJORITY OF THOSE WITH DIRECT OR INDIRECT FINANCIAL INTEREST in IGNORING ALL OF THESE ISSUES. THEY CANNOT BE EXPECTED TO look OUT for people OR WILDLIFE. THEY ARE there to PROTECT THEIR OWN INTERESTS.
In Conclusion I ASK YOU to ALLOW current Project Residents TO BE SEEN AS EQUALS to THE Developers
THE NIMBY STEREOTYPE Falls away QUICKLY when YOU SPEND TIME WITH THE FOLKS Who ARE Now PAYING THE PRICE FOR POOR SITING PRACTICES.
THANK YOU FOR THIS OPPORTUNITY TO TESTIFY TODAY.

Senator Jeff Plale
Chairman of Senate Committee on Commerce, Utilities, Energy, and Rail
P.O. Box 7882
Madison, WI 53707-788

Regarding: Clearinghouse Rule 10-057 (Siting of wind energy systems.)

10-12-2010

Dear Committee Members:

As a nurse I am alarmed that the PSC is not recommending setbacks that will protect the health and safety of Wisconsin's citizens.

The PSC recommended setbacks favor wind developer's wishes over the rights of the non-participating landowners. The PSC and wind turbine developers refuse to consider recommendations from sources as reputable as the World Health Organization. The World Health Organization has done numerous studies on the negative health effects of unwanted sound on humans. Their recommendation is this:

Sound levels during nighttime and late evening hours should be less than 30dBA during sleeping periods to protect children's health.

The PSC recommends that the turbine noise limit in our state be 50dBA. That's the equivalent of having the TV going all night in your child's bedroom!

Some of the other recommendations that this same panel of world renowned doctors and scientists found were:

- *Sound levels during nighttime and late evening hours should be less than 30dBA during sleeping periods (compare this to the 50db limit the state suggests) to protect children's health.*
- *Found that sound levels of 50 dBA or more disrupt hormone secretion cycles.*
- *It is also noted that a child's autonomic nervous system is 10-15 db more sensitive to noise.*
- *Sound which contains a low frequency component- which wind turbines produce- may need limits even lower than 30dBA to avoid health risks.*
- *Recommends that a different criterion be used to measure noise. They recommend that a C-weighted (dBC) weighting criteria be used which takes into account low* frequency sound. (When a dBC weighted criteria is used this often raises the decibel level and thus the industry doesn't want to use it.)

The International Standards Organization (ISO) recommends a maximum of 25 dBA nighttime noise limit for rural areas. Please note that *most wind turbine projects are being built in rural areas*. This fact makes wind turbine noise more noticeable and annoying to *rural residents of Wisconsin.*

ISO recommends the following noise limits for rural areas:

- 35 db- daytime
- 30 db – 7-11 p.m.
- 25 db- 11p.m. to 7 a.m. (Again, compare these to Wisconsin's 50 dBA recommended level)

The State of Wisconsin needs to fund a formal epidemiological study that researches the health of people being forced to live by wind turbines that are currently operating in our state. Then they need to use this research to responsibly site turbines to protect the health of not only Wisconsin's children, but other special needs populations such as the chronically ill and elderly

Complaints from citizens who live by wind farms in this state need to be investigated. Please do not approve the PSC proposed setbacks. Please protect the rights of Wisconsin rural citizens. Thank you.

Sincerely,

608-348-5772

Susan L. Klar
1617 Klar Rd.
Platteville, WI 53818
Telephone: 608-348-5772
Email: psklarfam@hotmail.com

Senate Committee on Commerce, Utilities, Energy, and Rail

Clearinghouse Rule 10-057
The siting of wind energy systems

Subject of Testimony: Wind energy systems, airports, and public use airspace

Types of Airports in Wisconsin

- Public use, municipally-owned (part of National Transportation System)
- Public use, privately-owned (part of National Transportation System)
- Restricted use, privately-owned (SS 114.134, WisDot Certificate of Approval)

Statutory Protection of Airports

- **Public use, municipally-owned**
  - Code of Federal Regulations (CFR) Title 14, Part 77, Objects Affecting Navigable Airspace
  - Wisconsin State Statute 114.135, Airport Protection (WisDot tall structure permits)
  - Wisconsin State Statute, 114.136, Airport Approach Protection (Height limitation zoning within three statute miles)
- **Public use, privately-owned**
  - Code of Federal Regulations (CFR) Title 14, Part 77, Objects Affecting Navigable Airspace
- **Restricted use, privately-owned**
  - Wisconsin State Statute 59.69 (4)(g), County authority to promote public health, safety, convenience and general welfare.
    - Gives counties the authority to control the location, height, bulk, number of stories, and size of buildings and structures.
  - Wisconsin State Statute 60.61 (2)(f), Town authority to promote public health, safety, convenience and general welfare.
    - Gives towns the authority to control the location, height, bulk, number of stories, and size of buildings and structures in the vicinity of an airport owned by the town or privately owned.

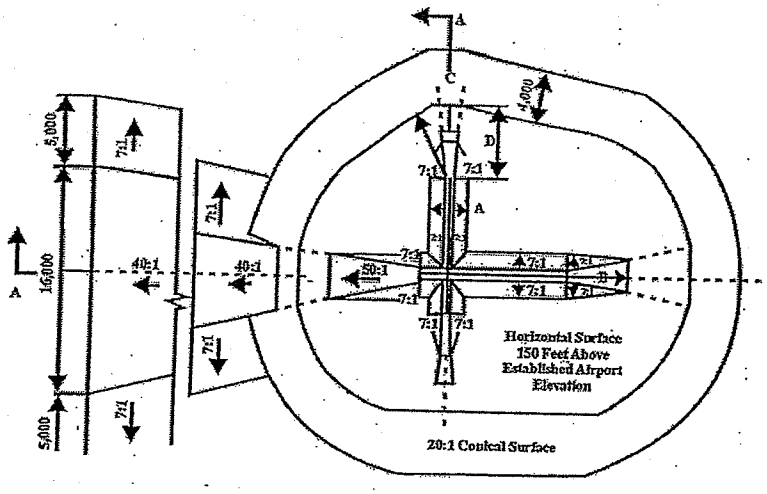
Recommendation

Tall wind turbines can adversely affect the use of the airspace and airports. Currently, regulations or statutes exist at the Federal, state, county, and township level to protect those airports and their approaches. Wind energy siting rules should preserve the authority of the existing regulations and statutes to protect both publicly and privately owned airports from encroachment by tall wind turbines.

Gary L. Dikkers, Airspace Manager
WisDOT/Bureau of Aeronautics
Tel: 608.267.5018 E-Mail: gary.dikkers@dot.wi.gov

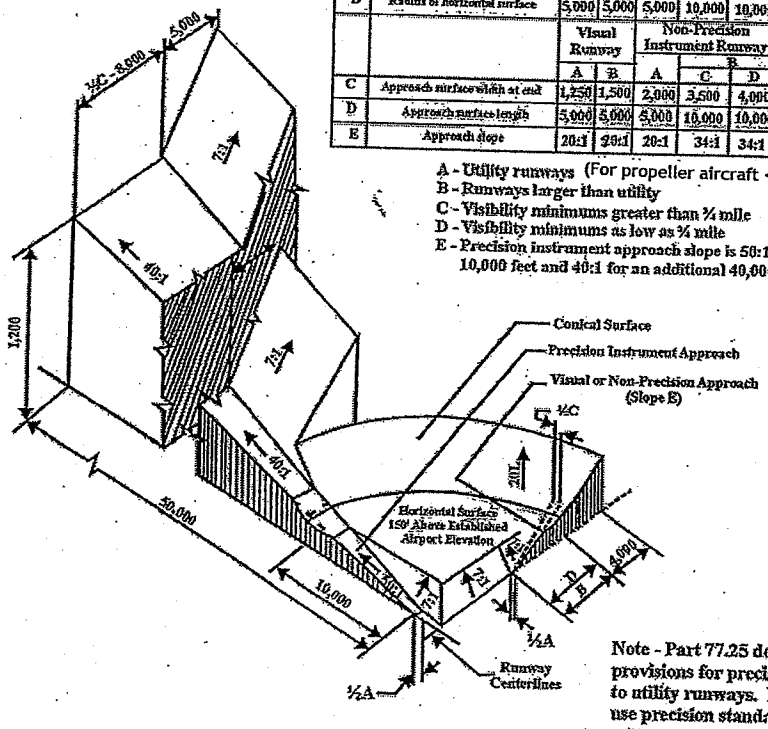
13 October 2010

CIVILIAN AIRPORT IMAGINARY SURFACES



DIM	ITEM	Dimensional Standards (Feet)					
		Visual Runway		Non-Precision Instrument Runway			Precision Instrument Runway
					B		
		A	B	A	C	D	
A	Width of primary surface and approach surface width at inner end	250	500	500	500	1,000	1,000
B	Radius of horizontal surface	5,000	5,000	5,000	10,000	10,000	10,000
		Visual Runway		Non-Precision Instrument Runway			Precision Instrument Runway
					B		
		A	B	A	C	D	
C	Approach surface width at end	1,250	1,500	2,000	3,500	4,000	16,000
D	Approach surface length	5,000	5,000	5,000	10,000	10,000	*
E	Approach slope	20:1	20:1	20:1	34:1	34:1	*

A - Utility runways (For propeller aircraft < 12,500 lbs)
B - Runways larger than utility
C - Visibility minimums greater than ¾ mile
D - Visibility minimums as low as ¾ mile
E - Precision instrument approach slope is 50:1 for inner 10,000 feet and 40:1 for an additional 40,000 feet



Note - Part 77.25 does not make provisions for precision approaches to utility runways. In these situations, use precision standards for other than utility runways to develop the primary, approach, and transition surfaces.

Isometric View of Section A - A

FIG 6-3-3

MARTIN SCHREIBER
& ASSOCIATES, INC.
PUBLIC AFFAIRS CONSULTING

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Madison, WI 53703
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Milwaukee, WI 53207
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Fax: 414.482.1474

www.martinschreiber.com

TO: Senate Committee on Commerce, Utilities, Energy and Rail

FM: Bill McClenahan, Martin Schreiber & Associates

DT: October 13, 2010

RE: Invenergy Wind LLC testimony opposing CR 10-057 (proposed wind siting rules)

Thank you, Mr. Chairman and committee members, for the opportunity to testify today. I'm Bill McClenahan. I am here today to testify on behalf of Invenergy Wind LLC in opposition to the PSC's proposed wind siting rules.

Invenergy is the largest non-utility U.S. developer of wind projects. Invenergy owns and operates the Forward Wind Energy Center, the first large scale wind facility permitted and constructed in Wisconsin and one of the state's largest wind farms at 129 MW. The renewable energy from Forward is purchased under long-term contracts by Wisconsin utilities.

Invenergy is also seeking approval for an up to 100-turbine, 150 MW wind project in southern Brown County called the Ledge Wind Energy Center. That is enough power for approximately 40,000 homes. The project will prevent the emission of 480,000 tons of carbon dioxide, 1,350 tons of sulfur dioxide and 600 tons of nitrogen oxide every year.

The Ledge project would represent an investment of more than $300 million in Wisconsin. The project would provide approximately 150 construction jobs. It would also provide utility shared revenue payments of $600,000 per year to the local towns and to Brown County. In addition, direct payments to landowners will total more than $750,000 per year.

These are the kinds of jobs, payments to government and payments to landowners that the Legislature wants to keep here in Wisconsin. Attracting projects like Forward and Ledge to Wisconsin keeps those projects from being developed in other states or countries. The need to keep our energy dollars at home was one of the main reasons for enacting Act 40, the wind siting reform law.

Unfortunately, the rules proposed by the PSC do not align with the intent of Act 40 and instead will force developers to move wind development to states which, though their regulatory schemes, seek to encourage the development of renewable wind projects – specifically wind. Such regulations allow for more efficient and cost-effective wind project development. In light of the proposed

rules drafted by the PSC, there are many other states in which it will be easier to develop than Wisconsin.

The PSC rules are not just contrary to the Legislature's intent; they are outside the agency's statutory authority. Act 40 authorized the PSC to promulgate rules that limit the restrictions that local governments may impose on wind developments[1]. Under the Act, the rules are limited by Section 66.0401(1m)(a) to(c)[2], which prohibits restrictions unless they are needed to protect public health or safety, and don't increase the cost or reduce the efficiency of a wind system.

However, a number of provisions in the draft PSC rules contain provisions that have nothing to do with health or safety, and significantly increase costs and reduce efficiencies. Nothing in Act 40 and nothing in previous law gives the PSC or local governments the ability to include these provisions in the rules.

An example is the provision that establishes a safety setback of 1.1 times the height of the turbine for participating residences, which is understandable and justifiable. However, the rule also creates a setback of 3.1 times the turbine height from nonparticipating residences. Why is 1.1 times a safe distance for one types of residence but not another? Clearly, this provision violates the restrictions of Section 66.0401 and sets up a regulatory structure filled with uncertainty.

Another example is the requirement of good neighbor payments. Although such payments may be a good business practice and common among many wind developers, they increase costs and have nothing to do with health and safety. As such, the PSC has no authority to include such provisions in the rules. In addition, there is no policy reason to include such payments for only one type of generation – wind – while having no such comparable requirement in the development of other energy facilities – for coal plants, for instance.

Additionally, the PSC rules contemplate significant restrictions on sound levels and shadow flicker. However, Dr. Jevon McFadden, an epidemiologic intelligence service officer with the Centers for Disease Control, told the PSC's wind siting council that, "Evidence does not support the conclusion that wind turbines cause or are associated with adverse health outcomes."[3] Despite that fact, the proposed rules set very strict standards for both sound levels and shadow flicker. Shadow flicker, for instance, is limited to 30 hours per year, but must be mitigated at 20 hours. The result is that developers will see this as a 20 hour limit, which is the lowest we have seen.

---

[1] "The commission shall, with the advice of the wind siting council, promulgate rules that specify the restrictions a political subdivision may impose on the installation or use of a wind energy system consistent with the conditions specified in s. 66.0401 (1m) (a) to (c)...." Section 196.378(4g)(b), Wis. Stats.

[2] "AUTHORITY TO RESTRICT SYSTEMS LIMITED. No political subdivision may place any restriction, either directly or in effect, on the installation or use of a wind energy system that is more restrictive than the rules promulgated by the commission under s. 196.378 (4g) (b). No political subdivision may place any restriction, either directly or in effect, on the installation or use of a solar energy system, as defined in s. 13.48 (2) (h) 1. g., or a wind energy system, unless the restriction satisfies one of the following conditions:
(a) Serves to preserve or protect the public health or safety.
(b) Does not significantly increase the cost of the system or significantly decrease its efficiency.
(c) Allows for an alternative system of comparable cost and efficiency." Section 66.0401(1m), Wis. Stats.

[3] http://psc.wi.gov/apps35/ERF_view/viewdoc.aspx?docid=132106

Other provisions with statutory authority problems will be noted by other speakers.

As I noted, the proposed rules are inconsistent with the legislative intent of Act 40. The purpose of the law was to encourage wind development in Wisconsin by removing obstacles created by local governments. The proposed rules, however, discourage wind development by creating some of the most burdensome regulations in the country. Developers will choose to invest in states with more reasonable regulations instead of Wisconsin. Projects in other states will be more cost-effective and efficient that projects in Wisconsin, and our energy dollars will continue to be sent out of our state.

In summary, then, we object to the proposed rules, both for lack of statutory authority and for being the opposite of what the Legislature intended. We ask that the rules be modified to correct those problems.

Thank you for the opportunity to testify.

My name is Chuck Schneider. I am the current Chairman of the Town of Brothertown, which is in the south west corner of Calumet County, just north of Fond du lac County and the Blue Skies-Green Fields wind project, which is just 2 miles from my house.

The Wisconsin Public Service Commission has delegated significant responsibilities to the political subdivisions such as Townships and Counties with no consideration for the expertise and skill level available in the subdivisions. For example, subchapter 3 (PSC 128.30) requires the Township to evaluate the contents of the wind energy application. This document contains 15 different items such as:

A. Information regarding noise attributable to the wind energy system.
B. Technical description of wind turbines and wind turbine sites.
C. A decommissioning and site restoration plan that provides reasonable assurances that the developer or owner will be able to comply with s. PSC 128.19.

The Chairman and Supervisor positions in just about all Towns is a part time position and it is unlikely that many would have the technical skills and education needed to properly evaluate the merits of a 1.65 or 2.0 megawatts wind turbine. The issue becomes even more complicated when the entire project is considered with things like substations, underground cables, noise, shadow flicker and etc.

Chuck Schneider
N2289 Cty C
Chilton Wi 920-849-4881

The complaint process in the PSC 128.18 does not designate an owner of the process. The political Sub Division is part of the enforcement for the complaint process, but again there is no one completely responsible. This experience is very evident in neighboring Fond du lac County. These Townships seem to be incapable of resolving complaints about the Wind Energy System. W.E. Energies is simply too big to be influenced by a local Township. I personally attended a meeting of the Fond du lac County Town of Marshfield Wind Energy Advisory Committee. This committee was set up to try to resolve complaints from citizens with wind energy systems. What a joke. T.V. and radio reception issues remain even after 3 years. There are 3 wind towers in the Blue Skies-Green Fields project that are less than 1,000 feet from a home. One is only some 850 feet. The wind company's answer is to pay these people off and impose a gag order. It's David against Goliath.

The rule only requires "The developer or owner shall make a good faith effort too resolve complaints with in 45 days of receiving a complaint." Good faith efforts give to much latitude to the Wind Companies.

Thank You for your time.

Chairman Plale and Committee Members:

I am a landowner in SW Wisconsin. Our family has a 4 generation farm west of Cuba City. I have met with and spoke to more than 300 landowners in SW Wisconsin who support Home Grown Wind Energy. Many of them farm and live near or within an existing Wind Farm while the others are committed to Wind Projects in Wind Swept SW Wisconsin. Over 90% of those I spoke to are Farmers. Most live and work on 3-4 generation family farms.

Unfortunately most if not all of these farmers will not be here today. In fact you may never see the throngs of Wind Supporters at hearings like this. They simply do not have the time. While they are committed to Wind Energy; Agriculture, the Farm chores and Crop harvests are just a little more important today. Moreover these landowners and their families truly feel it is their personal and lawful right or privilege to host Wind Turbines.

They know there has never been any documented Health and Public Safety issues tied to Wind Production throughout Europe and in the US. Please consider your actions carefully and do the right thing as your decision on this issue will affect Farmers, rural economics, rural landowners and family farms like ours for years to come. Please establish rules that PROMOTE rather than restricts the "in-state" production of Wind.

The family farm in SW Wisconsin (in particular, Lafayette and Grant Counties) has changed dramatically in the past couple generations. But one thing has not changed in SW Wisconsin.....this is still AG Country. Nearly every business and family (no different than most of our state) is nearly directly dependent on farming of some type. Wind and Bio-Gas are a significant Resource in SW Wisconsin. The best business people in SW Wisconsin are the family farmers. We should embrace their common sense, commitment and passion to provide them a mechanism to enhance the AG community opportunities. They support change as a necessary element to their success.

Yes, Wisconsin is also a Manufacturing state. Wind Components travel from the Eastern side of our state through SW Wisconsin almost daily. Tower sections, Blades, Hubs, Housings and other Wind Components fill trucks on Hwy 151. Unfortunately landowners and farmers in SW Wisconsin can only wave as the Wind Products pass thru their area on their way to Iowa, Illinois or Minnesota. This is very frustrating....

You will see technicians and occasional repair teams at the Monfort Wind Farm. When they are in the area they will stop at the Tower Junction Inn - Restaurant or the Windmill Mobil station. They continue to hear nothing but good news and the benefits associated with the now ten year old Monfort Wind Farm. Township Officials, Farmers, neighbors and residents are largely supportive and have seen the associated benefits. Neither of these aforementioned business existed prior to this project being built. You will almost never find anything negative about this project. I would be willing to bet most who speak out today against Wisconsin Wind Development have NEVER been to Monfort.

There is no urban sprawl in SW Wisconsin. Families are not moving away from the corridor and into AG country. West of Cuba City a Wind Project is planned on and nearby our family farm, so we decided to look at all the homes and farms within nearly a mile of the selected Wind Farm site. Since 1980, or 30 yrs later; only six, maybe seven new basements were dug for new homes. Most of them were family members of the local farmers. That's not urban sprawl.

Two, possibly three new primary transmission upgrades are planned for SW Wisconsin to help transport renewable power from other states to provide clean power to states east of us. Those transmission lines represent both local opportunity and state wide solutions to obtain renewable home grown energy. The landowners and farmers are frustrated knowing Wisconsin imports nearly all of its fossil fuel...They have clean energy resources and they want to help impact change. Trucks drive our highways with wind components; transmission lines carry other states renewable power thru Wisconsin. Our ridges are windy but only one project has been built in SW Wisconsin in ten years. We simply can't understand why Wisconsin Regulation leaders would wants to place even more restriction on a state who can't build projects now?

As a rural landowner in Wisconsin, I believe that overly burdensome siting requirements will result in millions of dollars in lost revenue opportunity to our agriculture dependent rural communities like ours. Due to the lack of fair-minded Wind Siting Standards, Wisconsin farmers and other rural landowners have lost significant revenue opportunities over the past few years as Wind Developers and State Energy Companies are building and buying Wind Projects in most all neighboring states but Wisconsin. Our state is losing out on hundreds of millions, even billions of dollars in opportunity and thousands of local jobs.

Locally produced Wind Projects will stimulate state-wide jobs as Developers will look to in-state Work Force and Manufacturing to build and supply Wind Development in Wisconsin. Local Wind Farms employ local talent. Wisconsin Companies like Wausaukee Composites in little ole Cuba City have provided hundreds-thousands of local jobs over the past 3-8 years. Wausaukee Composites just recently announced 200 new jobs in Cuba City. Now Wisconsin must build. Without reasonable Wind Siting regulations these Wisconsin companies may not survive.

Our agriculture-driven state is not well. The Family Farm faces critical financial uncertainty each year. Those who host turbines and wind facilities ANNUALLY earn thousands of dollars in critical income while local governments receive additional payments to offset many of the financial burdens the rural, agricultural townships and counties face. Being part of a Wind project is one way for farmers and other rural landowners to keep the family farm for generations to come. Allowing Wisconsin wind projects to move forward will spread economic and employment benefits to these rural communities, where opportunity is few and far between.

We deserve a "new crop". Wind and Bio-Gas are a significant Resource in SW Wisconsin. SW Wisconsin has thousands of acres and cows. While it's our choice to host wind projects, but we need your help. As users of Wisconsin Utility based power, we want the opportunity to "harvest our own – Home Grown Wind" and provide Clean Energy to our State.

KIM A. EGAN 10-13-10

To members of Senate Energy Committee,

I strongly oppose the wind siting rules as currently proposed. These rules were written by a committee of 15 people. The **majority** of these 15 people are strongly in favor of wind energy and stand to benefit financially either directly or indirectly from wind turbine construction in Wisconsin. Rules should be put in place that error on the side of safety for the general public, not that favor companies that want to build wind factories. The setback distances proposed are not great enough to protect the people of Wisconsin from the harmful effects of wind turbines. There are a lot of studies already written about the negative health effects of wind turbines when placed too close to people's homes. I ask that the State of Wisconsin conduct its own studies on the health effects of people living in and near wind turbine farms before making rules or going forward with any more wind projects.

Thank You,

Michael Van Rossum

Michael Van Rossum

On this day, October 12th, 2010, Michael Van Rossum appeared befor me & to me known to be the person described in & who executed the within & foregoing instrument & acknowledges that he signed the same as his voluntary act & deed for the uses & purposes therein mentioned.

KERRI J SCHMIDT
Notary Public
State of Wisconsin

Notary Signature Kerri J Schmidt

My Commission expires.- 10/20/13

Michael Arndt
Element Power 612 [redacted]
294 4620

10/13/10

WI Senate Hearing Testimony-Wind Siting Rules

Element Power Background

- US based developer-develop, own and operate utility-scale wind and solar projects
- Management team has built 6000 MW collectively

My Background

- Farm in Rock County
- Been involved in the development of wind projects in WI since 2003, including Blue Sky Green Field in Fond du Lac County

Currently actively developing a 200 MW project in WI

- 150 construction jobs, likely with a WI based contractor
- 15 ongoing maintenance jobs
- $300M capital cost
- $2M/yr in LO revenues
- $800K/ yr in Shared Rev pmts to host counties and towns
- Project may not be viable if the proposed rules are adopted, which would force us to invest our development $$ in neighboring states, taking the economic development opportunity away from WI
- Currently considering other development opportunities in WI, but may not proceed if development climate in WI is more difficult than in neighboring states

Impact of proposed Rules

- Good neighbor payments as currently proposed would increase project costs by approximately $600K annually
- 3.1 X tip height setback equates to up to 1500 feet, likely making most project areas in WI unviable for large-scale wind development
- Sound and shadow standards as currently proposed include operational curtailment as a means to mitigate the effect. Curtailment risk will likely make any wind project un-financable by 3rd party banks

My name is Marilyn Nies. My husband and I signed a contract with a wind developer 3 ½ years ago. Since then we attended an informational meeting on wind power. We were shocked to hear about stray voltage. It never occurred to us when we signed the contract that our six year old daughter has three separate heart conditions. One of them is an electrical impulse disorder. What could happen to her if the electricity were to ground out in our pond and she is in there. I know it sounds farfetched but when we were at a Brown County board meeting Dr. Jevon Mc Fadden said "We know some individuals are more susceptible than others, for instance people with heart conditions".

No scientific studies have been done to prove or disprove whether living this close to turbines is safe. We are going to have to live with this for 35-40 years. What is it going to hurt to put a halt on things for a year or two and get the studies done? That is fraction of the time we have to live with this. The wind companies keep saying is there is no evidence of harm. Of course not, nobody has looked! The PSC siting panel says "go to the doctor, get a base line". Why do we have to be guinea pigs! There are tubines in other locations where the studies can be done.

We were lied to by the wind company. We were told the turbines would be 1000' - 1300' minimum from our house. Now all the sudden the PSC siting committee comes up with the recommendation of 1.1 times the turbine height for us fools that signed our rights away. ~~That's only a 10% safety factor, this is ridiculous and~~ 6K ~~inadequate that is only 44' from our house.~~ If there is a turbine failure we deserve the same safety setbacks as anyone else. All SAFETY SETBACKS FOR FAILURE MUST BE FROM PROPERTY LINES TO PROTECT OUR PROPERTY RIGHTS AS TAXPAYERS BUT MOST OF ALL TO PROTECT OUR CHILDREN WHILE THEY ARE PLAYING OUTSIDE. We want protection while outdoors, not just in our homes. If there is a turbine failure everyone deserves to be safe whether or not they are signed up. What about people visiting our house? Just because a landowner signs up doesn't mean if the turbine fails pieces won't fall as far.....

I don't know about you, but we spend ALOT OF TIME OUTSIDE, both summer and winter. People who live in the country tend to do that. Gardening, playing, swimming, hunting, cutting wood, etc. enjoying and working on our property. We have a constitutional right to quiet use and enjoyment of our land.

Safety is safety and my families health and safety should not be compromised for the financial profit of a wind developer, the state or the local government..... I do not want my family to be the next collateral damage victim of the irresponsibly un-safe siting of wind turbines allowed by the PSC.

To top this all off the World Health Organization recommends 1/2 mile or 2640' set back. How come the PSC siting committee knows more than the WHO? (http://www.healthywindwisconsin.com/Health%20Impact%20and%20Setback%20G....pdf)

To make matters worse we have been avidly pursuing with the wind company to get out of our contract. We have sent the money back and now void all checks we receive. Our daughter's heart conditions and being lied to are our main reason for wanting out. They don't care, they will not let us out of our contract. Then they had the nerve to send us a letter saying no you can't get out of your contract and "Remember your confidentiality clause!"

The Brown County, Manitowac, and Kewaunee boards have all come out and said these do not belong here (front page of the Press Gazette newspaper). We have a sensitive karst rock topography here along the ledge. Everywhere they break through the karst rock the manure is going to follow the path of least resistance and enter our drinking water. NOBODY is listening! If we truly need that much electricity put up another nuclear plant. They work and they are efficient.

Don't want $

M. Nies

Marilyn Nies
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