STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Petition of BNE Energy Inc. for a Declaratory Ruling for the Location, Construction and Operation of a 3.2 MW Wind Renewable Generating Project on New Haven Road in Prospect, Connecticut	Docket/Petition No. 980 March 8, 2011

Supplemental Pre-filed Testimony of Timothy Reilly

The following pre-filed testimony supplements my pre-filed testimony filed on February 16, 2011, in connection with the above-captioned matter.

18. In response to question number 13, you stated that Save Prospect's research team looked at many facets of wind power development, operations and impacts. Has the review of the literature for standards and regulations adopted in other areas continued since your initial prefiled testimony?

Yes. We have continued to devote many hours to a review of the literature, standards and regulations in order to compile information that would be of assistance to the Siting Council. We have also looked at the trends among the various regulatory and siting agencies with respect to such matters as setback, noise and other issues.

19. Did you personally review any of this material?

Yes. I served as the clearing house for all of the research and have compiled the various source materials, which we copied and submitted to the Prospect Town Council and the Prospect Zoning Commission, and to the Siting Council in connection with my initial prefiled testimony.

20. Did you note any trends in your research regarding the setbacks for industrial wind turbines?

Yes, decidedly so. All over the world we have seen setbacks moving further away from turbines. SPC has researched the issue of setbacks. Here's what we found:

• **The Cape Cod Commission** – a combination of Rotor Width and setback of 3,000 feet approved February 2011. See Exhibit G attached hereto.

• **United Kingdom** – for turbines 328 feet to 492 feet tall, a setback from residence property lines of 1.25 miles – pending in the House of Lords. See Exhibit H attached hereto.

• **Vermont** – Setbacks from 1.25 to 2 miles. 2011 House Bill 366. See Exhibit I attached hereto.

• **Maine** – many towns have moved their setbacks from 0.6 of a mile to a mile, others using a "times the height or times the rotor" multiplier taking the setback a similar distance away from the turbine. In the March issue of "Down East." a popular Maine magazine, they featured a section named "The Truth About Wind Power." The article provided an informational piece titled, "Everything You've Wanted to Know About Wind Power." On the question, "[s]o how far away should the closest houses be?" they reported, "Half a mile, at minimum. But most agree that a mile is more advisable, as virtually no complaints have been lodged by neighbors this far from a turbine." See Exhibit J attached hereto.

• **Wisconsin** – many towns have moved their setbacks to 2,640 feet (1/2 mile) from any residences and other buildings such as schools, churches, hospitals, etc. The towns of Magnolia, Ridgeville, Wilton and Woodville have all adopted these setbacks. See Exhibit K attached hereto. In addition, Wisconsin Governor Scott Brown proposed an

increased state standard of 1,800 feet from any non-participating residential property line.

See Exhibit L attached hereto.

21. Have you compiled additional source materials in the course of your group's research?

Yes. I would like to supplement the source materials with the following articles:

- Cape Cod Commission Approves Wind Turbine Regulations, February 18, 2011, http://www.capenews.net/communities/region/news/876
- The Morning Journal (Northern Ohio), December 1, 2010: "Blade comes off wind turbine at Perkins High School"
- Watertown Daily Times (New York), December 30, 2009: "Fallen Turbine"
- The Telegraph, July 26, 2008: "Homeowners living near windfarms see property values plummet"
- Republican-American, December 4, 2010: "Canaan denies local permit for BNE Energy wind turbine"
- Boston Herald, December 6, 2010: "Conn. residents see Falmouth wind power up close"
- USA Today, November 3, 2008: "Neighbors at odds over noise from wind turbines"
- The Newport Current, February 27, 2009: "A 292-foot mistake"
- Britain's Wind Farms are 'No Spin Zones' When Cold Hits, January 14, 2011, http://www.energytribune.com/articles.cfm/6310/Britains-Wind-Farms-are-No-Spin-Zones-When-Cold-Hits

Copies of these articles are attached hereto as Exhibits M through U.

22. SPC and FairwindCT provided a DVD to the Legislative Energy and Technology Committee for the February 3rd public hearing on HB 6249, calling for regulations for wind power. Please describe the details about the creation of the DVD, including its purpose, who created it and where you found the video clips.

The purpose of the DVD was to create a video compilation to represent our concerns with wind turbine projects improperly sited in residential neighborhoods. "Are Wind Turbines Safe for Neighborhoods" was to raise the point that industrial wind turbines are rarely sited in residential areas, and to inform the committee about many issues associated with industrial wind turbines. We chose a DVD label photo of two wind turbines near Route 219 in Tucker County, West Virginia in that two turbines are proposed for Prospect right alongside Route 69 (New Haven Road), and to counter the misrepresented turbine simulations in the BNE petition showing turbines from 1.5 miles away, which were later used in mailings to Prospect residents. While these two turbines seem huge in the DVD photo label, at 345 feet tall they are nearly 150 feet shorter than those proposed for Prospect. A copy of the DVD is attached to my testimony as Exhibit V.

The DVD is a compilation of publicly available "youtube" videos and photos, which were then mass copied by MediaCom, Inc. of Stamford, CT. The videos included examples of turbine noise, shadow flicker, failures, setbacks, and a news story illustrating the health impacts of industrial wind turbines in a farming community in Waubra, Victoria Province, Australia. In addition, a news story from "New Scientist" highlighted the impact of industrial wind turbines on bats in a study by the University of Calgary, Canada. The source of this video is: http://www.newscientist.com/article/dn14593-wind-turbines-make-bat-lungs-explode.html. Also, several images were run at the end of the DVD to show the magnitude of large industrial wind turbines when improperly sited and the risks of both fire and collapse.

Copies of the DVD and a letter were provided to all 187 members of the Connecticut legislature on February 3, 2011 so as to inform them of the perils of siting industrial wind turbines in neighborhoods. A copy of the letter is attached as Exhibit W.

23. Did you obtain copies of any other videos?

Yes. We bought copies of a video compilation from MediaCom with two titles. A copy of the DVD is attached as Exhibit X. The first, "Life Under a Windplant," is the story of a wind farm in Meyersdale, Pennsylvania where 20 - 1.5 megawatt Vestas turbines have had a dramatic impact on nearby residents. The video is comprehensive in that it addresses the many impacts that industrial wind turbines can have, such as health and quality of life issues, property value loss, diminished mountain vistas, etc.

The second, "Voices from Vinalhaven" is a still picture slideshow with voiceovers as produced by WERU 89.9 FM Radio in Blue Hill, Maine. In this video, the residents of Vinalhaven, Maine voted overwhelmingly to support construction of three 1.5 megawatt GE turbines, set in a triangulated pattern on the island of Vinalhaven, located 15 miles off the coast of Rockland, Maine. Developers told the residents that noise and shadow flicker would not be an issue, which led almost all residents to vote in favor of the project. Since the facility became operational at the end of October 2009, residents have suffered from constant noise. In fact, the Maine Department of environmental protection stepped in after sound tests showed the facility exceeding nighttime noise limits.

24. Did the news media report the issue of nighttime noise violations documented by the Maine Department of Environmental Protection?

Yes. It was reported in the Bangor Daily News on November 23, 2010. A copy of the article is attached as Exhibit Y. See also my presentation board with site photo and article highlights, a copy of which is attached as Exhibit Z (Vinalhaven Poster Board No. 1).

25. Have you obtained additional research concerning the 1.3 MW GE wind turbines in Vinalhaven, Maine? If so, please identify your research.

Yes. In my research I discovered that the Dukes County wind energy work group from Martha's Vineyard traveled to Vinalhaven to view the turbines. As reported in the November 23, 2010 Martha's Vineyard Times story, "Visit to Vinalhaven wind turbines leaves questions," the group's West Tinsbury representative, Mr. Knabel, found that the residents' reports of noise disturbance led him to one conclusion, "And the only way to really deal with this, he added, is to create such large setback distances that the likelihood of having complaints and having people unhappy and uncomfortable becomes vanishingly small." A copy of the article is attached as Exhibit AA.

26. Are the turbines in Vinalhaven of the same basic model proposed in BNE's petition here?

Yes. They are just over one year old and are 1.5 MW GE wind turbines, which are quite similar to the 1.6 MW GE turbines proposed for Prospect. The height of the Vinalhaven turbines, however, is nearly 100 feet shorter than those proposed for Prospect.

27. Did you obtain further research concerning the Vinalhaven turbines?

Yes. I also discovered that the Nantucket Energy Committee researched the Vinalhaven site as part of its "Wind Turbines White Paper" Mod 4.8, dated September 17, 2010. In its research, the committee noted, "[m]ost of the Vinalhaven noise complaints have come within the half-mile range. The noise goes away somewhere between one and three miles." A copy of the paper is attached as Exhibit BB.

28. What about the density of homes in proximity to the Vinalhaven turbines as compared to the Prospect site?

This is the shocking part. There are reportedly only 15 homes within a half-mile of the three turbines in Vinalhaven, whereas there are approximately 140 homes within a half-mile and

924 homes within 1.25 miles of the proposed site in Prospect. If they are having such problems in Vinalhaven with so few residents, what is the magnitude of placing two 492 foot tall industrial wind turbines in such a densely populated residential area? Refer to my presentation board with articles' highlights. Also refer to my presentation board titled "Setbacks," a copy of which is attached as Exhibit CC.

29. Are you familiar with the wind turbine at the Jiminy Peak Ski Resort in Massachusetts? If so, what type of wind turbine is it?

Yes. It is a 386 foot tall 1.5 MW GE wind turbine.

30. What is the density of homes in the vicinity of that turbine?

No homes are located within 0.6 of a mile. There are only 86 homes within 1.25 miles.

31. How do you know the number of homes at these setback distances setback distance?

I used Google Earth, which has a measuring tool to determine distances from a point such as the turbine on Jiminy Peak.

32. Are you aware of any noise concerns relating to this turbine?

Yes. In an interview with the Waterbury Republican, and as reported in the January 2, 2011 edition, James Van Dyke, Vice President of Environmental Sustainability at Jiminy Peak stated the following, "[a] mile away from the turbine at Hancock Town Hall, when the wind blows a certain way, visitors hear it: 'Wosh, wosh, wosh' as Zephyr's blades spin. That Van Dyke said, wasn't supposed to happen, and it is his greatest regret in the way Jiminy pitched the turbine to residents." A copy of the article is attached as Exhibit DD.

33. Did Governor Malloy recently say that regulations were needed for industrial wind turbines?

Yes. Governor Malloy recently stated that regulations were needed for industrial wind turbines and that he planned to do more research on the topic. When asked by Stella Somers of Colebrook, "Where do you think wind turbines should be built and what do you think about alternative energy?" he responded, "**I think we need to develop regulations**." (emphasis added). The article further stated that Governor Malloy did not say whether wind turbines should be built and he mentioned fuel cells as a viable option. "We should have very specific investments in other alternatives," he said. See Exhibit EE attached hereto.

34. Have you contacted Governor Malloy about the concerns of Save Prospect Corp.?

Yes. I recently sent the Governor a letter outlining SPC's concerns about BNE's proposed facility and asked him to intervene on our behalf, to protect the residents affected by this unreasonable and irresponsible proposal. See Exhibit FF attached hereto.

EXHIBIT G

DRAFT

Proposed Amendments to Enabling Regulations and Regional Policy Plan for February 17, 2011 Cape Cod Commission Meeting

Proposed Threshold

{DRI Enabling Regulations, Section 3(o)} Construction of any land-based wind energy conversion facility (WECF) greater than 65 feet in height~~, including meteorological towers,~~ measured from the natural grade of the site to the blade tip at its highest point.

Proposed Minimum Performance Standards for Energy

MPS E1.7 – Clear Area
All WECFs shall maintain a Clear Area surrounding the base of the turbine equal to at least 1.5 times the height of the WECF, or the WECF manufacturer's fall zone, setback, or clear area specification, whichever is greater. The Clear Area setback shall be measured from the base of the turbine.

MPS E1.8 – Noise
~~All Applicants for a WECFs shall perform a noise study, and fund a Cape Cod Commission approved consultant's review of the noise study, as outlined in Technical Bulletin 11-001. All WECFs with a maximum generating capacity equal to or greater than 1MW shall maintain a setback of 3,000' from the nearest receptor, or residentially zoned parcel, unless the applicant can demonstrate through the noise study, to the satisfaction of the Cape Cod Commission, that there are minimal impacts to occupants within the reduced setback. All DRIs shall, after consulting with the Commission's noise consultant, prepare a plan which specifies reduced operating procedures, including decommissioning plans, that address noise complaints that may arise during operation of the WECF.~~

All Applicants for a WECF greater than 660 KW shall perform a noise study and fund a Cape Cod Commission approved consultant's review of the noise study, and adhere to a setback of 10 times the rotor diameter of the proposed turbine from the nearest receptor, or residentially zoned parcel, unless the applicant can demonstrate through a noise study, to the satisfaction of the Cape Cod Commission, that the projected sound levels, including both ambient and infrasound, would result in minimal impacts to occupants within a reduced setback. All DRIs shall, after consulting with the Commission's noise consultant, prepare a plan which specifies reduced operating procedures, including decommissioning plans, which address and mitigate noise complaints that may arise during operation of the WECF. Components of a noise study can be found in Technical Bulletin 11-001.

MPS E1.9 – Shadow Flicker
All Applicants for a WECF shall conduct an impact study of shadow flicker on receptors which will be affected by the proposed WECF. All DRIs with shadow flicker effects on receptors shall require the Applicant to submit for review and ~~consideration~~ approval by the

Commission a mitigation plan which specifies operational controls, landscaping, or other means that mitigate shadow flicker events to less than 10 hours per year.

MPS E1.10 – Decommissioning
Any WECF that has not been operational for more than 120 consecutive days shall be dismantled and removed from the site by the owner, operator, and/or other parties as designated by the decommissioning plan unless a written waiver is obtained for good cause shown from the Cape Cod Commission's Executive Director. The Applicant shall also provide security in a form and amount satisfactory to the Cape Cod Commission. The security shall cover over the life the WECF the cost of decommissioning and removing any abandoned or damaged WECF. This security shall be in place and payable to the Town or Commission on demand for the life of the WECF. All WECF DRI decisions shall contain a written decommissioning plan, which also addresses removal of the meteorological (or "met") tower.

MPS E1.11 – Municipal WECF Waiver
Because of the procedural, legal and political safeguards applicable to town appropriations and the use of town-owned land, Minimum Performance Standards E1.8 – E1.10 shall not apply to one Municipal WECF ~~100~~ 250 KW or less on a single parcel.

Proposed changes to other sections of RPP

HPCC 2.3 – Avoid Adverse Visual Impacts: New Development shall be sited and designed to avoid adverse impacts to visually sensitive areas, including those protected by HPCC 1.1 and 1.2. Visual impact assessments may be required as part of the project review. Development proposed adjacent to scenic roads or vistas shall preserve distinctive features of the scenic resource including tree canopy, wooded road edges, stone walls, winding road character, and scenic views. Development adjacent to or within scenic vistas shall be clustered and designed to limit the visibility of the new development.

Definitions
(Note: All definitions to be added to RPP. Those added to Enabling Regulations only denoted with *)

WECF* - All equipment, machinery and structures utilized in connection with the conversion of wind to electricity. This includes, but is not limited to, all transmission, storage, collection and supply equipment, substations, transformers, site access, service roads and machinery associated with the use. A wind energy conversion facility may consist of one or more wind turbines, and does not include meteorological (or "met") towers.

Clear Area - Area surrounding a WECF to be kept free of any structure designed for human occupancy~~, as well as any road or public recreation area~~.

Shadow Flicker - Alternative changes in light intensity caused when rotating turbine blades come between the viewer and the sun, causing a moving shadow.

Meteorological (or "met" or "test") Tower* – Tower used for supporting anemometer , wind vane and other equipment to assess the wind resource at a predetermined height above the ground.

Municipal Wind Energy Conversion Facility - Any WECF proposed, owned and operated by a municipality.

Height of a WECF - The distance from the pre-development natural grade of the site of the proposed WECF to the highest point of the structure, including any moving part which is a component of the WECF.

Road - A public or private way, other than a driveway servicing only the property which is proposed as the site of the WECF.

Receptor - A dwelling, or any non-residential structure which is ~~occupied during daylight hours~~ designed and/or utilized for human occupancy.

EXHIBIT H

A

BILL

TO

Make provision for a minimum distance between wind turbines and residential premises according to the size of the wind turbine; and for connected purposes.

BE IT ENACTED by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1 Planning permission

(1) No relevant authority may grant planning permission for the construction of a wind turbine generator unless it meets the minimum distance requirement under section 2, subject to the exception in section 3.

(2) "Relevant authority" means the local authority or government department with the power to grant planning permission for a wind turbine generator.

2 Requirements for minimum distance

(1) The "minimum distance requirement" means the necessary minimum distance between the wind turbine generator and residential premises as set out in subsection (4).

(2) "Residential premises" means any premises the main purpose of which is to provide residential accommodation, including farmhouses.

(3) If a number of wind turbine generators are being built as part of the same project the minimum distance requirement applies to each wind turbine generator individually.

(4) If the height of the wind turbine generator is—

(a) greater than 25m, but does not exceed 50m, the minimum distance requirement is 1000m;

(b) greater than 50m, but does not exceed 100m, the minimum distance requirement is 1500m;

(c) greater than 100m, but does not exceed 150m, the minimum distance requirement is 2000m;

(d) greater than 150m, the minimum distance requirement is 3000m.

(5) The height of the wind turbine generator is measured from the ground to the end of the blade tip at its highest point.

(6) There is no minimum distance requirement if the height of the wind turbine generator does not exceed 25m.

(7) If planning permission is granted on the condition that the proposed wind turbine generator meets the minimum distance requirement under subsection (5) the actual height of the wind turbine generator must not exceed the maximum height in relation to that minimum distance.

3 Exception

(1) The local authority may grant planning permission for the construction of a wind turbine generator which does not meet the minimum distance requirement under section 2(4) if the condition under subsection (2) is met.

(2) The condition is that the owners of all residential premises which fall within the minimum distance requirement for the proposed wind turbine generator must agree in writing to the construction of the wind turbine generator.

(3) It is the duty of a relevant authority to ensure that no written agreement is elicited by unlawful means and that all necessary written agreements have been received before planning permission is granted.

4 Short title and extent

(1) This Act shall be known as the Wind Turbines (Minimum Distances from Residential Premises) Act 2010.

(2) This Act extends to England and Wales.

Wind Turbines (Minimum Distances from Residential Premises) Bill [HL]

A

B I L L

To make provision for a minimum distance between wind turbines and residential premises according to the size of the wind turbine; and for connected purposes.

Lord Reay

Ordered to be Printed, 26th July 2010

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EXHIBIT I

H.366

Introduced by Representatives Potter of Clarendon, Browning of Arlington, Burditt of West Rutland, Courcelle of Rutland City, Donaghy of Poultney, Donahue of Northfield, Eckhardt of Chittenden, French of Shrewsbury, Howrigan of Fairfield, Kilmartin of Newport City, Larocque of Barnet, Lawrence of Lyndon, Lewis of Derby, Malcolm of Pawlet, Marcotte of Coventry, McNeil of Rutland Town, Peaslee of Guildhall, Reis of St. Johnsbury and Young of Albany

Referred to Committee on

Date:

Subject: Energy; permitting; public service board; Act 250; local land use bylaws; wind energy plant siting

Statement of purpose: This bill proposes to require standard setbacks, noise limits, and other requirements for wind energy plants that exceed 0.49 megawatts, to allow nearby property owners to waive these requirements, and to require that the Act 250 district commissions and appropriate municipal panels be the permit review authorities for wind energy plants not owned by Vermont electric utilities.

An act relating to the siting and permitting of wind energy plants

It is hereby enacted by the General Assembly of the State of Vermont:

* * * Standard Requirements * * *

Sec. 1. 30 V.S.A. § 8009 is added to read:

§ 8009. WIND TOWER SITING REQUIREMENTS; ENFORCEMENT

(a) Applicability. This section applies to a plant that generates electricity using wind energy as a fuel source and has a plant capacity in excess of 0.49 megawatts (MW). The requirements of this section shall apply to any proceeding for approval of such a plant under chapter 151 of Title 10, chapter 117 of Title 24, or section 248 of this title, in addition to all other applicable criteria.

(b) Definitions. As used in this section:

(1) "dBA" means a decibel measure of overall sound level under American National Standards Institute (ANSI) Sl.4 that is designed to reflect the response of the human ear. Lower frequency sounds are given less weight than those in the mid-range of human perception. The resulting measure is said to be A-weighted, and the units are dBA.

(2) "dBC" means a decibel measure of overall sound level under ANSI S1.4 that is similar to dBA but does not de-emphasize low frequencies to the extent that dBA does. The resulting measure is said to be C-weighted, and the units are dBC.

(3) "Height" means the total distance measured from the grade of a property as it exists prior to the construction of a wind turbine or related facility at the base to the highest point of a wind turbine or related facility. In the case of a wind turbine, this includes the length of the blade at its highest possible point.

(4) "Kamperman-James Guidelines" means the proposed wind turbine siting sound limits contained on page 10 of George W. Kamperman, INCE, Bd. Cert. Emeritus, and Richard R. James, INCE, "Simple guidelines for siting wind turbines to prevent health risks" (July 27, 2008) (Rev 1.0).

(5) "L_{90}" means background sound, defined over a continuous ten-minute period to be the average sound level during the quietest one continuous minute of the ten minutes. The term refers to sound that is normally present at least 90 percent of the time, and excludes any sound generated by a plant subject to this section. L_{90} may be measured relative to A-weighting or C-weighting, in which case it is denoted L_{A90} or L_{C90}.

(6) "L_{eq}" means frequency-weighted equivalent sound level. The term is defined to be the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound. L_{eq} may be measured relative to A-weighting or C-weighting, in which case it is denoted L_{Aeq} or L_{Ceq}.

(7) "Occupied building" means any structure that is or is likely to be occupied by persons or animals and includes dwellings, commercial buildings, other business structures, hospitals, places of worship, schools, stables, and barns. This term shall include a structure on which construction has commenced at the time a complete application for a plant subject to this section is filed, if the structure otherwise meets the provisions of this subdivision (7).

(8) "Receiving property" means any parcel of real property from which sound emitted by a wind turbine may be heard.

(9) "Rotor" means an element of a wind turbine that acts as a multibladed airfoil assembly extracting, through rotation, kinetic energy directly from the wind.

(10) "Shadow flicker" means alternating changes in light intensity caused by the moving blade of a wind turbine casting shadows on the ground and stationary objects, such as a window at a dwelling.

(11) "Wind turbine" means a mechanical device that captures the energy of the wind and converts it into electricity. The primary components of a wind turbine are the rotor or other component that extracts energy from the wind, the electrical generator, and the tower. This term does not include wiring to connect the wind turbine to the grid.

(c) Setbacks. At a minimum, a wind turbine shall be set back horizontally:

(1) One and one-quarter miles from an occupied building, if the elevation change between the wind turbine and the occupied building is equal to or less than 500 feet.

(2) Two miles from an occupied building, if the elevation change between the wind turbine and the occupied building exceeds 500 feet.

(3) One-half mile from the closest boundary of the parcel on which the wind turbine will be located.

(4) One-third of a mile from any public highway or right-of-way and from any above-ground utility line or facility. However, this subdivision shall not apply to an electric line that directly connects a wind turbine to a substation or other utility facility.

(d) Sound limits. At a minimum, a plant subject to this section shall comply with each of the following:

(1) Audible sound limit. No plant shall be located so as to generate postconstruction sound levels that exceed preconstruction background sound levels by more then 5 dBA.

(2) Low frequency sound limit. The L_{Ceq} and L_{C90} sound levels from a wind turbine at the receiving property shall not exceed the lower of either:

(A) An L_{Ceq}-L_{A90} greater than 20 dB outside any occupied building; or

(B) A sound level of 50 dBC (L_{C90}) from a wind turbine, without other ambient sounds, for a parcel the closest boundary of which is located one mile or more from a state highway or Class 1 or 2 town highway, or of 55 dBC (L_{C90}) for a parcel with a boundary closer than one mile to such a highway.

(3) General sound limit. Sound from a plant subject to this section shall not exceed 35 dBA within 30 meters of any occupied building.

(4) Demonstrating compliance with sound limits. Use of the Kamperman-James Guidelines shall be required in demonstrating compliance with the sound limits of this subsection.

(e) Other requirements.

(1) A plant subject to this section shall comply with the interconnection requirements of the Independent System Operator of New England, Inc. or the interconnection rules of the board, as applicable.

(2) The applicant shall perform and submit with the application an analysis of shadow flicker effect for each wind turbine and proposed measures to mitigate or eliminate such effect.

(3) Roads and power lines associated with the plant shall be the minimum feasible length as determined by the permitting authority. Rights-of-way for such roads and lines shall be the minimum feasible width as determined by the permitting authority.

(4) A wind turbine shall have no lighting except those lights necessary to meet the requirements of the Federal Aviation Administration.

(5) The application shall include the depreciation schedule that the applicant will use for each wind turbine and other component of a plant.

(6) The application shall include a plan for replacement or removal of each wind turbine in the event of the turbine's failure, including a failure due to natural disaster.

(7) The application shall include a decommissioning and site restoration plan containing the following information and meeting the following requirements:

(A) The plan shall provide for the removal from the project parcels and lawful disposal or disposition of all wind turbines and other structures, hazardous materials, electrical facilities, and all foundations. The plan shall provide for the removal or appropriate supervision and control of all access roads. The plan shall provide for the restoration of the project parcels to a condition as close as reasonably possible to that which existed before construction of the plant.

(B) The plan shall provide for the decommissioning of the site on the expiration or revocation of the permit or abandonment of the plant. The plant shall be deemed abandoned if its operation has ceased for 12 consecutive months.

(C) The plan shall include provision for the posting of a third party bond to assure completion of decommissioning and site restoration, in the amount of the full estimated costs of decommissioning and site restoration adjusted for inflation and in accordance with the plan as approved by the permitting authority.

(D) The plan shall include written authorization from the applicant and all owners of all project parcels for each municipality in which the plant is located, the permitting authority, or a designee of such municipality or authority to access the project parcels and implement the decommissioning and site restoration plan, in the event that the permittee fails to implement the plan. The written authorization shall be in a form approved by the permitting authority and recorded in the land records of each municipality in which the plant is located.

(f) Waiver. An owner of property that is within the setback distances stated in subsection (c) of this section or that is receiving property or both may waive one or more of the requirements of subsections (c) and (d) of this section by signing a written waiver of rights. At a minimum, any such waiver shall:

(1) Itemize for the property owner each specific requirement for which waiver is sought.

(2) Include full disclosure of the potential impact on the property owner of waiving each such requirement.

(3) Describe the plant that will benefit from the waiver and state that, for such plant, consent is granted to waive each itemized requirement.

(4) Be recorded prior to operation of the plant in the land records of the municipality in which the burdened property is located. For the purpose of this subsection, "burdened property" is the real property of the person signing the written waiver. The recorded documents shall describe the properties benefited and burdened and advise all subsequent purchasers of the burdened property that the waiver shall run with the land.

(g) Enforcement. With respect to a plant described in subsection (a) of this section, any appropriate action may be instituted in the superior court of the county in which the plant is located to prevent, restrain, correct, or abate any violation of this section, of the statutes identified in subsection (a) of this section, or of the conditions of any permit or approval issued under those statutes. The following may institute such an action: a municipality in which a plant subject to this section is located; any person aggrieved by a plant's violation of this section, of the statutes identified in subsection (a) of this section, or of a permit issued under one of those statutes; and the attorney general on his or her own motion or at the request of the department of public service, of the land use panel of the natural resources board, or of a municipality in which a plant subject to this section is located. This authority shall be in addition to any other enforcement statute applicable to the plant.

* * * Governance * * *

Sec. 2. 30 V.S.A. § 248 is amended to read:

§ 248. NEW GAS AND ELECTRIC PURCHASES, INVESTMENTS, AND FACILITIES; CERTIFICATE OF PUBLIC GOOD

(a)(1) No company, as defined in section 201 of this title, may:

(A) in any way purchase electric capacity or energy from outside the state, for a period exceeding five years, that represents more than one percent of its historic peak demand; or

(B) invest in an electric generation or transmission facility located outside this state unless the public service board first finds that the same will promote the general good of the state and issues a certificate to that effect.

(2) ~~Except for the replacement of existing facilities with equivalent facilities in the usual course of business, and except for electric generation facilities that are operated solely for on-site electricity consumption by the owner of those facilities:~~

(A) ~~no~~ No company, as defined in section 201 of this title, and no person, as defined in 10 V.S.A. § 6001(14), may begin site preparation for or construction of an electric generation facility or electric transmission facility within the state which is designed for immediate or eventual operation at any voltage; and

(B) ~~no~~ No such company may exercise the right of eminent domain in connection with site preparation for or construction of any such transmission or generation facility, unless the public service board first finds that the same will promote the general good of the state and issues a certificate to that effect.

(C) This subdivision (2) shall not apply to each of the following:

(i) The replacement of an existing facility with an equivalent facility in the usual course of business.

(ii) An electric generation facility that is operated solely for on-site electricity consumption by the owner of the facility.

(iii) An electric generation plant that uses wind as a fuel source, exceeds 0.49 megawatts (MW) in plant capacity, and does not have majority ownership or control by a Vermont retail electricity provider. For the purpose of this subdivision (iii):

(I) "Plant," "plant capacity," and "retail electricity provider" have the same meaning as under section 8002 of this title.

(II) If more than one Vermont retail electricity provider has ownership or control of a facility, all such providers shall be treated together as one provider for the purpose of determining majority ownership or control.

* * *

Sec. 3. 10 V.S.A. § 6001 is amended to read:

§ 6001. DEFINITIONS

When used in this chapter:

* * *

(3)(A) "Development" means:

(i) The construction of improvements on a tract or tracts of land, owned or controlled by a person, involving more than 10 acres of land within a radius of five miles of any point on any involved land, for commercial or industrial purposes in a municipality that has adopted permanent zoning and subdivision bylaws.

(ii) The construction of improvements for commercial or industrial purposes on more than one acre of land within a municipality that has not adopted permanent zoning and subdivision bylaws.

(iii) The construction of improvements for commercial or industrial purposes on a tract or tracts of land, owned or controlled by a person, involving more than one acre of land within a municipality that has adopted permanent zoning and subdivision bylaws, if the municipality in which the proposed project is located has elected by ordinance, adopted under chapter 59 of Title 24, to have this jurisdiction apply.

(iv) The construction of housing projects such as cooperatives, condominiums, or dwellings, or construction or maintenance of mobile homes

or trailer parks, with 10 or more units, constructed or maintained on a tract or tracts of land, owned or controlled by a person, within a radius of five miles of any point on any involved land, and within any continuous period of five years.

(v) The construction of improvements on a tract of land involving more than 10 acres that is to be used for municipal, county or state purposes. In computing the amount of land involved, land shall be included that is incident to the use such as lawns, parking areas, roadways, leaching fields and accessory buildings.

(vi) The construction of improvements for commercial, industrial or residential use above the elevation of 2,500 feet.

(vii) Exploration for fissionable source materials beyond the reconnaissance phase or the extraction or processing of fissionable source material.

(viii) The drilling of an oil and gas well.

(ix) The construction, at any elevation, of improvements for an electric generation plant that uses wind as a fuel source, exceeds 0.49 megawatts (MW) in plant capacity, and does not have majority ownership or control by a Vermont retail electricity provider. For the purpose of this subdivision (ix):

(I) "Plant," "plant capacity," and "retail electricity provider" have the same meaning as under 30 V.S.A. § 8002.

(II) If more than one Vermont retail electricity provider has ownership or control of a facility, all such providers shall be treated together as one provider for the purpose of determining majority ownership or control.

* * *

Sec. 4. 24 V.S.A. § 4414 is amended to read:

§ 4414. ZONING; PERMISSIBLE TYPES OF REGULATIONS

Any of the following types of regulations may be adopted by a municipality in its bylaws in conformance with the plan and for the purposes established in section 4302 of this title.

* * *

(3) Conditional uses.

(A) In any district, certain uses may be allowed only by approval of the appropriate municipal panel, if general and specific standards to which each allowed use must conform are prescribed in the appropriate bylaws and if the appropriate municipal panel, under the procedures in subchapter 10 of this chapter, determines that the proposed use will conform to those standards. These general standards shall require that the proposed conditional use shall not result in an undue adverse effect on any of the following:

(i) The capacity of existing or planned community facilities.

(ii) The character of the area affected, as defined by the purpose or purposes of the zoning district within which the project is located, and specifically stated policies and standards of the municipal plan.

(iii) Traffic on roads and highways in the vicinity.

(iv) Bylaws and ordinances then in effect.

(v) Utilization of renewable energy resources.

(B) The general standards set forth in subdivision (3)(A) of this section may be supplemented by more specific criteria, including requirements with respect to any of the following:

(i) Minimum lot size.

(ii) Distance from adjacent or nearby uses.

(iii) Performance standards, as under subdivision (5) of this section.

(iv) Criteria adopted relating to site plan review pursuant to section 4416 of this title.

(v) Any other standards and factors that the bylaws may include.

(C) One or more of the review criteria found in 10 V.S.A. § 6086 may be adopted as standards for use in conditional use review.

* * *

(6) Access to renewable energy resources. Any municipality may adopt zoning and subdivision bylaws to encourage energy conservation and to

protect and provide access to, among others, the collection or conversion of direct sunlight, wind, running water, organically derived fuels, including wood and agricultural sources, waste heat, and geothermal sources, including those recommendations contained in the adopted municipal plan, regional plan, or both. The bylaw shall establish a standard of review in conformance with the municipal plan provisions required pursuant to subdivision 4382(a)(9) of this title.

* * *

(14) Green development incentives. A municipality may encourage the use of low-embodied energy in construction materials, planned neighborhood developments that allow for reduced use of fuel for transportation, and increased use of renewable technology by providing for regulatory incentives, including increased densities and expedited review.

(15) Merchant wind generation. A municipality may adopt bylaws to regulate, as a conditional use under subdivision (3) of this section, an electric generation facility that uses wind as a fuel source, exceeds 0.49 megawatts (MW) in plant capacity, and does not have majority ownership or control by a Vermont retail electricity provider.

(A) For the purpose of this subdivision (15):

(i) "Plant," "plant capacity" and "retail electricity provider" have the same meaning as under 30 V.S.A. § 8002.

(ii) If more than one Vermont retail electricity provider has ownership or control of a facility, all such providers shall be treated together as one provider for the purpose of determining majority ownership or control.

(B) In addition to the criteria of subdivision (3)(A) of this section, such bylaws shall include as criteria compliance with the requirements of 30 V.S.A. § 8009 and may include additional relevant criteria that are more stringent than state statute.

* * * Funding Municipal Review of Wind Plants * * *

Sec. 5. 24 V.S.A. § 4440 is amended to read:

§ 4440. ADMINISTRATION; FINANCE

* * *

(d)(1) The legislative body may establish procedures and standards for requiring an applicant to pay for reasonable costs of an independent technical review of the application.

(2) Notwithstanding whether the legislative body has established such standards and procedures, a municipality may allocate to an applicant the municipality's reasonable costs of review or participation or both in a proceeding if:

(A) The application is for a facility described in subdivision 4414(15) of this title.

(B) The application is for approval under chapter 151 of Title 10, 30 V.S.A. § 248, or chapter 117 of this title.

(C) The costs relate to the municipality's review of the application or participation in a proceeding under the provisions identified in subdivision (2) of this subsection or an appeal from such a proceeding.

(3) When a municipality decides to allocate costs under subdivision (2) of this subsection, the municipality shall notify the applicant of the costs to be allocated and their purpose. Upon petition of an applicant to the body conducting the proceeding, that body shall review and determine, after opportunity for hearing, having due regard for the size and complexity of the proposed plant at issue, the necessity and reasonableness of such allocation, which it may amend or revise. From time to time during the progress of the work, the municipality shall render to the applicant detailed statements showing the amount of money expended or contracted for in the work, which statements shall be paid by the applicant to the municipality at such time and in such manner as the municipality may reasonably direct. A municipality may require an applicant to pay an estimated cost in advance of the work being performed, provided that any unused portion of such payment is returned to the applicant within 30 days of final disposition of the proceeding, including any appeals.

* * *

* * * Health Department Role * * *

Sec. 6. 18 V.S.A. § 12 is added to read:

§ 12. SOUND LIMITS; WIND PLANTS; PERIODIC REVIEW

Every second December 31, the commissioner of health shall report to the house and senate committees on natural resources and energy on whether the sound limits contained in 30 V.S.A. § 8009(d) are appropriate to protect public health and whether those limits should be amended. The basis of the report shall include developing science and actual, on-the-ground experience with respect to wind plants of the type that are subject to 30 V.S.A. § 8009 and their impacts on persons and animals. The report shall include recommended statutory language for any amended limits and state the reasons for any proposed amendments.

Sec. 7. HEALTH; SOUND LIMIT REPORT; INITIAL DATE

With respect to the report required by Sec. 6 of this act, the commissioner of health shall submit the initial report by December 31, 2011.

Sec. 8. EFFECTIVE DATE

This act shall take effect on passage.

EXHIBIT J

EVERYTHING YOU'VE WANTED TO KNOW ABOUT WIND POWER

BY JOSHUA F. MOORE

Q: How many wind turbines do we have in Maine?

That depends: What day is it? Reed & Reed, the Woolwich-based contractor who has so far built all the large-scale wind-power projects in Maine, can assemble the three pieces of a 262-foot-tall steel tower and attach the three 151-foot-long fiberglass or carbon-fiber blades in a single day. The components come from as far away as Vietnam and as near as Florida and the Midwest. The company is putting up the forty turbines at its latest project, the Rollins Wind Farm in Lincoln, as quickly as the weather will allow (it has to be dead calm, for obvious reasons) and CEO Jack Parker says his crews plan to finish sometime in June. But as of January 15, 2011, Maine had 133 turbines producing 265.5 megawatts of power in Mars Hill, Danforth, Freedom, Kibby Township, and Vinalhaven.

A MEGAWHAT?

A megawatt is a million watts, the units used to measure electricity. But since this blast only quantifies a split second of electricity and fails to consider actual consumption, most people speak of megawatt or kilowatt (a thousand watts) hours, meaning the amount of power used over an hour. Maine's residential electricity consumption rate is among the lowest in the country — just 3,433 kilowatt hours per home per year, thanks largely to our lack of air-conditioning units, according to a 2005 U.S. Department of Energy report. Each of the thirty-eight-turbines in the Stetson wind farm near Danforth produced 4,115 megawatt hours of electricity last year — meaning that collectively the project produced enough power for 44,000 homes.

Q: How many other wind projects are in the works?

Again, what day is it? An eleven-turbine expansion of the Kibby project was approved by the Land Use Regulation Commission in late December. Two wind farms, a twenty-two-turbine one in Roxbury and a thirty-four-turbine project in Oakfield, have been approved but are on hold while appeals are heard. Seven others have applications pending. In addition, companies such as Iberdrola and First Wind have erected weather towers in several locations around Maine — the first step in determining the feasibility of a wind farm.

Q: Why the gold rush?

Q: How much electricity does the law call for Maine to produce from wind power?

It sets a goal of two thousand megawatts of capacity by 2015 and three thousand megawatts by 2020, of which three hundred megawatts can be from offshore wind turbines. By comparison, Maine uses about twelve gigawatts annually to power itself, so the Natural Resources Council of Maine calculates that if the state reaches those goals, wind power could serve almost three-quarters of its current electricity consumption. To meet the state's goals, developers will need to add 434 megawatts of electricity — nearly double the state's existing wind-power capacity — each of the next four years. And the pace has to quicken with each passing day that a wind turbine doesn't go up. Just a year ago, John Kerry, director of the Maine Office of Energy Independence and Security, put the necessary rate at 183 megawatts installed annually, a goal the state failed to meet in 2010. Kerry would not respond to inquiries for this article.

Q: THE WIND-POWER LAW TALKS ABOUT "GRID-SCALE" WIND FARMS. HOW BIG ARE WE TALKING?

Wind farms vary from the three-turbine projects in Freedom and Vinalhaven to the forty-four-turbine Kibby project, which will soon expand to fifty-five turbines total. (Most wind farm developers require a project to have a capacity of between thirty and fifty megawatts to be financially viable.) The actual footprint of each turbine is relatively small, about twenty-five-feet in diameter, anchored to bedrock. That foundation usually requires a clearing about 250-feet wide. But since each 262-foot-tall wind turbine tower has to be situated about a thousand feet apart, a forty-turbine wind farm might require a line of turbines eight miles long if they're all set in a row, as along a hilltop. For access, crews usually cut about a twenty-foot-wide road to the first turbine, and then a thirty-two-foot-wide crane pass between the towers, though this is usually re-vegetated back to about sixteen feet wide after construction.

Q: DOES THE POWER PRODUCED BY WIND TURBINES ACTUALLY POWER THE HOUSES AROUND THEM?

Not exactly. The power produced by industrial wind farms is fed back into the "grid," which is actually a network of eight thousand miles of high-voltage transmission lines connecting six New England states and 6.5 million homes and businesses. These lines carry the power from 350 sources, ranging from wind turbines to biomass plants to nuclear plants, to substations where it is "stepped down" in voltage and sent back to houses and businesses across local distribution lines. This all happens in a fraction of a second, so it's not exactly accurate to say that the energy going into a lightbulb in Mars Hill was produced by the turbines nearby. The grid is more like a big pool of electricity, with power flowing into and out of it simultaneously.

Q: That doesn't sound like it's doing much to reduce Maine's carbon footprint.

Embracing wind power means thinking regionally, or even globally, but acting locally, according to Pete Didisheim, advocacy director for the Natural Resources Council of Maine. Because Maine is a member of the six-state ISO-New England grid, any electricity we produce from wind power will reduce our reliance on fossil-fuel burning power plants that currently supply 52 percent of our power (the rest comes from renewable sources such as hydropower and biomass). A report completed by ISO-New England in December determined that if the New England grid could get 20 percent of its power from wind power — up from 0.2 percent today — that would reduce the region's carbon footprint by 25 percent.

3.75

Average price of a 1.5-megawatt wind turbine

We can't blame it all on the Saudis. Granted, the price of a gallon of gasoline hit record prices in April 2008, when the Maine legislature passed an emergency measure to expedite grid-scale wind-power projects. But awareness regionally and nationally has also been increasing about the need to move to more renewable energy sources, and advances in technology have made wind turbines effective at lower elevations. Maine's law, LD 2283, made wind power a "permitted use" within certain parts of Maine's unorganized territories and streamlined the application procedure to encourage large-scale development within pre-defined areas. Regardless of the motivation, Maine's wind-power law has had the desired effect: Where just four wind-power-project applications were filed before 2008, twenty-five have been proposed in the past three years.

Q: Doesn't all this development ruffle some feathers in the environmental community?

Yes [see page 68] and, surprisingly, no. A strong campaign against land-based wind-power development has been led by groups such as Friends of Maine's Mountains and Friends of the Boundary Mountains, which has fought against wind farms such as the Kibby projects since the mid 1990s. *The Citizens' Task Force — Maine*, for instance, points out that 2,700 megawatts of installed capacity would require 1,800 1.5 megawatt turbines, or a total of 360 miles of windmills. But leading conservation groups such as the Natural Resources Council of Maine and Maine Audubon have actually endorsed several wind-power projects, arguing that the impacts on the immediate environment are outweighed by the potential of wind power to reduce the region's carbon footprint. (The Natural Resources Council of Maine was one of the sixteen members of the task force that came up with the wording for Maine's wind-power law.)

Q: SO MODERN WIND TURBINES DON'T KILL BIRDS?

Actually, they do — and bats, too. The post-construction study that was done in 2007 at the Mars Hill wind farm (all such projects are required to complete avian studies), for instance, found twenty-two birds and twenty-four bats that had been killed by the turbines. All of the birds were non-threatened songbirds, including Blackburnian warblers and golden-crowned kinglets, while the bat deaths included three species of special concern, the silver-haired bat, hoary bat, and eastern red bat. Though the monopole design of modern wind turbines prevents the nesting and bird deaths that were found at the country's first wind farm, in California's Altamont Pass, even wind-power proponents like the Natural Resources Council of Maine's Pete Didisheim acknowledge that more wind turbines will mean more dead animals.

Q: WIND POWER IS OFTEN CITED AS THE SOLUTION TO MAINE'S UNEMPLOYMENT WOES. HOW MANY PEOPLE DOES THE INDUSTRY ACTUALLY EMPLOY?

Again, it depends what day it is. Reed & Reed has more than two hundred people, most of them Mainers, working at its Rollins site. When the project is completed in June that number will plummet, as most wind farms only have a dozen or so paid staff, though a handful of maintenance personnel might remain after construction to perform warranty and maintenance on the gears, hydraulic lines, filters, and three thousand other moving parts housed in the turbine's nacelle, or hub. All together, the wind-power industry in Maine has involved about three hundred companies since 2005.

Number of 1.5-megawatt wind turbines required to be installed annually in Maine to meet legislative goals

Q: What makes Maine such a great place for wind farms?

Duh! It's windy here. An American Wind Energy report estimated that Maine is windier than the rest of the New England states combined, and among the top twenty windiest states in the country. That's largely because wind is stronger the higher you go, and Maine is blessed with 165 mountains higher than three thousand feet — the Promised Land for wind developers. The Governor's Task Force on Wind Power Development that led to the creation of Maine's wind-power law tried to protect as many of these mountains as possible, but it still left twelve such peaks above three thousand feet in the so-called "expedited" zone for wind development (15 percent of the nearly 140,000 acres above 2,700 feet is also fair game). Finally, Maine's sheer size allows developers to put wind farms in remote locations, away from homes, although some neighbors in Mars Hill and Vinalhaven have complained about the noise and the psychological "flicker effect" of the blades.

Life expectancy of a wind turbine.

(though this varies greatly depending on maintenance)

Q: What about when the wind doesn't blow?

Modern turbines, like the GE 1.5-megawatt ones installed at most of the wind farms in Maine, start producing when the wind is blowing just eight miles per hour and keep spinning until the wind is blowing fifty-five (the optimal conditions are about twenty miles per hour). But when the rotors aren't turning at all or the turbines aren't producing their full capacity — around 70 percent of the time, depending on location conditions — the grid must rely on other sources such as gas- and coal-fired power plants. Wind turbines aren't alone in having downtime; most coal-fired power plants operate only up to 70 percent of their capacity due to scheduled outages and market conditions.

Q: Won't turbine blades ice up in the winter?

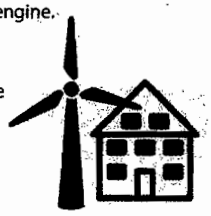
Not for long. Though some ice buildup has been known to happen if the rotors aren't moving, the sun generally melts it relatively quickly. Plus, just rotating the blades slowly tends to fling off whatever may have accumulated, in which case remember to duck — a 151-foot-long blade can fling an icicle quite a distance!

Q: How loud are wind turbines?

Depends who you ask. According to Maine Department of Environmental Protection rules, wind turbines must produce a sound less than forty-five decibels, depending on the existing ambient noise. Most wind-power proponents say the "whoosh" of a wind turbine sounds like a refrigerator humming or a highway a few hundred yards away. But people who live near turbines use far different language to describe the "sonic bombardment" they experience when the rotors are turning, likening the noise to a drumbeat or the roar of a jet engine.

Q: SO HOW FAR AWAY SHOULD THE CLOSEST HOUSE BE?

Half a mile, at minimum. But most agree that a mile is more advisable, as virtually no complaints have been lodged by neighbors this far from a wind turbine.



Q: SO WOULD THE OCEAN BE THE PERFECT PLACE FOR WIND TURBINES?

Out of sight, out of mind, right? Wind farms in the Gulf of Maine may end up dwarfing all the land-based projects [see page 61], with up to eight floating farms, each measuring eight square miles, producing a total of five thousand megawatts — as much as five nuclear power plants. But such projects are still in their early development, and no offshore turbines or even prototypes have yet been launched.

Q: So can Maine really become the "Saudi Arabia of Wind" as former governor Angus King and other wind-power entrepreneurs claim?

Texas and Iowa lead the U.S. in wind-power production, turning out 9,727 and 3,670 megawatts, respectively. In New England, Maine wind turbines are currently supplying the vast majority of the 290 megawatts of electricity currently flowing into the ISO-New England grid from wind resources. If Maine were to miraculously meet the goals set out in LD 2283 tomorrow, it would still only be the third-highest state for wind production, according to data included in the American Wind Energy Association's third-quarter 2010 report. Such a ranking is unlikely; just as Maine is increasing its wind capacity, electricity production from wind resources across the U.S. is increasing about 30 percent annually. Internationally, the U.S. used to be the leader in wind-power development, although China has recently taken the lead by installing a whopping 16,000 megawatts of capacity last year — more than three times as much was installed in the U.S. in 2010.

EXHIBIT K

STATE OF WISCONSIN **TOWN OF MAGNOLIA**

WIND ENGERGY SYSTEMS LICENSING ORDINANCE

The Town of Magnolia Board of the Town of Magnolia, Wisconsin, does ordain as follows:

WIND ENERGY SYSTEMS LICENSING ORDINANCE

I. FINDINGS OF FACT.

A. These regulations are adopted under the authority granted pursuant to Wis. Stat. § 66.0401, which provides:

> Wis. Stat. § 66.0401 (2002)
> Regulation relating to solar and wind energy systems.
>
> (1) AUTHORITY TO RESTRICT SYSTEMS LIMITED. No county, city, town, or village 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, as defined in s. 66.0403(1)(m), 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.

B. It is necessary and appropriate to protect the unique natural resources and geological features of the Town of Magnolia.

C. The natural resources and geological features of the Town of Magnolia make the groundwater susceptible to degradation by blasting and related industrial/commercial construction activity because the soil and underlying bedrock may be unable to perform its normal filtration process due to cracks in the subsurface soil and/or bedrock. Unregulated wind energy systems may, therefore, have an adverse, direct impact on local drinking water resources.

D. The Town of Magnolia finds that Wind Energy Systems operating in the Town of Magnolia require special licensing by the Town of Magnolia in order to protect and preserve the health, safety, and welfare of the citizens of the Town

of Magnolia and people in general. In this regard, the Town of Magnolia adopts and incorporates by reference a report issued by the National Research Council entitled *Environmental Impacts of Wind-Energy* Projects, May 2007 ("2007 NRC Report"). The Town of Magnolia further finds that the provisions of the "Draft Model Wind Ordinance for Wisconsin" do not adequately protect public health and safety and have no legal basis under Wisconsin law.

E. Licensing is a legitimate and reasonable means of accountability to ensure that the construction of and operation by employees of Wind Energy Systems comply with reasonable regulations and to ensure that operators and employees do not allow their establishments to be hazardous to the public health or safety.

F. It is not the intent of this ordinance to significantly increase the cost of the system or significantly decrease the efficiency of any Wind Energy System proposed to be located in the Town.

II. PURPOSE AND INTENT.

A. Based upon the findings stated above, it is the intended purpose of the Town of Magnolia to regulate Wind Energy Systems to promote the health, safety, and general welfare of the citizens of the Town of Magnolia and to establish reasonable and uniform regulations for the operation thereof so as to minimize potentially dangerous effects of these Systems on the community.

III. DEFINITIONS.

The following terms have the meanings indicated:

1. "Applicant" means the individual or business entity that seeks to secure a license under this section of the Town municipal code.

2. "Background" noise or noise level or ambient background noise or noise level means L90 sound level. L90 is the sound that is exceeded 90 % of the time. For example, in 30 minutes, L90 represents 3 minutes of the quietest time. This type of measurement is designed to reduce the effect of transient events, like vehicle pass-bys that are not part of the natural soundscape, especially in the evening or night.

3. "Board" means the Town of Magnolia Board for the Town of Magnolia, WI.

4. "Employee" means any and all Persons, including but not limited to "operators," who work in or at, or render any services directly related to operation of Wind Energy Systems.

5. "Good Utility Practice" means any of the practices, methods and acts with respect to the safe operation of the Wind Energy System Facility ("WESF") engaged in or approved by a significant portion of the electric utility industry and, in particular, those portions of the industry with experience in the construction, operation and maintenance of wind turbines during the relevant time period; or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods or acts generally accepted in the region.

6. "INCE" means Institute of Noise Control Engineers.

7. "Non-Participating Residence or Business" means all private residences and businesses located within ½ of a mile measured from the foundation of the residence or business to the center of the nearest WESF turbine, provided the non-participating land owner owned the property in fee simple and applied for a building permit on or before the issuance of a license pursuant to this Ordinance.

8. "Operator" means the person who is designated on the license application to be the person in charge of the daily operation of the premises and who is to be the Wind Energy Systems contact person for the Town of Magnolia.

9. "Person" means an individual, proprietorship, corporation, association, partnership, limited liability entity, or other legal entity.

10. "Rotor Diameter" means the cross sectional dimension of the circle swept by the rotating blades.

11. "Stray Voltage" means neutral-to-earth voltage measured from the electrical system neutral and/or any structure bonded to this neutral to earth that adversely affects humans or animals.

12. "Wind Energy Systems" means equipment that converts and then stores or transfers energy from the wind into usable forms of energy on a large, industrial scale for commercial or utility purposes. Small scale wind systems of less than 170 feet in height and less than 100 kilowatts are exempt from this definition.

13. "Wind Energy Systems Facility" or "Facility" or "WESF" means all of the land and equipment used by the wind energy system and its support

facilities including the wind turbine, tower, access roads, control facilities, meteorological towers, maintenance and all power collection and transmission systems.

14. "Wind Energy System Tower" means any structure that is designed and constructed primarily for the purpose of supporting the Wind Turbine.

15. "Wind Energy System Tower Site" means the land area encompassing a tower and all related equipment, structure, paved or graveled areas, safe clearance areas, fencing and other items used in connection with said tower.

16. "Wind Turbine" or "Turbine" means a mechanical device which captures the kinetic energy of the wind and converts it into electricity. The primary components of a wind turbine are the blade assembly, electrical generator and tower.

IV. LICENSING

A. License Required.

From and after the effective date of this ordinance, no Wind Energy Systems shall be operated or maintained in the Town without first obtaining a license to operate issued by the Town. However, small scale wind energy systems of less than 170 feet in height and less than 100 kilowatts are exempt from the licensure requirements of this Ordinance.

B. Effect of Other Licenses.

The fact that a person possesses any other valid license or permit required by law, does not exempt that Person from the requirement of obtaining a Wind Energy Systems license under this Section.

C. Non-assignability of Licenses.

The license is not assignable or transferable to any other Person, without the express prior written consent of the Town of Magnolia, such consent not to be unreasonably withheld; provided, however, the Licensee may assign the License once to a new entity, upon notice to the Town of Magnolia, if the Licensee submits an affidavit demonstrating the following:

(1) The new entity is wholly owned by the Licensee.

(2) The new entity is properly formed and authorized to do business in Wisconsin.

(3) The written assignment requires the new entity to assume all of the Licensee's rights, duties and obligations under the License including but not limited to the letter of credit requirements and the certificate of insurance requirements.

V. LICENSE APPLICATION PROCEDURE FOR WIND ENERGY SYSTEMS

A. Any person desiring to secure a Wind Energy Systems license shall file an application together with two additional copies of the application with the Magnolia Town Clerk.

B. The application shall be on a form provided by the Magnolia Town Clerk.

C. The following information shall be required of each Applicant, and must be provided under oath or affirmation:

(1) Name, address, and phone number.

(2) If the Applicant is a corporation, partnership, limited liability company or limited liability partnership, the application shall include the name of the business entity; the date of incorporation, registration or organization; the state in which the entity was incorporated, registered or organized; the name and address and home numbers of the registered agent where applicable; the names and addresses of all officers and directors; operating or managing partners or general partners; managing members or managers, whichever is applicable for the particular form of business entity.

(3) Name and address of any other current or past Wind Energy Systems operated by the Applicant whether in this State or any other State or District within the United States.

(4) Name, address and phone number of an individual who is responsible for the day-to-day operation of the facility, who will be deemed the Operator for purposes of this section, and who will be the contact Person for the municipality.

(5) A statement that the Applicant is familiar and in compliance with the provisions of this section of the County's/Town's code, including the responsibility to reimburse all reasonable costs and professional fees associated with the processing, examination and analysis of the proposed facility.

D. Each application shall be accompanied by:

(1) A site plan which meets all the requirements of this Section and applicable provisions of the Town of Magnolia Zoning Code pertaining to Land Use Permits, as well as any additional site specific requirements of the Town of Magnolia in accordance with the technical requirements in this ordinance. Each application shall be accompanied by a site plan of the Wind Energy System Tower Site(s), including total acreage occupied by the facility, a detailed map of the area showing parcel boundaries, individual Wind Turbine locations, accessory structures (transmission lines, substations, etc.), and a complete list of participating property owners and grantors of related leases and easements. In addition, each application shall be accompanied by:

(a) A pre-construction noise survey within a one mile radius of each proposed Wind Turbine location showing ambient background noise levels over a six-month period prior to final layout and construction, as recommended by the 2007 NRC Report, "Planning or and Regulating Wind Energy Development", in Box 5-4, pages 214-215.

(b) Sound study: For any proposed WESF, the applicant shall submit with initial application for licensure, a sound study prepared by a Full Member or Board Certified Member of INCE who is qualified to do so based on training, education and experience and approved by the Town. The study shall include:

(i) The predicted impact of the proposed WESF on all residents within a one mile radius of each proposed Wind Turbine.

(ii) Measures and sound propagation calculations to be based on recorded site specific wind speed data at 10 meters above the ground. Calculations will be made using down wind conditions, creating a "worst case" scenario.

(iii) Sound modeling and calculations are to be done per IEC 61400 part 11, Wind Turbine Generator Systems Acoustic Measurement Techniques.

(iv) Computer modeling to show noise contours in both stable and unstable atmospheric conditions. Separate studies for daytime and nighttime conditions are required.

(v) Computer modeling to show noise contours accounting for likely modulation effects, i.e. blade icing noise and blade beating noise.

(vi) Sound studies are to include decibel levels with A and C weighting.

(vii) Inclusion of varying surface roughness and vegetated conditions.

(viii) A description of the project's proposed noise control feature, i.e. relocation or elimination of proposed turbines.

(ix) A description of the project's noise abatement program if the WESF exceeds predicted sound pressure levels.

(c) An environmental study specifically indicating, but not limited to, the impact the project will have on the groundwater beneath and in the vicinity of the proposed Wind Turbine sites.

(i) If the proposed WESF foundations will require breaking up and removing bedrock, the applicant shall establish a baseline inventory, conducted by a state-approved laboratory, of existing water quality conditions of all wells within the project boundary and a one-mile radius prior to excavation. The applicant shall conduct a water well baseline inventory of existing water quality conditions prior to application/licensure approval. Within thirty (30) days of the date when the project becomes fully operational, the applicant shall submit to the Zoning Administrator a water well study conducted by a state-approved laboratory, proving that the WESF has not affected the water quality of wells located within the project boundary and a one-mile radius. The applicant shall remediate any and all adverse impacts to water wells located within the project boundary and a one-mile radius beyond occasioned by or in any manner related to the installation, operation, maintenance, and repair or decommissioning of the WESF.

(d) Ice Throw Calculations plan: A report from a Wisconsin professional engineer that: a) calculates the maximum distance that ice from the turbine blades could be thrown. (The basis of the calculation and all assumptions must be disclosed.); and b) the incidence of reported ice throws and the conditions reported at the time of the ice throw.

(e) Blade Throw Calculations Plan: A report from a Wisconsin professional engineer selected by the Town, that: a) calculates the maximum distance that pieces of the turbine blades could be thrown (the basis of the calculation and all assumptions must be disclosed) and b) the incidence of reported blade throws and the conditions at the time of the blade throw.

(f) Shadow flicker and blade glint map. Shadow flicker and blade glint zone map: The applicant shall provide a shadow flicker and blade glint model for each proposed wind energy conversion unit. The model shall: Model and describe the zones where shadow flicker and blade glint will likely be present within the project boundary and a one-mile radius beyond the project boundary using the proposed Wind Turbine's height and rotor diameter. Include the topography, existing residences. Locations of their windows, locations of other structures, wind speeds and directions, and existing vegetation and roadways. The model shall represent the worst case scenarios of wind constancy, sunshine constancy, and wind directions and speeds. Calculate the locations of shadow flicker caused by the proposed project and the expected durations of the flicker at these locations including outdoor view sheds, calculate the total number of hours per year of flicker at all locations including the outdoor view shed. Identify problem zones within a one-mile radius where shadow flicker will interfere with existing or future residences and roadways and describe proposed measures to mitigate these problems, including but not limited to a change in siting of the facility, a change in the operation of the facility. Name and address of property owners within shadow flicker and/or blade glint zones.

(Note: Since a new rule about calculation of shadow impact, which states that the calculation should be made for the building lot (garden), instead of window, has been introduced by the Swedish building authority (Boverket), the time for shadow impact in Klintehamn has been calculated for both lot and façade. There is a statistically significant *moderate* connection between shadow *minutes/day on facade* and annoyance. *Wind Power Environmental Impact of Wind Power Station Siting,*(VINDKRAFTENS MILJÖPÅVERKAN FALLSTUDIE AV VINDKRAFTVERK I BOENDEMILJÖ), A. Widing *et al*, Centrum för Vindkraftsinformation Institutionen för naturvetenskap och teknik, Gotland University, Sweden, 2004).

(g) Stray voltage and ambient voltage test/plan. Stray/ambient Voltage Test Results: The applicant must perform two pre and post construction stray voltage tests on all livestock facilities within the project boundary and a one-mile radius beyond the project boundary. The tests shall be performed by a mutually acceptable Wisconsin certified stray voltage investigator twice in the spring and twice in the fall. The tests shall be performed according to PSCW Phase II Stray Voltage Testing Protocol. A copy of the test results shall be sent to each of the following: property owners and Magnolia Town Planning and Zoning Chairman, and Magnolia Town Building Inspector. Applicant shall receive written permission from property owners prior to stray voltage testing. It shall be understood that when permission is denied, all responsibility for stray voltage remains with the property owner. Same two tests are required post construction, when turbines are in operation.

(h) Fire prevention, emergency response & rescue plan: A statement of the potential fire and rescue scenarios and a plan to identify, fund and provide rescue service agencies to ensure readiness and appropriate response.

(i) Financial security plan; See VII. Herein.

(j) Security Plan to prevent unauthorized remote access to the WESF computer control system by a hacker.

(k) Note: With the exception of D1, D1a, &D1c. The Town Board may elect to waive remaining requirements(s) in this section (D) if requested to do so by the applicant. Applicant shall provide the Town Board with reasonable explanation for requested requirements to be waived; The Town Board shall hold a Public Hearing on said considered requirement waivers submitted by the applicant.

(2) Decommissioning and Site Restoration Plan: Plan shall address items mentioned in Section VI. subsection N. of this ordinance. The applicant shall provide photo documentation of each proposed Wind Turbine and access road site prior to construction so as to clearly display site in pre construction condition for future reference.

(3) Each application shall be signed by the Applicant and by all participating property owners.

(4) Each application shall be accompanied by payment of nonrefundable application fee to be determined from time to time by separate resolution of the Town Board. Filing of the application does not occur until this fee has been paid.

(5) The Magnolia Town Clerk shall date the filing of the application in the face of the application.

(6) Upon receipt of the application, the Magnolia Town Clerk shall distribute a copy of the application to all other affected Towns in the County, the Town of Magnolia Board, the Town of Magnolia Plan Commission/Building Inspector and all affected Town Fire /EMS Departments.

(7) The Town of Magnolia Board may refer the application to a qualified Wisconsin engineer or a qualified consulting engineer for further review. The reasonably necessary costs associated with the engineering review shall be the responsibility of the applicant, in accord with the terms of this ordinance.

(8) The Town of Magnolia Board may refer the application to a committee for an initial public hearing and recommendation to the Town Board. It may also hold a public hearing of its own on the application.

(9) The Town of Magnolia Board shall refer the application to a public hearing for purposes of receiving public comment.

(10) Following a public hearing and review, the Town of Magnolia Board shall either grant the license or deny the application after reviewing the application for compliance with the licensing standards found in this ordinance and under state law. A license may be granted with conditions. No license may be granted for a period of time to exceed 30 years.

(11) If the license is granted by the Town of Magnolia Board, then the Town Clerk shall issue the license within seven (7) business days. A license may be revoked at any time by the Town of Magnolia Board for good cause, including but not necessarily limited to protection of public health and safety. A license shall be initially effective for one year from the date of issuance. If construction has not begun within one-year of issuance, the license shall expire and the Licensee shall be required to apply for a new license.

(12) If the Town of Magnolia Board decides to deny the application for a license, the Board shall immediately notify the Applicant in writing of the reasons for denial. Such notice shall be sent to the Applicant within five (5) business days of the decision by certified mail, return receipt requested.

(13) Any Applicant or other person aggrieved by such a decision of the Town of Magnolia Board, including any resident or owner of property in the Town, shall be entitled to immediately appeal the Board's decision in circuit court. Such an appeal must be made within 30 days of the date of the written decision by the Board. The Town of Magnolia explicitly elects not to be governed by Wis. Stat. Ch. 68, and to provide the review procedures described in this Section.

(14) Each license issued for a Wind Energy System shall state on its face the name of the licensee, the name of the establishment, the street address of the establishment, the date of issue of the license and its expiration date.

VI. TECHNICAL REQUIREMENTS FOR LICENSING

This ordinance is intended to require implementation of restrictions through licensing regarding the design, construction and operation of Wind Energy Systems. It is recognized that the restrictions herein are neither exclusive, nor exhaustive. In instances where a health or safety concern is identified with regard to any application for a Wind Energy System, additional and/or more restrictive conditions may be included in the license to address such concerns. All rights are reserved to impose additional restrictions as circumstances warrant. Such additional and/or more restrictive conditions may include, but are not limited to: a) longer setbacks from nearby property lines, roads, power lines, residences, businesses and inhabited structures; b) more restrictive noise limitations, and c) more restrictive limitations to protect surface water and groundwater.

A. Design.

Each Wind Turbine shall consist of a tower, generator(s), nacelle and blades. The total height of a Wind Turbine cannot exceed 400 feet above grade. Each WESF site must have access roads, underground transmission cabling to connect the generators to local utility electric distribution lines, and underground fiber optic lines. The application shall disclose the nature and type of the proposed Wind Turbine to be installed. Detailed product literature shall accompany the application. Each Wind Turbine shall also comply with the following design requirements (a) Wind Turbines shall be painted a non-reflective, non-obtrusive color; (b) at each WESF site, the design of the buildings and related

structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the WESF to the natural setting and the existing environment; (c) Wind Turbines shall not be artificially lighted, except to the extent required by the FAA or other applicable authority; strobe or other intermittent lights are prohibited; (d) Wind Turbines shall not be used for displaying any advertising, except for reasonable identification of the manufacturer or operator of the WESF; (e) electrical controls and control wiring and power-lines must be wireless or not above ground, except where wind farm collector wiring is brought together for connection to the transmission or distribution network, adjacent to that network; and (f) the clearance between the ground and the Wind Turbine blades shall be at least 40 feet.

B. Aircraft Protection.

The wind turbine generator tower shall be marked as required by the Federal Aviation Administration (FAA). There shall be no lights on the outside of the tower other than what is required by the FAA or other applicable authority or as otherwise agreed in connection with the issuance of the License. Notwithstanding the foregoing, this restriction shall not apply to infrared heating devices used to protect the monitoring equipment. The tower shall be connected to an uninterruptible back-up power source to ensure continuous compliance with FAA regulations. To the extent consistent with FAA regulations, shrouding for the lights shall direct reflection of light up. Aircraft safety and protection shall also be accomplished by establishing sufficient setbacks between all Wind Turbines and adjoining properties in order to allow for safe crop-dusting of agricultural fields, and safe emergency medical aircraft landings on all adjoining properties.

C. Blasting.

Licensee shall not undertake any blasting in connection with the construction of the Facility unless Applicant shall have notified the Town of Magnolia and submitted a blasting plan consistent with applicable laws and regulations. The plan must be reviewed and approved by the Town of Magnolia Board after it has been submitted by the Licensee before any blasting may take place. The plan shall provide, at a minimum, (a) all blasts must comply with the State ground vibration limitations; (b) flyrock traveling in the air or along the ground must remain in the controlled blasting area site owned or controlled by the applicant; (c) all blasting must be performed by or under the direct supervision of a State-licensed blaster; (d) a blasting log for each blast will be kept on-site at the WESF office for not less than 5 years, and copies of the required blasting log will be promptly submitted to the Town of Magnolia upon its request; (e) a resident call list must be established for the purpose of notifying neighbors at homes in the vicinity of the WESF of eminent blasting activity. This call list must be

maintained and utilized on a "request basis only" for all residents in the vicinity of the WESF who asked to be notified prior to any blast; and (f) the storage of explosives will be in accordance with Wis. Admin. Code Ch. Comm. 7.

D. Electromagnetic Interference.

The Licensee shall minimize or mitigate any interference with electromagnetic communications, such as radio, telephone or television signals caused by any WESF.

E. Emergency Shutdown.

Licensee shall be required to immediately cease operations for the duration of any Emergency. Emergency shall mean a proven condition or situation caused by the Facility that presents an imminent physical threat of danger to life or significant threat to property.

F. Groundwater Protection.

Licensee shall operate the Facility so as not to cause groundwater contamination in violation of applicable law. Nothing contained in the license is intended to authorize or permit any degradation of the quantity or quality of the groundwater in connection with the WESF. Furthermore, no wells may be drilled within the boundaries of the WESF site, and no excavations deeper than nine (9) feet below the surface of the soil shall be allowed in the construction of any Wind Energy Facility or Wind Turbine. In addition, the licensee shall complete a plan for managing surface water runoff to prevent pollution of groundwater through sinkholes and infiltration through the soil and underlying bedrock within a 1,000-foot radius of each Wind Turbine site and along all access roads and driveways leading to Wind Turbine sites. The plan shall provide for surface water management so that the water flows away from the Wind Turbine sites and known sinkholes rather than toward them.

G. Noise.

(1) Noise emitted by Wind Turbines shall not exceed 38 dBC, 35 dBA, or 5 dBA over background ambient noise levels, whichever is lower, when measured from the outside of the nearest residence, business, school, daycare facility, church, hospital and other inhabited structures. (Note: This restriction is based on the German standard of "35dB(A) for rural nighttime environments," as reported by the 2007 NRC Report at page 159, and on the need to prevent the types of adverse public health effects from wind turbines as documented and reported by Dr. Nina Pierpont and others who have done research on this issue and lived near wind turbines. *See*

Health Effects of Wind Turbine Noise, Nina Pierpont, MD, PhD, available online at: www.ninapierpont.com.)

(2) In the event noise due to WESF operations contains a steady pure tone, such as a whine, screech, or hum, the standards for noise set forth in subparagraph (1) of this subsection shall be reduced by five (5) dBA. A pure tone is defined to exist if the one-third (1/3) octave band sound pressure level in the band, including the tone, exceeds the arithmetic average of the sound pressure levels of the two (2) contiguous one-third (1/3) octave bands by five (5) dBA for center frequencies of five hundred (500) Hz and above, by eight (8) dBA for center frequencies between one hundred and sixty (160) Hz and four hundred (400) Hz, or by fifteen (15) dBA for center frequencies less than or equal to one hundred and twenty-five (125) Hz.

(3) In the event the ambient noise level (exclusive of the development in question) exceeds the applicable standard given above, the applicable dBA standard shall be adjusted so as to equal the ambient noise level. The ambient noise level shall be expressed in terms of the highest whole number sound pressure level in dBA, which is succeeded for more than five (5) minutes per hour. Ambient noise levels shall be measured at the exterior of potentially affected existing residences, schools, hospitals, churches and public libraries. Ambient noise level measurement techniques shall employ all practical means of reducing the effect of wind-generated noise at the microphone. Ambient noise level measurements may be performed when wind velocities at the proposed project site are sufficient to allow Wind Turbine operation, provided that the wind velocity does not exceed thirty (30) mph at the ambient noise measurement location.

(4) Any noise level falling between two whole decibels shall be the lower of the two.

H. Public Roads.

Licensee shall, prior to the initiation of construction and use of haul roads, consult with the Town of Magnolia Road Commissioner, the Town Board, the Wisconsin State Police and the County Sheriff's Office for load paths and restrictions on their respective roads or bridges. At Licensee's expense, Licensee shall provide the Town of Magnolia Road Commissioner and the Town Board with a videotape documenting the condition of all haul roads in the Town of Magnolia prior to beginning and after completing construction of the Facility. At Licensee's expense, the Licensee shall contract with qualified contractors to repair any damage to the haul roads due to transportation of equipment and Facility components ("Road Repair Obligations"). In the event a hazardous road condition

exists that is not promptly corrected by Licensee, the Town of Magnolia Road Commissioner and/or Town Board may order emergency road repairs be performed by qualified contractors, and Licensee shall promptly reimburse the Town of Magnolia for reasonable emergency road repair costs. Licensee shall assure funding of the Road Repair Obligations by a letter of credit or guaranty from a contractor of Applicant. Weather permitting, the final Road Repair Obligations shall be completed to the reasonable satisfaction of the Town of Magnolia Road Commissioner and the Magnolia Town Board within six (6) months after completion of construction of the Facility, or as soon thereafter as weather conditions permit.

I. Screening.

Licensee shall design the Facility so as to minimize visual impacts such as glare, reflection or shadow flicker. Complaint of such visual impacts occurring inside any residence exceeding five (5) hours per year shall be dealt with in accordance with the Reporting and Complaint Resolution procedures herein.

J. Setbacks.

Wind Turbines shall comply with the following minimum setbacks, which may be increased on a case-by-case basis by the Town Board in order to protect public health and safety:

(1) Setbacks.

Each Wind Turbine must be set back:

(a) At least 1,000 feet from the nearest property line and at least 5 times the rotor diameter of the turbine from the property lines of all adjoining property owners who have not granted an easement for a lesser setback. (Windustry-Turbines should be sited no less than *five-times their rotor diameter from property lines*, unless written permission is given by the neighbor. *Explanation:* This recommendation is designed to protect wind rights of all landowners and minimize the impact of wind turbines on neighbors. Wind turbines produce wake effects 8-11 rotor diameters downwind. Requiring a setback of 5 rotor diameters from property lines provides a buffer that will protect the wind rights of all landowners in the vicinity of a wind project. We believe clear standards for *property line setbacks* are critical to preventing disputes over wind rights now and in the future. Without standards, conflicts among neighbors and among wind developers can arise. (Source-Wind

Energy Easements and Leases: Best Practices and Policy Recommendations).

(Note: The above 1000 foot setback is consistent with EcoEnergy LLC, a division of The Morse Group, and its partner company Acciona who agreed to follow 1,000 foot setback guidelines for wind farms in Stephenson County, IL. Shawn Gaffney, president of EcoEnergy, said his company's voluntary compliance is part of an effort to improve communication and relations with landowners and the public. "I think we feel it would be in keeping with the spirit of being a good neighbor," Gaffney said of the voluntary compliance. (*September 29, 2007 by Travis Morse in The Journal-Standard*), and also consistent with the 1000 feet from the nearest property line setback in the Town of Stockbridge, WI, another EcoEnergy Project. Manitowoc County, WI supports 1000 feet from the nearest property line).

(b) At least 1,000 feet or three (3) times the total height of the Wind Turbine, whichever is greater, from any public road, railroad or power line right-of-way.

(c) At least 1,000 feet or three (3) times the total height of the Wind Turbine, whichever is greater, from the nearest above-ground public electric power line or telephone line.

(d) At least 2,640 feet from the nearest residence, business, school, daycare facility, church, hospital and other inhabited structures. Although the Town does not support a lesser setback less than 2,640 feet from an inhabited structure to protect Public Health and Safety, the owner of a private residence or business may agree to grant an easement subject to review and approval by the Town Board to allow a reduced setback. The setback in such cases shall never be less than 1000 feet or three (3) times the total height of the Wind Turbines whichever is greater from a private residence or business. However, the setback from schools, daycare facilities, churches, hospitals and other inhabited structures shall never be less than 2,640 feet.

(Note: The WI Model Wind Ordinance 1000 foot setback is not supported by any public health and safety documentation verified through Public Records requests).

(Note: The above setbacks are based on the 2007 NRC Report, which states at page 158 that, "some people feel disturbing amounts

of vibration or pulsation from wind turbines," but the "noise produced by wind turbines generally is not a major concern for humans beyond a half mile (2,640 feet) or so because various measures to reduce noise have been implemented in the design of modern turbines." The 2007 NRC Report also states on page 161 that, "shadow flicker can be a nuisance to people living near a wind-energy project. It is sometimes difficult to work in a dwelling if there is shadow flicker on a window....If a turbine is close to a highway, the movement of the large rotor blades and possible resulting flicker can distract drivers. Irish guidelines, for example, recommend that turbines be set back from the road at least 300 meters." See 2007 NRC Report at 161. However, longer residential setbacks of up to 1.5 miles are recommended by some experts to fully protect public health and safety. *See Health Effects of Wind Turbine Noise*, Nina Pierpont, MD, PhD, available online at: www.ninapierpont.com. This setback is also consistent with recommendations cited in the NWCC (National Wind Coordinating Committee) Permitting of Wind Energy Facilities Handbook 1998, at page 36.) If an easement is granted for a lesser setback, the easement must be recorded with the County Register of Deeds which describes the benefited and burdened properties and which advises all subsequent owners of the burdened property.

(e) At least 1,000 feet from all sinkholes to prevent groundwater contamination.

(f) One mile from emergency communications towers.

(g) At least 2,640 feet from property lines of any parks and public land.

(2) Spacing and Density. A Wind Turbine must be separated from every other Wind Turbine by a sufficient distance so that it does not interfere with the other Wind Turbine.

K. Signage and Fencing.

Licensee shall provide reasonable signage at the Facility, identifying the Premises as being part of the Facility and providing appropriate safety notices and warnings against trespassing. The no trespassing signs shall be posted around the entire premises at an appropriate distance for posting but no less than two conspicuous places for every 40 acres within the Facility. Signs should be sized at a minimum to meet the provisions of Wis. Stat. § 943.13(2).

No advertising material or signage other than warning, equipment information or indicia of ownership shall be allowed on the Wind Turbines. This prohibition shall include the attachment of any flag, decorative sign, streamers, pennants, ribbons, spinners or waving, fluttering or revolving devices, but not including weather devices.

Information is to be posted on each Wind Turbine so that the owner can be contacted in the event of a noise complaint. The placard must provide a telephone number for law enforcement or officials to call to investigate a noise complaint, sound level measurement, or administration of this ordinance.

L. Stray & Ambient Current/Voltage

Licensee shall utilize Good Utility Practice, as approved by the Town of Magnolia Board, to minimize, to the extent practicable, the impact, if any, of stray & ambient current/ voltage caused by the Facility. See (D)(1)(g) herein.

M. Reporting and Complaint Resolution Procedure.

Licensee shall report to the Town of Magnolia as follows:

(1) Extraordinary Events. Within 24 hours of any extraordinary event, Licensee shall notify the Town of Magnolia. "Extraordinary events" shall include tower collapse, catastrophic turbine failure, unauthorized entry to the tower base, thrown blade or hub, any injury to a Facility worker or other person that requires emergency medical treatment, or other event that in Licensee's opinion reasonably impacts the public health and safety of the Town of Magnolia.

(2) Complaints. The Licensee of the Wind Energy System Facility shall, at the Licensee's expense and in coordination with the Town of Magnolia develop a system for logging and investigating all complaints related to the operation of the Wind Energy System Facility. If the Town determines that it is reasonably necessary, it may undertake an investigation of the complaints by a qualified individual acceptable to the Town of Magnolia Board. The reasonable cost and fees incurred by the Town of Magnolia in retaining said qualified individual shall be reimbursed by the owner of the Wind Energy System Facility. After the investigation, if the Town of Magnolia Board reasonably concludes that operational violations or other public or private nuisances are shown to be caused by the Wind Energy System Facility, the Licensee shall use reasonable efforts to mitigate or eliminate such problems on a case-by-case basis, as required by the Town of Magnolia Board, including, but not necessarily limited to, measures such as planting trees and installing awnings, limiting the hours

of Wind Turbine operation, and/or removal and decommissioning of Wind Turbines.

N. **Turbine Decommissioning and Site Restoration Plan**. Each Wind Turbine and all related improvements shall be removed in accordance with the Decommissioning and Site Restoration Plan as submitted in the application and approved by Town of Magnolia Board. (Note: Decommissioning costs determined on a case-by-case basis by estimates that are site specific as part of the permit process. Inflation for 30 years to be taken into consideration).

The owner of a Wind Energy Facility and the underlying property owners shall be jointly liable for the removal of all equipment associated with the Wind Energy Facility at the end of the permit period, the useful life of the facility, or when the facility is abandoned or otherwise out of operation for more than six months, at their expense. Upon removal of a Wind Energy Facility, the owner of the facility and the underlying property owners shall be jointly liable for restoration of the site to its original condition at their expense. The restoration shall include removal of all materials above and below ground; public road repair, if any; and all re-grade and re-vegetation necessary to return the subject property to the condition existing prior to establishment of the Wind Energy Facility. All hazardous materials shall be removed from the site and disposed of in accordance with state and federal laws.

The owner of a Wind Energy Facility and the underlying property owner shall provide proof of financial responsibility for the removal of the facility and restoration of the site in the form of a bond or an irrevocable standby letter of credit held in trust in favor of the Town of Magnolia, in a form to be approved by the legal counsel for the Town of Magnolia.

VII. INSURANCE AND INDEMNIFICATION

A. Insurance.

All licensees shall maintain the following insurance coverages commencing upon construction of the facility.

(1) Licensee shall, at its expense, maintain a broad form comprehensive coverage policy of public liability insurance insuring Applicant and Participating Landowners against loss or liability caused by Applicant's occupation and use of the Property under the Lease, in an amount not less than Five Million Dollars ($5,000,000) of combined single limit liability coverage per occurrence, accident or incident, which has a commercially reasonable deductible. The Town shall be named as an additional insured on the policy.

(2) Worker's compensation coverage in an amount required by Wisconsin law. Applicant shall require subcontractors and others not protected under its insurance to obtain and maintain worker's compensation and employers' liability insurance.

(3) Certificates of insurance evidencing compliance with these requirements shall be provided upon request of the Town of Magnolia. The insurer will provide notice to the Town of Magnolia in the event there is a lapse in coverage exceeding thirty (30) days. All policies other than worker's compensation shall be written on an occurrence and not on a claim-made basis.

B. Defense of Land Use Decision and Indemnity.

(1) Defense of Land Use Decision.

In addition to the indemnification described below, Licensee shall reimburse the Town of Magnolia its reasonable attorneys' fees incurred in defending any legal actions brought by third parties challenging the legality or enforceability of this ordinance or any portion thereof, or the issuance of a License by the Town of Magnolia pursuant to this ordinance. If the Town of Magnolia seeks reimbursement, it shall notify Licensee in writing promptly upon discovering any claim entitling it to a land use defense reimbursement, but in no event later than 120 days after receiving written notice of any action, lawsuit, proceeding, investigation or other claim against it which may give rise to a claim for a land use defense reimbursement. Licensee shall not be obligated to reimburse the Town of Magnolia with respect to any such liability, action or claim if the Town of Magnolia fails to notify Licensee thereof in accordance with the provisions of this section in sufficient time including, without limitation, any responsive motion or answer to a complaint, petition, notice, or other legal, equitable action or claim, but only insofar as such knowing failure to notify Licensee has actually resulted in prejudice or damage to Licensee. With respect to any third party action, lawsuit, proceeding, investigation or other claim which is subject to reimbursement under this section, Licensee shall be entitled to assume and control (with counsel of its choice) the defense of such action, lawsuit, proceeding, investigation or other claim at Licensee's expense; provided, however, that the Town of Magnolia shall be entitled to participate in the defense of such claim and to employ counsel of its choice for such purpose (the fees and expenses of such separate counsel to be borne by the Town of Magnolia) and to assert against any third party any and all cross claims and counterclaims the Town of Magnolia may have, subject to Licensee's consent, which consent shall not be unreasonably withheld. If Licensee elects to assume the defense of any such claim, it may settle such claim in its sole discretion so long as either (i) such settlement provides an unconditional release of the Town of Magnolia, or (ii)

Licensee shall obtain the prior written consent of the Town of Magnolia (which consent shall not be unreasonably withheld). If Licensee elects to assume the defense of any claim, the Town of Magnolia shall fully cooperate with Licensee and its counsel in such defense.

(2) Indemnification.

Licensee shall defend, indemnify and hold harmless the Town of Magnolia and its officials, employees and agents from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses and liabilities whatsoever, including reasonable attorneys' fees (such liabilities together known as "Liability") arising out of Licensee's selection, construction, operation and removal of the Wind Turbines and affiliated equipment including, without limitation, Liability for property or personal injury (including death), whether said Liability is premised on contract or on tort (including without limitation strict liability or negligence). This general indemnification shall not be construed as limiting or qualifying the County's/Town's other indemnification rights available under law.

VIII. STANDARDS

A. Construction Standards.

Wind Turbines shall be constructed in compliance with Good Utility Practice for Wind Turbines. In the event after inspection by a qualified expert in Good Utility Practice, the Town of Magnolia concludes that any of the Wind Turbines were not constructed in compliance with Good Utility Practice or constitutes a danger to persons or property, then upon notice being provided, Licensee shall have 90 days to bring the non-compliant Wind Turbine(s) into compliance with such standards. If 90 days is insufficient time to cure the non-compliance, Licensee shall present a plan to the Town of Magnolia describing the reason for the delay and the time frame for the cure to be put in place. Failure to bring such non-compliant Wind Turbine(s) into compliance or failure to provide a plan for compliance within 90 days shall constitute grounds for the Town of Magnolia Board to order immediate removal of said Wind Turbine(s) at Licensee's expense.

B. Performance Standards.

Any Wind Energy System or Wind Energy System Facility shall be operated and maintained consistent with Good Utility Practice for comparable facilities.

C. State and Federal Standards.

Construction of Wind Turbines shall meet or exceed current standards and regulations, if any, of any other agency of the state or federal government with the authority to regulate wind powered generators. If such standards and regulations are changed and retroactive application is required for the change, then Licensee shall bring the Wind Turbine(s) into compliance with such applicable revised standards and regulations within 6 months of the effective date of such standards and regulations, unless a different compliance schedule is permitted by the controlling state or federal agency or approved by the Town of Magnolia. A Determination of No Hazard for each Wind Turbine must be obtained from the FAA for each Wind Turbine as a condition precedent to the receipt of a license under this ordinance.

D. Wind Turbine Safety Standards.

Licensee shall comply with the following safety standards:

(1) All wiring between the Wind Turbines and substations shall be installed at least four (4) feet underground;

(2) The outside of Wind Turbines shall not be climbable.

(3) All access doors to the towers and electrical equipment shall be locked.

(4) Appropriate warning signage shall be placed on each tower, all electrical equipment, and all entrances.

(5) The Town shall require the WESF operator, in addition to randomized two-token authentication for Internet protection, to enact and maintain physical security protocols including locks and remote intrusion monitoring.

IX. REPAIR AND REPLACEMENT

Licensee shall be authorized to repair and replace the wind turbine generator and associated equipment consistent with Good Utility Practice during the Term of this License as needed to keep the Facility in good repair and operating condition. However, no such repair or replacement shall entitle Licensee to any extension of the Term of this License, even if it extends the useful life of the Facility. If Licensee desires to extend the term of this License in the future, Licensee shall be required to apply for such extension or amendment of this License in accordance with the terms of this ordinance.

X. PROCEDURES FOR ALTERATION OR REVOCATION OF LICENSED PREMISES.

A. Amendment.

Following the granting of a license any licensee who wishes to materially alter any aspect of the licensed premises which was required to be described in the building plan or site plan required under this Section, shall apply to the Town of Magnolia Board for an amendment to the license. The application shall explain the nature of the alteration and the reasons therefore and include a non-refundable application fee. The Applicant shall pay the reasonably necessary engineering expenses, if any, associated with the review. The Town of Magnolia Board shall act on the amendment application consistent with the terms of this ordinance.

B. Revocation of License.

Each of the following occurrences shall constitute a violation of the terms and conditions of this License (a "Violation") and any such Violation shall be grounds for revocation of this License (whatever the reason for such an event of default and whether it shall be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, order or regulation) after the expiration of the notice and cure period and revocation hearing as set forth below:

(1) If Licensee abandons the wind turbine generators located on the premises for a period of one year or more; or

(2) If Licensee fails to observe or perform any material condition or provision of this License for a period of 30 days after it has received written notice of such failure from the Town of Magnolia; provided, however, that a Violation shall not occur if Licensee commenced performance of such obligation within such 30 day period and is diligently proceeding to complete such performance; or

(3) If there is a material failure by Licensee to comply with any statute, regulation, rule, or license administered by any federal, state or county department, agency, or commission directly related to the operation of the wind turbine generator, and if Licensee fails to cure the material failure to comply for a period of 30 days after the date Licensee receives written notice of such failure from the Town of Magnolia or the federal, state or local governmental body or agency with jurisdiction; provided, however, that a Violation shall not occur if Licensee commences performance of such obligation within such 30 day period and is diligently proceeding to complete such performance.

C. Hearing.

The Town of Magnolia shall not revoke any License without first providing Licensee a hearing and the right to respond, including the right to present evidence regarding any defenses or extenuating circumstances (such as Applicant's prompt commencement of remedial measures that cannot reasonably be concluded within 30 days) regarding the alleged Violations or public or private nuisance.

D. Judicial Review.

Licensee shall have the right to appeal any revocation to Circuit Court within 30 days of the date of the revocation.

XI. LICENSE EXPIRATION

Unless the Town of Magnolia Board authorizes a different term based upon analysis of the useful life of the Wind Energy Systems Facility, every license issued pursuant to this Section will terminate upon the expiration of thirty years from the date of issuance.

XII. FEES AND EXPENSES

A. Tax Hold Harmless.

The parties acknowledge that the shared revenue payments payable to the Town of Magnolia under current state law may be revised or revoked by future Legislatures. In the event that the shared revenue payments payable to the Town of Magnolia are eliminated by the Legislature, Licensee will pay to the Town of Magnolia an amount not less than $1,667 per megawatt per year for Wind Turbines actually installed and operating within the Town of Magnolia. Such payments shall be on an annual basis and payable on the 180th day after notice from the Town of Magnolia of Licensee's obligation to pay under this paragraph. Licensee's obligation to make such payments shall cease if the State adopts or implements a new mechanism to replace the shared revenue payments, to the extent that the new payment mechanism produces revenue not less than the revenue payable under the predecessor program.

The parties acknowledge that the shared revenue payments referenced above are paid to the Town directly by the State of Wisconsin, not Licensee. Regardless, Licensee agrees to supplement the Town's annual shared revenue payments actually received by an amount equal to the annual percentage change of the Consumer Price Index as of January 1 of each calendar year beginning on the first January following the date that the Town of Magnolia receives its first payment. For purposes of this escalator clause, the Consumer Price Index means

the U.S. Department of Labor, Bureau of Statistics, Consumer Price Index for the United States, All Urban Consumers, all items, unadjusted index.

B. Reimbursement of Fees and Costs.

Licensee agrees to reimburse the Town's actual reasonable fees and costs incurred in the preparation, negotiation, administration and enforcement of this ordinance, including, without limitation, the Town's attorneys' fees, engineering consultant fees, Town of Magnolia Board meeting and hearing fees, and the costs of public notices. The preceding fees are payable within 30 days of invoice. Unpaid invoices shall bear interest at the rate of 1% per month until paid. The Town of Magnolia may recover all reasonable costs of collection, including attorneys' fees.

C. The Town may enact Impact fees.

XIII. WESF NEIGHBOR AGREEMENT

Licensee may offer to non-participating landowners the opportunity to enter into a Windpower Facilities Neighbor Agreement, provided that such landowner (1) has not otherwise entered into a Ground Lease, Easement or Setback Waiver Agreement with Licensee; (2) has a primary residence or private business located within (one-half mile) 2,640 feet of a project turbine measured from the foundation of the residence or business to the center of the turbine; and (3) owns the property in fee simple and has applied for a building permit on or before the issuance of a license pursuant to this ordinance. A landowner who enters into such an agreement is not a Participating Residence for purposes of this ordinance.

The terms and form of such agreements shall be subject to negotiation between the Licensee and non-participating landowners who may be interested in such an agreement. However, such agreements, once signed, shall be subject to review and approval by the Town of Magnolia Board. If an easement is granted for a lesser setback, the easement must be recorded with the County Register of Deeds which describes the benefited and burdened properties and which advises all subsequent owners of the burdened property.

XIV. SEVERABILITY

If any section, clause, provision or portion of this ordinance is adjudged unconstitutional or otherwise invalid by a court of competent jurisdiction, such judgment shall not affect the remainder of this ordinance.

XV. EFFECTIVE DATE

This ordinance shall take effect upon passage and posting or publication as provided by law.

This ordinance was passed and adopted by the Town of Magnolia Board, Rock County, Wisconsin ,on this _____ day of _____, _____.

TOWN OF MAGNOLIA

By:_____
Chairperson

By:_____
Supervisor

By:_____
Supervisor

Attest:

_____
Clerk

Published and posted this _____ day of _____, _____.

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.

Ampere: The basic unit measuring the quantity of electricity.

Anemometer: A device for measuring the speed and direction of the wind.

Applicant: Means the person, firm, corporation, company, limited liability corporation or other entity which applies for approval under this ordinance, as well as the applicant's successor(s), assign(s) and/or transferee(s) as to any approved WECS or testing facility. An applicant must have the legal authority to represent and bind the landowner or lessee who will construct, own, and operate the WECS or testing facility. The duties and obligations regarding any approved WECS or testing facility shall be with the owner of the WECS or testing facility, and jointly and severally with the owner and operator or lessee of the WECS or testing facility. Also known as owner or operator.

Aerodynamic Noise: Means a noise that is caused by the flow of air over and past the blades of a WECU.

Ambient Noise: Means intermittent noise events such as from aircraft flying over, dogs barking, mobile farm or construction machinery, and the occasional vehicle traveling along a nearby road are all part of the ambient noise environment, but would not be considered part of the background noise unless they were present for at least 90% of the time.

Background Noise: Sounds that would normally be present at least 90% of the time. Also known as the lull in the ambient noise environment.

Blade Glint: Means the intermittent reflection of the sun off the surface of the blades of a single or multiple WECS.

Board: Means the Town Board for the Town of Ridgeville, Monroe County, Wisconsin.

Broadband Noise: Means the "swishing" or "whooshing" sound emitted as a function of a WECS(s) operation.

Employee: Means any and all Persons, including but not limited to "operators" who work in or at, or render any services directly related to operation of Wind Energy Conversion Systems.

FAA: Means Federal Aviation Administration.

Good Utilities Practice: Means any of the practices, methods and acts with respect to the safe operation of the Wind Energy Conversion System (WECS) engaged in or approved by a significant portion of the electric utility industry and, in particular, those portions of the industry with experience in the construction, operation, and maintenance of wind turbines during the relevant period; or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the

decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods or acts generally accepted in the region.

High Voltage Electrical Termination: Means connecting of conductors to a device or system where the voltage exceeds 600 volts.

Hub Height: Means the distance to the center of the wind turbine hub as measured from ground level.

Ice Throw: Means accumulated frozen moisture or ice buildup on the rotor and/or blades of a WECU that is or can be thrown during normal spinning or rotation.

Impermissible Interference: Means the blockage of wind from a wind energy conversion unit or system for which a permit has been granted under this ordinance during a use period if such blockage is by any structure or vegetation on property, an owner of which was notified in advance by certified mail or delivered by hand of any property which the applicant proposed to be limited by the permit. Impermissible interference does not include:

1. Blockage by a narrow protrusion, including but not limited to a pole or wire, which does not substantially block the wind from a wind energy conversion unit or system.

2. Blockage by any structure constructed, under construction or for which a building permit has been applied for before the date the last notice was mailed or delivered.

3. Blockage by any vegetation planted before the date the last notice was mailed or delivered.

Impulsive Noise: Means short acoustical impulses or "thumping" sounds, which vary in amplitude and are caused by the interaction of the wind turbine blades with the distributed air flow around the tower of downwind WECU's.

Inoperable: A WECU shall be determined inoperable if it has not generated power within the preceding two calendar quarters equal to at least 60% of the expected production.

Licensee: Means the applicant and/or successor who has received a license under this ordinance.

Livestock Facility: Means a confinement area designed specifically for raising, controlling, feeding, and providing care for livestock. This may include but is not limited to: dairy barns, pastures, feedlots, free stall barns, calf hutches, horse barns, veal barns,

feed storage areas, brooder and laying barns, farrowing and finishing barns, veterinary care.

Low Frequency Noise: Means an ongoing debilitation sound emitted during periods of turbulence as the blades are buffeted by changing winds that can cause structural vibration.

Measurement Point: (MP): Means the location where sound and/or vibration measurements are taken such that no significant obstruction blocks sound and vibration from the site.

Mechanical Noise: Means sound produced as a byproduct of the operation of the mechanical components of a WECU(s). This is also known as "tonal noise." Tonal noises are distinct and tend to be more noticeable at the same relative loudness of other types of noises.

Meteorological Tower: Means a tower used for the measurement of wind speed and direction, also known as MET tower or wind test tower.

NFPA: Means the National Fire Protection Association.

Nacelle: Means the enclosure located at the top of a WECU tower that houses the gearbox, generator and other equipment.

Noise: Means any unwanted sound.

Non-Participating Property Line: Means a continuous line surrounding all contiguous adjacent parcels of property owned by a single individual, company, corporation, partnership or other entity not part of a proposed Wind Energy Conversion System.

Operator: Means the person who is designated on the license application to be the person in charge of daily operation of the premises and who is to be the Wind Energy Conversion System contact person for the Town.

Ownership Property Line: Means a continuous line surrounding all contiguous adjacent parcels of property owned by a single individual, company, corporation, partnership or other entity.

Person: Means an individual, proprietorship, corporation, association, limited liability entity, or other legal entity.

PSCW: Means the Public Service Commission of Wisconsin.

Project Area: Means all the properties within the project boundary and within a one-mile radius beyond the project boundary of a proposed or approved WECS project.

Project Boundary: Means a continuous line, which encompasses all WECU's and related equipment to be used in association with a WECS project.

Property Line: Means the recognized and mapped property parcel boundary line.

Related Equipment: Means transformers, tower, electrical conductors, termination points, switches, fences, substations, and any other related equipment necessary to operate a WECS.

Residences & Other Buildings: Means all private residences and businesses located 2,640 feet, measured from the foundation of an existing residence or business to the outermost edge of the closest of the circular path of the wind turbine rotor blade of a WECS, further providing a non-participating land owner has applied for a building permit on or before a full and complete application is submitted to the Town Board per Section V of this ordinance.

Sensitive Environmental Area: Means an identified habitat for threatened or endangered species, or another designated environmentally significant area as identified by Town, county, state or federal officials.

Sensitive Receptor: Means places that are likely to be more sensitive to the exposure of the noise or vibration generated by WECS(s). This includes but is not limited to: schools, day-care centers, hospitals, parks, residences, residential neighborhoods, places of worship, and elderly care facilities.

Setback: Means the minimum allowable horizontal distance from a given point or line of reference, such as a thoroughfare right-of way, water line, or prospective line to the nearest vertical wall or other element of building or structure.

Setback Area: Means the land base that falls within a specified setback.

Shadow Flicker: Means the effect when the blades of an operating wind energy conversion unit pass between the sun and an observer, casting a readily observable, moving shadow on the observer and his/her immediate environment.

Shadow Flicker and Glade Glint Zone: Means the land area that falls within the setback for shadow flicker or blade glint.

Stray Voltage (Ground Current): Means neutral-to-earth voltage measured from the electrical system neutral and/or any structure bonded to this neutral to earth that adversely affects humans or animals.

Structures: Means residences, livestock facilities, communications towers, commercial businesses, and all sensitive receptors.

Total Height: Means the distance between the ground at normal grade and the highest point of the installed WECS (being the tip of the blade when the blade is in the full vertical position).

Wetland: Means an area of land, which regularly persists in a wet state, or as otherwise defined by the WDNR.

Wind Energy Conversion Unit (WECU): Means a wind driven machine with an output rating greater than 100 kilowatts (kW) and with a total height of greater than 170 feet that converts wind energy into electrical power for the primary purpose of sale, resale, or off-site use. The WECU includes the tower, turbine, footings, and all equipment associated with individual units including the land beneath encompassing the equivalent area of the circumference of the rotors. Also known as a Wind Turbine.

Wind Energy Conversion System (WECS): Means all WECUs, related transformers, electrical conductors substations, and connection points to transmission or distribution lines.

Wind Energy Conversion System Facility or Facility: Means all of the land and equipment used by the wind energy conversion system and its support facilities including the wind turbine, tower, access roads, control facilities, meteorological towers, maintenance and all power collection and transmission systems.

Wind Energy Conversion System Tower: Means any structure that is designed and constructed primarily for the purpose of supporting the Wind Energy Conversion Unit.

Windmill: Means a wind-driven machine that does not produce electricity.

Wind Test Tower: Means the tower on which meteorological equipment is located to measure wind speed, direction, strength, etc., for the purpose of evaluating a potential for WECS siting.

Wind Turbine: Means a wind driven machine that converts wind energy into electrical power, also known as a Wind Energy Conversion Unit (WECU) or turbine.

WDNR: Means the Wisconsin Department of Natural Resources.

III. LICENSING

A. License Required. After the effective date of this ordinance, no WECS of 170 feet in height or greater shall be constructed, operated or maintained in the Town without a license issued by the Town of Ridgeville Town Board, pursuant to this ordinance. However, WECS of under 170 feet in height and less than 100 kilowatts are exempt from the licensure requirements of this ordinance.

B. Effect of Other Licenses. The fact that an applicant possesses any other valid license or permit required by law does not exempt the applicant from the requirement of obtaining a WECS license under this ordinance.

C. Non-Assignment. A license issued under this ordinance may not be assigned or transferred to any other Person than the Licensee, without the express prior written consent of the Town. Such consent shall not to be unreasonably withheld within one year after issuance of a license, provided the Licensee and the Person who the license is proposed to be assigned or transferred to shall both submit affidavits to the Town demonstrating the following:

1. The new Person who will hold the license wholly owns the new entity.

2. The new entity is properly formed and authorized to do business in the State of Wisconsin.

3. The written assignment requires the new entity to assume all of the Licensee's rights, duties and obligations under the License including but not limited to the letter of credit requirements and the certificate of insurance requirements.

IV. LICENSE APPLICATION PROCEDURE FOR WECS

A. Application. Any person desiring to secure a WECS license from the Town shall file a complete application, together with two additional copies, with the Town Clerk. The application shall be on a form approved by the Town Board and shall be provided to the applicant by the Town Clerk.

B. Required Information. The following information shall be required of each Applicant and shall be provided with the application. The Person(s) filing the application shall sign it under oath or affirmation as witnessed by a Notary Public:

1. Name, address, and phone number of Applicant(s).

2. If the Applicant is a corporation, partnership, limited liability company, limited liability partnership, or other entity recognized by law, the application shall include: the name of the business entity; the date of incorporation, registration or organization; the state in which the entity was incorporated, registered or organized; the name and address and home phone numbers of the registered agent(s) where applicable; the names and addresses of all officers and directors; operating or managing partners or general partners, managing members or managers, whichever is applicable for the particular form of business entity.

3. Name and address of any other current or past WECS developed or operated by the Applicant, whether in the State of Wisconsin or any other state or nation.

4. Name, address and phone number of the individual(s) responsible for the day-to-day operation of the proposed WECS, who will be deemed the Operator for purposes of this section, and who will be the contact Person for the Town.

5. Evidence that the Applicant is the owner of the underlying real estate and other property necessary for the WECS project or that the Applicant has the written permission of the owner(s) of such real estate and other property to make such an Application.

6. A signed statement by the underlying landowner(s) acknowledging that the landowner(s) will be financially responsible if the owner/operator fails to reclaim the site as required, and that any removal and reclamation costs incurred by the Town shall become a lien on the real estate and other property and may be collected from the landowner(s) in the same manner as property taxes.

7. A statement that the Applicant is familiar with, and in compliance with, the provisions of this ordinance, including the responsibility to reimburse all reasonable costs and professional fees associated with the processing, examination and analysis of the application for a license and such further expenses associated with monitoring the WECS and enforcing the terms of the license.

8. Proof of continuous liability insurance in the minimum amount of five million dollars ($5,000,000.00) per occurrence shall be submitted to the Town of Ridgeville indicating coverage for potential damages or injury to landowners, occupants, Town property and Town roads, and other third parties. The Town shall be named as an additional insured on the policy.

C. Additional Information. Each Application shall be accompanied by:

1. Detailed Site Plan. A site plan which meets all the requirements of this Section and applicable provisions of the County Zoning Code pertaining to Land Use Permits, as well as any additional site specific requirements of the Town in accordance with the technical requirements in this ordinance. Each application shall be accompanied by a site plan showing the location of the proposed WECS Tower Site(s), including:

a. Total acreage occupied by the facility;

b. A detailed map of the area showing parcel boundaries and individual Wind Turbine locations and their distances to existing structures;

c. Existing structures and proposed facilities;

d. Location of existing and proposed transmission lines, substations, driveways, access and maintenance roads, etc. All proposed electric transmission and distribution lines shall shown and shall be placed underground;

e. Location of meteorological or wind testing towers; and

f. Location of wells, abandoned and active, within a half-mile radius of project boundary.

2. Specific Information. The applicant shall provide specific information on WECS including:

a. The type, size, total installed height, rotor material, rated power output, performance history, safety history, and noise characteristics of each type of WECS, tower and electrical transmission equipment. Identify the length of service of the proposed components.

b. A structural safety certificate shall be provided from a professional engineer stating that the structure is of new construction and not refurbished or rebuilt and has been designed to operate in cold weather conditions and is safe.

c. Photographs or detailed drawings of each wind turbine model including the tower and foundation. Provide design and specifications for all proposed structures and foundations. (Foundation at and around the tower base shall be designed so that no surface water or runoff can access subsurface aquifer at any time during construction, operation or decommissioning.)

d. Detailed computer and photographic simulation(s) overlaid on the existing environment showing the proposed WECS project area fully developed with all proposed wind energy conversion units and related facilities. The format shall be subject to the approval of the Town.

3. Timeline. The applicant shall provide a proposed timeline showing all aspects of construction with a starting and final completion date.

4. Affected Property Owners. The applicant shall submit the name and address of property owners within WECS setback areas. Considering that development rights of adjacent property owners may be forfeited due to these setbacks as per this ordinance, a written agreement for non-development within the specified setback must be obtained and recorded on the affected properties' deeds. Copies of the agreements must be submitted with the application.

5. Impermissible Interference Notification. The applicant shall deliver by certified mail or by hand a notice to the owner of any property, which the applicant proposes to be restricted by the permit. The applicant shall submit to the Town of Ridgeville a copy of a signed receipt for every notice delivered in addition to the following information:

a. The name and address of the applicant, and the address of the land upon which the WECS is or will be located.

b. That the applicant has filed an application.

c. That the permit, if granted, may affect the rights of the notified owner to develop his or her property and to plant vegetation.

d. That any person may request a hearing within 30 days after receipt of the notice, and the address and procedure for filing the request.

6. Wind Access Agreements. Evidence (a signed statement from the applicant and countersigned by the landowner) that the applicant has negotiated with adjacent landowners and has obtained written agreements with all landowners whose wind rights may be affected by the WECS or who could otherwise potentially interfere with the applicant's wind access.

7. Easements, Leases & Property Rights. The applicant shall submit copies of signed letters of intent to grant easements, long-term leases or other property rights from all involved landowners and any governmental units responsible for right-of-ways for access, construction, electric transmission and distribution lines, etc.

8. Notifications. The applicant shall notify the following agencies, via certified mail upon submitting an Application to the Town. Copies verifying proof of delivery shall be provided to the town:

a. Federal Aviation Administration;
b. Wisconsin Bureau of Aeronautics;
c. County Emergency Services Agencies;
d. Local Fire Departments;
e. County Planning & Zoning and Land Records Departments;
f. County Highway Department;
g. County Sheriff's Department;
h. Local School Districts;
i. Local Utilities and Electric Cooperatives;
j. Wisconsin Public Service Commission;
k. Wisconsin Department of Natural Resources; and
l. U.S. Department of Defense facilities located with 50 miles of the proposed WECS.

9. Wind Study. A study documenting minimum, maximum, and average wind speeds and prevailing wind directions over the course of one year. Anemometers shall be calibrated regularly to ensure a measurement of error of 1% or less. All anemometers shall be placed at the expected hub height of the proposed wind turbines. Sufficient wind resources, as described by the U.S. Department of Energy, include areas with a wind power class 4 or higher. The town shall retain the services of an independent, recognized expert to review the results of the wind resources study prior to acting on the application. Said study shall indicate the long-term commercial economic viability of the proposed WECS project.

10. Critical Communications. The applicant shall provide a critical communication study prepared by a registered professional engineer showing that the proposed WECS will not interfere with emergency (fire, police/sheriff, ambulance) radio two-way communications (base stations, mobile, and hand held radios, including digital), paging, television, telephone (including cellular and digital), microwave, satellite (dish), navigational, internet or radio reception communications to and from neighboring areas. The applicant shall provide a signed affidavit stating that the applicant shall be responsible for the full cost of any removal of WECS facilities and any other remediation necessary to provide correct any problems; including relocation or removal of the WECS facilities and any and all related electric transmission lines, transformers, and other components related thereto. The applicant shall maintain equivalent communications throughout the life of the WECS even as future technologies may change.

11. Noise Study. The Applicant shall provide to the Town a pre-construction noise survey within a one mile radius of each proposed Wind Turbine location showing ambient background noise levels over a one year period prior to final layout and construction of the proposed WECS. The noise survey shall be conducted by a qualified person on behalf of the applicant, and shall be reviewed and approved by an independent consultant selected by the Town Board, at the Applicant's expense, prior to review and approval of the Application.

12. Shadow Flicker and Blade Glint. The applicant shall provide a shadow flicker and blade glint model for any proposed wind energy conversion unit. The study shall be conducted by a qualified person on behalf of the applicant, and shall be reviewed and approved by an independent consultant selected by the Town Board, at the Applicant's expense, prior to review and approval of the Application.

13. Ice Throw Calculations. A report from a Wisconsin professional engineer that calculates the maximum distance that ice from the turbine blades could be thrown. The basis of the calculation and all assumptions must be disclosed. The report shall be prepared by a qualified person on behalf of the applicant, and shall be reviewed and approved by an independent consultant selected by the Town Board, at the Applicant's expense, prior to review and approval of the Application.

14. Blade Throw Calculations. A report from a Wisconsin professional engineer that calculates the maximum distance pieces of the turbine blades could be thrown. The report shall be prepared by a qualified person on behalf of the applicant, and shall be reviewed and approved by an independent consultant selected by the Town Board, at the Applicant's expense, prior to review and approval of the Application.

15. Ground Water. An environmental study specifically indicating the impact the project will have on the groundwater beneath and in the vicinity of the proposed Wind Turbine sites. If a Wind Turbine foundation is proposed in a bedrock area, a baseline of all wells and certified public drinking sources in a half-mile radius shall be established and provided to the Town as part of the application. The study shall be prepared by a

qualified person on behalf of the applicant, and shall be reviewed and approved by an independent consultant selected by the Town Board, at the Applicant's expense, prior to review and approval of the Application.

16. Travel Route. The applicant shall provide the town, county and state notice of intended travel routes to proposed WECS site. The applicant shall provide, at is expense, a pre-construction inventory of road conditions performed by a certified Wisconsin professional engineer. The applicant shall abide by all town, county and state laws and ordinances that may affect travel and/or ingress or egress to the WECS facilities.

17. Soils Report. A geotechnical report that shall at a minimum include the following:

a. Soils engineering and engineering geologic characteristics of the site based on on-site sampling and testing;

b. Slope stability analysis;

c. Grading criteria for ground preparation, cuts and fills, soil compaction; and

d. Certification from a registered geotechnical engineer that the soils can support a WECS.

18. Site Preparation & Erosion Control. The applicant shall submit the following:

a. A site preparation plan that has been approved by the County Land Conservation Department. The plan shall show planned storage and retention of topsoil, and all types of subsoil for later site restoration.

b. A construction site erosion plan and storm water runoff control plan that has been approved by the County Land Conservation Department. The plan shall comply with all state statutes and county ordinances. The plan shall be prepared so as to minimize the potential adverse impacts on sinkholes, wetlands, streams and the banks and vegetation along those streams and wetlands, and to minimize erosion or sedimentation.

19. Hazardous Waste. A plan shall be submitted showing compliance with all laws applicable to the generation, storage, clean up, transportation and disposal of hazardous wastes generated during any phase of the proposed WECS life.

20. Fire Prevention, Emergency Rescue Plan. The applicant shall submit a plan to outline preventative measures, and to identify, train and fund fire and rescue personnel to ensure readiness and appropriate response. This plan shall also identify potential fire, rescue, and hazardous materials scenarios over the life of the WECS.

21. Stray Voltage Test Results. The applicant shall perform at least two pre-construction stray voltage tests at all livestock facilities within the proposed project boundary and within a one-mile radius beyond the proposed project boundary. The tests shall be performed by a mutually acceptable Wisconsin certified stray voltage investigator and shall be conducted once in the spring and once in the fall of the year. The tests shall be performed according to the PSCW Phase II Stray Voltage Testing Protocol. A copy of the test results shall be sent to each of the following: property owners, PSCW, local utilities, Wisconsin Public Service Commission, and the Town. The applicant shall obtain written permission from property owners prior to stray voltage testing. If permission is denied, all responsibility for stray voltage problems shall be with the property owner.

22. Lighting Plan. The Applicant shall provide a plan showing lighting on and around all WECS and related facilities. Lighting on WECS shall be lit to FAA minimal standards only using red rather than white lights, if possible. Lighting shall be shielded from ground view to FAA maximum standards.

23. Avian and Bat Impact Study Plan. The applicant shall submit a plan for monitoring the avian and bat impact of the WECS to the Town for its review and approval. Such plan shall document and follow accepted scientific study procedures. In addition, the applicant shall submit a quarterly report to the Town which identifies the number of bird and bat fatalities found within 500 feet of all WECS facilities.

24. Abandonment, Removal and Site Restoration Plan. The applicant shall submit an abandonment, removal and site restoration plan, along with a cost estimate for removal and site restoration, to the Town with the application. The plan shall identify the specific properties it applies to and shall indicate the timeline and process to be used for removal of all materials above and below ground; road repair costs, if any; and all re-grading and re-vegetation necessary to return the subject property to the condition existing prior to establishment of the WECS. The plan shall reflect the site-specific character including topography, vegetation, drainage, and any unique environmental features at the site. The plan shall reflect any standards set forth in this ordinance and shall include a certified estimate of the total cost (by element) of implementing the removal and site restoration plan.

25. Application Fees & Security. The following fees and financial security guarantees shall be paid to the Town by the applicant:

a. Application, Legal and Consultant Fees. The applicant shall pay an application fee of $1,000 to the Town upon filing an application under this ordinance. In addition, within fourteen (14) days of filing an application the applicant shall deposit in a joint escrow account with the Town the sum of $25,000, as partial payment for the appropriate Town expenses in hiring consultants and experts, as these authorities shall, at their discretion, deem desirable. At any time the balance of this fund shall fall below $15,000, the applicant shall submit an additional $15,000 so that the Town's full and actual expenses of examining and verifying the data presented by the applicant shall be

paid in full by the applicant. If at any time the balance of this fund shall fall below $15,000 for a period of 30 days, the application shall be considered to have been withdrawn. The balance of the escrow account, after all the Town's expenses have been paid, shall be returned to the owner/operator after the decommissioning process is complet.

b. Road Repair. An amount to be determined by agreement of the applicant and the Town Board, to be used as security for Town road maintenance and repair, shall be deposited in a joint escrow account with the Town within fourteen (14) days of approval of a license under this ordinance. When determining the amount of such required security, the Town may require an annual escalator or increase based on current construction costs and/or the Federal Consumer Price Index. This security shall be kept in full force and effect during the entire time a WECS is in existence and shall be used to maintain roads during the construction, maintenance and decommissioning of the WECS facility. Such security shall be irrevocable or non-cancelable (except by written consent by both the Town Board and the owner of the WECS) for the life of the approved license. Failure to comply will subject the applicant to revocation of the license.

c. Site Reclamation. Advance payment for WECS site reclamation and restoration shall be placed in a joint escrow account or surety bond, the amount to be determined by the Town Board. Said amount shall be sufficient to fully remove the WECS and all components thereof. Such financial security shall be kept in full force and effect during the entire time while a WECS facility exists or is in place. This financial security shall be irrevocable and non-cancelable until such time as the Town Board certifies that reclamation and restoration are complete and release the obligation.

d. Decommissioning. An appropriate continuous renewal bond amount shall be established for each Wind Turbine for decommissioning should the Owner/Operator fail to comply with the Ordinance requirements or if a Wind Turbine is inoperable for a period of twelve (12) consecutive months.

V. LICENSING PERMIT PROCEDURE

A. Notice & Procedure. After determining that an application is complete, the Town Board shall conduct a public hearing on the application after a class 2 hearing notice is published in the Town's official newspaper. The public hearing shall be held within ninety (90) days, after the Town Board determines that the application is complete. Within fourteen (14) days after the close of the public hearing, the Town Board shall meet in open session to deliberate and make a decision concerning the application. The deliberation meeting shall be noticed to the applicant and the public at least five (5) days prior to the deliberation meeting. The Town Board may have the assistance of legal counsel at the public hearing and the deliberation meeting.

B. Decision on Application. The Town Board shall approve and application and grant a WECS license if it determines that the requirements of this ordinance have been and shall be met by the applicant, and granting the license will not adversely affect

public health and safety. The Town Board may include conditions in the license which go beyond the minimum regulations set forth herein, if the conditions are reasonably necessary to protect public health and safety; do not significantly increase the cost of the system or significantly decrease its efficiency; or allow for an alternative system of comparable cost and efficiency. In addition to other provisions and standards set forth in this ordinance, the Town Board may consider the following factors when establishing such conditions:

1. The proposed ingress and egress;

2. The proximity to transmission lines to link the system to the electric power grid;

3. The number of wind turbines and their proposed locations;

4. The nature of land use on adjacent and nearby properties;

5. The surrounding topography;

6. The proximity to residential structures, residential zoning districts, and areas identified for future residential use;

7. Design characteristics that may reduce or eliminate visual obtrusiveness and the distraction of motorists on nearby roads;

8. Possible adverse effects on migratory birds, raptors, and other animals and plants;

9. Possible adverse effects of stray voltage, interference with broadcast signals, shadow and flicker effects, and noise;

10. Impacts on the orderly development, property values, and aesthetic conditions of the Town as they may also relate to public health and safety and other factors under Wis. Stat. § 66.0401;

11. Effects on public roads;

12. Recommendations from the town boards of adjacent towns, which may be affected by a WECS;

13. Any other factors which are relevant to the proposed WECS.

C. Request for Waiver of Standards by Applicant. If requested by an applicant, the Town Board may waive or reduce the burden on the applicant of one or more of the standards and requirements of this ordinance, if it concludes that the purpose of this ordinance will be met, that any requested waiver(s) by an applicant are justified based on credible evidence or information submitted to the Town Board by the applicant with the application, and that the requested waiver(s) will not adversely affect public

health and safety. The installation and continued operation of a WECS is otherwise contingent on compliance with all standards of this ordinance and all conditions established by the Town Board relative to the approval or conditional approval of an application and licensing permit.

D. Recording & Notice of Decision. The Town Board's decision to approve, conditionally approve or deny an application, the reason(s) for its decision, and any conditions established by the Town Board relative to a conditional approval of an application and license shall be recorded in the Town Board's minutes. The Town Board and Town Clerk shall issue a license to the applicant or inform the applicant that the application for a licensing permit has been denied within thirty (30) days of the Town Board's final action on the completed application. At the same time, the Town Clerk shall publicly post a notice of the final decision of the Town Board at the Town Hall.

E. Appeal to Circuit Court. The Town Board's final decision on approval, conditional approval or denial of an application may be appealed to Circuit Court by anyone aggrieved by the decision, including but not necessarily limited to the applicant or any aggrieved resident or property owner of the Town, within thirty (30) days of the issuance of the decision, and the posting of public notice of the decision, by the Town Clerk. In addition, any revocation of a license or other enforcement action by the Town Board under this ordinance may be appealed to Circuit Court by the applicant or any other aggrieved party within (30) days of actual notice to the applicant or other aggrieved party of such revocation or enforcement action.

VI. DEVELOPMENT & PERFORMANCE STANDARDS FOR LICENSING

A. Development & Performance Standards. All WECS and testing structures shall comply with the Development & Performance Standards set forth in this section. It is recognized that the standards herein are neither exclusive, nor exhaustive. In instances where a health or safety concern is identified with regard to any application for a WECS, additional or more restrictive conditions may be included in the license to address such concerns. The Town reserves the right to impose additional standards as circumstances warrant. Such additional and more restrictive standards may include, but are not limited to: a) longer setbacks from nearby property lines, roads, electric transmission and distribution lines, residences, businesses and other inhabited structures; b) more restrictive noise limitations, and c) more restrictive limitations to protect surface water and groundwater.

B. Design. Each Wind Turbine shall consist of a tower, generator(s), nacelle and blades. Each WECS site shall have access roads, underground transmission cabling to connect the generators to a local utility's electric distribution lines, and underground fiber optic lines. The application shall disclose the nature, type, make and model of the proposed Wind Turbines. Detailed product literature, specifications, and safety guidance for maintenance of the turbines shall accompany the application. Each Wind Turbine shall also comply with the following design requirements:

1. Wind Turbines shall be painted a non-reflective, non-obtrusive color.

2. Each WECS site, the design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the WECS to the natural setting and the existing environment.

3. Wind Turbines shall not be artificially lighted, except to the extent required by the FAA or other applicable authority; strobe or other intermittent lights are prohibited.

4. Wind Turbines shall not be used for displaying any advertising.

5. Wind Turbines shall not display any name or logo.

6. Electrical controls and control wiring and power-lines must be wireless or not above ground, except where wind farm collector wiring is brought together for connection to the transmission or distribution network, adjacent to that network.

7. The clearance between the ground and the Wind Turbine blades shall be at least 75 feet.

C. Aircraft Protection. The wind turbine generator towers shall be marked as required by the Federal Aviation Administration (FAA). There shall be no lights on the outside of the tower other than as required by the FAA or other applicable authority, or as otherwise agreed in connection with the issuance of the license. Notwithstanding the foregoing, this restriction shall not apply to infrared heating devices used to protect the monitoring equipment. The tower shall be connected to an uninterruptible back-up power source to ensure continuous compliance with FAA regulations. To the extent consistent with FAA regulations, shrouding for the lights shall direct reflection of light up. Aircraft safety and protection shall also be accomplished by establishing sufficient setbacks between all Wind Turbines and adjoining properties in order to allow for safe crop-dusting of agricultural fields, and safe emergency medical aircraft landings on all adjoining properties.

D. Blasting. Licensee shall not undertake any blasting in connection with the construction of the Facility unless Applicant shall have notified the Town and submitted a blasting plan consistent with applicable laws and regulations. The plan must be submitted by the Licensee, reviewed and approved by the Town Board, before any blasting may take place. The plan shall, at a minimum, provide that:

1. Blasts must comply with the State ground vibration limitations.

2. Fly-rock traveling in the air or along the ground must remain in the controlled blasting area site owned or controlled by the applicant.

3. All blasting must be performed by or under the direct supervision of a State-licensed blaster.

4. A blasting log for each blast will be kept on-site at the WECS office for not less than 5 years, and copies of the required blasting log will be promptly submitted to the Town upon its request.

5. A resident call list must be established for the purpose of notifying neighbors at homes in the vicinity of the WECS of eminent blasting activity. This call list must be maintained and utilized on a "request basis only" for all residents in the vicinity of the WECS who asked to be notified prior to any blast.

6. The storage of explosives will be in accordance with Wisconsin law.

E. Communications Interference. WECS shall be sited and operated so that they do not interfere with emergency (fire, police/sheriff, ambulance) radio two way communications (base stations, mobile, and hand held radios, including digital) and/or paging, television, telephone (including cellular and digital), microwave, satellite (dish), navigational, internet or radio reception to neighboring areas. The applicant and/or operator of the facility shall be responsible for the full cost of any remediation necessary to provide equivalent alternate service or correct any problems; including relocation or removal of the facility caused or exacerbated by the operation of such equipment and any and all related transmission lines, transformers, and other components related thereto. The applicant shall maintain equivalent communications throughout the life of the WECS even as future technologies may change.

1. The owner/operator of the WECS shall respond within five business days to any request for communications interference investigation by a property owner within the project boundary and a three-mile radius beyond the project boundary. Testing will commence within ten working days of the request. The owner/operator is responsible for mitigating within ten working days from the determination of interference cause attributed to the operation of the WECS.

2. The owner/operator of the WECS shall respond within one business day to any request for communications interference investigation by any emergency agency (fire, police/sheriff, ambulance). Testing will commence within two working days of the request. The owner/operator is responsible for mitigating within two business days from the determination of interference cause attributed to the operation of the WECS.

F. Electromagnetic Interference. WECS shall be sited and operated so that they do not interfere with television, telephone (including cellular and digital), microwave, satellite (dish), navigational, or radio reception to neighboring areas. The applicant and/or operator of the facility shall be responsible for the full cost of any remediation necessary to provide equivalent alternate service or correct any problems; including relocation or removal of the facility, caused or exacerbated by the operation of such equipment and any and all related transmission lines, transformers, and other components related thereto. The owner/operator of the WECS shall respond within five business days to any request for a communications interference investigation by a

property owner within the project boundary and a three-mile radius beyond the project boundary. Testing shall commence within ten working days of the request. Owner/operator is responsible for mitigating within ten working days from determination of interference cause attributed to the operation of the WECS.

G. Groundwater Protection. Licensee shall construct and operate the Facility so as not to cause groundwater contamination in violation of applicable law. Nothing contained in the license is intended to authorize or permit any degradation of the quantity or quality of the groundwater in connection with the WECS.

1. No excavations deeper than nine (9) feet below the surface of the soil shall be allowed in the construction of any Wind Energy Facility or Wind Turbine unless the applicant submits evidence of increased cost or design necessity based on actual foundation designs. Any change in foundation design shall maintain the water quality standards of this ordinance.

2. Wells shall not be drilled within the boundaries of a WECS site.

3. The applicant shall complete a plan for managing surface water runoff to prevent pollution of groundwater through sinkholes, wetlands and infiltration through the soil and underlying bedrock within a 1,000-foot radius of each Wind Turbine site and along all access roads and driveways leading to Wind Turbine sites. The plan shall provide for surface water management so that the water flows away from the Wind Turbine sites and known sinkholes rather than toward them.

4. If a Wind Turbine foundation is proposed in a bedrock area, a baseline of all wells and certified public drinking sources in a half-mile radius shall be established and permanent remedies shall be the responsibility of the developer if contamination occurs.

H. Noise.

1. Audible Sound Limit.

a. No Wind Turbine or group of turbines shall be located so as to cause an exceedance of the pre-construction/operation background sound levels by more than 5 dBA or dBC. The background sound levels shall be the L90 dB sound descriptor (both A and C weighting) measured during a pre-construction noise study during the quietest time of evening or night. Measurements shall be for ten (10) minutes or more. L90 results are valid when L10 results are no more than 15 dB above L90 for the same time period. Noise sensitive sites are to be selected based on wind farm's predicted sound emissions (in dBA, dBC and 1/3 octaves to blade passage frequency), which are to be provided by developer.

b. A 5 dB penalty is applied for pure tones or when the sound emissions fluctuate in amplitude or frequency over time in reasonable synchronicity with the blade revolution.

2. In-Audible (e.g., Low Frequency) Sound Limit.

a. Not to exceed dBC-dBA greater than 20 dB inside or outside any occupied structure.

3. General Clause.

a. Not to exceed 40 dBA or dBC within 100 feet of any occupied structure.

4. Requirements.

a. All instruments must meet ANSI Type 1 performance specifications.

b. Procedures must meet ANSI S12.9 and other applicable ANSI standards.

c. Measurements must be made when ground level winds are 10 mph or less. Background sound measurements are with winds of 5 mph or less. Wind shear in the evening and night often result in low ground level wind speed. At turbine fan heights, the wind is at or above nominal operating wind speeds.

d. IEC 61400 procedures are not suitable for enforcement of these requirements. ANSI standards shall be followed for testing procedures. 5. In the event the noise levels resulting from the WECS exceed the criteria listed above, a waiver to said levels may be granted by the Town Board provided that the following has been accomplished:

(1) Written consent from the affected property owners has been obtained stating that they are aware of the WECS and the noise limitations imposed by this Ordinance, and that consent is granted to allow noise levels to exceed the maximum limits otherwise allowed; and

(2) If the applicant wishes the waiver to apply to succeeding owners of the property, a permanent noise impact easement has been recorded in the Office of the County Register of Deeds which describes the benefited and burdened properties and which advises all subsequent owners of the burdened property that noise levels in excess of those permitted by this Ordinance may exist on or at the burdened property.

I. Fire Protection. The applicant shall prepare a plan in consultation with fire department having jurisdiction over the area prior to construction. The plan shall address all activities at the WES and site from the start of construction through the end of power generation and the final removal and restoration of the site, and shall result in a response plan to address all identified potential fire, rescue, hazardous materials scenarios.

1. The owner/operator shall assure that the WECS and site comply with the following control and prevention measures and incurs associated costs.

a. Fire proof or fire resistant building materials and buffers or fire retardant landscaping.

b. Incorporation of a self contained fire protection system to address nacelle fires and approved by NFPA or comparable underwriter.

c. Maintain firebreak areas cleared of vegetation and maintained as a fire/fuel break as long as the WECS is in operation. Firebreaks shall be 30 feet in width around the periphery of the proposed WECS site, 10 feet in width around all transformers, and 30 feet in width around all buildings.

d. Fire fighting and rescue services, including programs and costs associated with equipment and training, for local fire protection and rescue personnel.

e. Any additional fire fighting or rescue personnel, services, materials, and/or vehicles as may be required to address any call related to the WECS or site that is beyond the capabilities of local fire fighting and/or rescue services.

f. The owner/operator shall be responsible for compliance with all laws applicable to the generation, storage, clean up, transportation and disposal of hazardous wastes generated during any phase of the project's life.

J. Public Roads. Licensee shall, prior to the initiation of construction and use of haul roads, consult with the Town Board, County Highway Commissioner, the Wisconsin State Police and the County Sheriff's Office for load paths and restrictions on their respective roads or bridges. At Licensee's expense:

1. Licensee shall provide, the Town Board, a preconstruction evaluation and identification of road surface materials stating the type and amount of surface cover, PASER ratings, and photographic or video documentation of predetermined designated traffic route, performed by a Wisconsin certified professional engineer mutually agreed upon by applicant and municipality.

2. Licensee shall contract with qualified contractors, approved by the town, to repair any damage to the haul roads due to transportation of equipment and Facility components ('Road Repair Obligations').

3. In the event a hazardous road condition exists that is not immediately corrected by Licensee, the Town Board may order emergency road repairs, be performed by qualified contractors. Licensee shall promptly reimburse the Town for reasonable emergency road repair costs.

4. Licensee shall assure funding of the Road Repair Obligations by a letter of credit or guaranty prior to initiation of any construction.

5. Weather permitting, the final Road Repair Obligations shall be completed to the reasonable satisfaction of the Town Board within six (6) months after completion of construction of the Facility, or as soon thereafter as weather conditions permit.

K. Shadow Flicker or Blade Glint. WECS shall be designed such that shadow flicker or blade glint will not fall on or in any existing sensitive receptor. Shadow flicker or blade glint expected to fall on a roadway or a portion of a residential parcel may be acceptable under the following circumstances:

1. The flicker or glint will not exceed 10 hours per year.

2. The flicker or glint will fall more than 100 feet from an existing residence.

3. The traffic volumes are less than 500 vehicles per day on the roadway.

4. The flicker or glint shall not fall onto an intersection.

5. If shadow flicker or blade glint exceeds any of the conditions listed in this section, the source WECS shall be shut down until the flicker or glint problem has been remedied.

L. Setbacks. Setbacks shall be measured from the outermost edge of the closest of the circular path of the wind turbine rotor blade. The Town Board may increase the following minimum setbacks on a case-by-case basis, in order to protect public health and safety.

1. Participating Property Line: 1.1 times the total height of the Wind Turbine from the nearest property line of a participating property owner.

2. Non-Participating Property Line: Five (5) times the rotor diameter but not less than 1,300 feet from the nearest property line of a non-participating property, unless the owner of the non-participating property grants an easement for a lesser setback. The easement must be recorded with the County Register of Deeds and may not provide for a setback that is less than 1.1times the total height of the Wind Turbine.

3. Public Roads and Highways: 1,300 feet or three (3) times the total height of the Wind Turbine, whichever is greater.

4. Above Ground Power/Telephone Lines: 1,300 feet or three (3) times the total height of the Wind Turbine, whichever is greater, from the nearest above-ground public electric power line or telephone line.

5. Residences & Other Buildings: 2,640 feet from the nearest residence, business, school, daycare facility, church, hospital and other sensitive receptors.

6. Wetlands: 1,000 feet from all sinkholes and wetlands.

7. Water Bodies Setbacks: 1,300 feet from the ordinary high water mark of all navigable water bodies.

8. Parks & Public Property: 2,640 feet from any town, county or state park, property, recreational or rest area.

9. Spacing and Density: Minimum setback distances between turbines shall be (2) times the total height of each WES.

M. Signage and Fencing. Licensee shall provide reasonable signage at the Facility, identifying the Premises as being part of the Facility and providing appropriate safety notices and warnings against trespassing. The no trespassing signs shall be posted around the entire premises at an appropriate distance for posting but no less than 2 conspicuous places for every 40 acre parcel within the Facility. Signs should be sized at a minimum to meet the provisions of Wis. Stat. § 943.013(2).

1. No wind turbine, tower, building, or other structure associated with a wind energy system may be used to advertise or promote any product or service. No word or graphic representation, other than appropriate warning signs and owner or landowner identification, may be placed on a wind turbine, tower, building, or other structure associated with a wind energy system so as to be visible from any public road.

2. This prohibition shall include the attachment of any flag, decorative sign, streamers, pennants, ribbons, spinners or waving, fluttering or revolving devices, but not including weather devices.

N. Electrical Standards. All wiring between Wind Turbines and the Wind Energy Facility substation shall be underground. All neutral grounding connectors from Commercial Wind Turbines shall be insulated from the earth and shall be sized to accommodate at least twice the peak load of the highest phase conductor, to absolutely prevent transient ground currents, in order to comply with the National Electric Safety Code and the IEEE Standard 519-1992, approved by the American National Standards Institute, as follows:

1. Grounding of both the electrical transmission lines and the supply lines to the internal electrical systems of the turbines themselves, shall comply with Rule 92D, Current in Ground Conductors: "Ground connector shall be so arranged that under normal circumstances, there will be no objectionable flow of current over the grounding conductor."

2. Rule 215B: [It is not permissible] "to use the earth as a part of a supply circuit."

3. Under no circumstances shall any Wind Turbine be connected directly to the grid; connection must be made through a substation or transformer properly grounded and filtered to keep harmonic distortion within recommended limits.

4. Bare, concentric neutrals are specifically prohibited in buried lines between turbines and in underground transmission lines to substations.

5. Electrical controls and control wiring and power-lines shall be wireless or not above ground except where wind farm collector wiring is brought together for connection to the transmission or distribution network, adjacent to that network.

O. Stray Voltage. The Licensee shall respond within (3) three calendar days to any request for a stray voltage investigation by a property owner within the project boundary and a one-mile radius beyond the project boundary. The tests shall be performed by a mutually acceptable Wisconsin certified stray voltage investigator. The tests shall be performed according to PSCW Phase II Stray Voltage Testing Protocol. Testing shall commence within (10) ten working days of the request. If testing cannot be initiated within (10) days, the Wind Turbine(s) in question shall be shut down until the testing can be started. The investigation shall be provided to the property owner at no cost up to a maximum of two investigations within a 12-month period. At no time shall the operation of a WECS increase the measured cow contact voltage (Vcc) or primary neutral to remote voltage (Vpn) on a livestock facility within the project boundary and a one-mile radius beyond the project boundary, above the maximum pre-construction levels. The owner/operator agrees to abide by all rules, procedures, standards, and reporting established by the PSCW for stray voltage and related electrical phenomena. Owner/operator is responsible for mitigating within five working days from determination any net increase in cow contact voltages (Vcc) or primary neutral to remote voltages (Vpn) attributed to the operation of the WECS. If corrections cannot be initiated within (3) three calendar days, the Wind Turbine(s) in question shall be shut down until the voltages in question are mitigated. A copy of the test results shall be sent to the property owner, PSCW Rural Electric Power Services staff, and the Town Board within (30) days of test completion.

P. Reporting and Complaint Resolution Procedure. Licensee shall report to the Town as follows:

1. Quarterly Power Production Reports: The Licensee shall submit a quarterly power production report to the Town which shall cover the proceeding calendar quarter and include actual power production in kilowatt-hours for each commercial wind energy facility in the Town.

2. Annual Monitoring Reports. The Licensee shall submit an annual monitoring report to the Town, containing data on the operations and environmental impacts of the WECS site. Such reports shall describe all safety inspections of the WECS.

3. Extraordinary Events. Within 24 hours of any extraordinary event, Licensee shall notify the Town. "Extraordinary events" shall include but not be limited to tower collapse, catastrophic turbine failure, fires, leakage of hazardous materials, unauthorized entry to the tower base, thrown blade or hub, any injury to a Facility worker or other person that requires emergency medical treatment, or other event that impacts the public health and safety of the Town.

4. Complaints. The Licensee shall, at the licensee's expense and in coordination with the Town develop a system for detailed logging and investigation of all complaints related to the operation of the WECS. The Town will select a qualified individual to investigate complaints. The Licensee shall provide this qualified individual with direct phone contact and address information of the licensee representative. The reasonable cost and fees incurred by the Town in retaining said qualified individual shall be reimbursed by the owner of the WECS. After the investigation, if the Town Board reasonably concludes that operational violations or other public or private nuisances have been caused by the WECS, the Town shall require Licensee to use all reasonable efforts to mitigate or eliminate such problems on a case-by-case basis, as required by the Town Board. In order to address such complaints, the Town Board may require planting trees and installing awnings, limiting the hours of Wind Turbine operation, repair of WECS, removal and decommissioning of Wind Turbines.

Q. Emergency Shutdown. The Licensee shall be required to immediately cease operations for the duration of any Emergency. Emergency shall mean a proven condition or situation caused by the Facility or by other conditions that present an imminent physical threat of danger to life or significant threat to property. A WECS that is found to present an imminent physical threat of danger to life or significant threat of damage to property shall be immediately shut down and repaired or otherwise made safe and certified so by a Wisconsin professional engineer prior to resumption of operation. The Town shall have the right to access all WECS to verify conditions and/or repair progress with reasonable notice to the WECS owner/operator. Within 24 hours of an occurrence of a tower collapse, turbine failure, property damage or contamination, fires, thrown blade or hub, collector or feeder line failure, injured WECS worker or private person, the owner/operator shall notify the Town of the occurrence and proposed remedial action.

R. Turbine Decommissioning and Site Restoration Plan. Each Wind Turbine and all related improvements shall be removed in accordance with the Decommissioning and Site Restoration Plan submitted by the applicant and approved by the Town through the licensing process.

1. The owner of a WECS and the underlying property owners shall be jointly liable for the removal of all equipment associated with the WECS at the end of the permit period, the useful life of the facility, or when the facility is abandoned or otherwise out of operation for more than six months, at their expense.

2. Upon removal of a WECS facility, the owner of the facility and the underlying property owners shall be jointly liable for restoration of the site to its original condition at their expense. To protect the environment, removal shall be done by mechanical means. Blasting is not an approved means for removal. The restoration shall include removal of all materials above and below ground; public road repair, if any; and all re-grading and re-vegetation necessary to return the subject property to the condition existing prior to establishment of the Wind Energy Facility. All hazardous materials shall be removed from the site and disposed of in accordance with state and federal laws.

3. The owner of a Wind Energy Facility and the underlying property owner shall provide proof of financial responsibility for the removal of the facility and restoration of the site in the form of a bond or an irrevocable standby letter of credit held in trust in favor of the Town, in a form to be approved by the legal counsel for the Town.

VII. INSURANCE AND INDEMNIFICATION

A. Insurance. All Licensees shall maintain the following insurance coverage commencing upon construction of the facility:

1. The owner/operator shall, at its expense, maintain a broad form comprehensive coverage policy of public liability insurance insuring Applicant and Participating Landowners against loss or liability caused by Applicant's occupation and use of the Property under the Lease, in an amount not less than Five Million Dollars ($5,000,000) of combined single limit liability coverage per occurrence, accident or incident, which has a commercially reasonable deductible. The Town shall be named as an additional insured on the policy.

2. Worker's compensation coverage in an amount required by Wisconsin law. Applicant shall require subcontractors and others not protected under its insurance to obtain and maintain worker's compensation and employers' liability insurance.

3. Certificates of insurance evidencing compliance with these requirements shall be provided upon request of the Town. The insurer will provide notice to the Town in the event there is a lapse in coverage exceeding thirty (30) days. All policies other than worker's compensation shall be written on an occurrence and not on a claim-made basis.

B. Defense of Land Use Decision and Indemnity. In addition to the indemnification described below, Licensee shall reimburse the Town its reasonable attorneys' fees incurred in defending any legal actions brought by third parties challenging the legality or enforceability of this ordinance or any portion thereof, or the issuance of a License by the Town pursuant to this ordinance.

1. If the Town seeks reimbursement, it shall notify Licensee in writing promptly upon discovering any claim entitling it to a land use defense reimbursement, but in no event later than 120 days after receiving written notice of any action, lawsuit, proceeding,

investigation or other claim against it which may give rise to a claim for a land use defense reimbursement.

2. Licensee shall not be obligated to reimburse the Town with respect to any such liability, action or claim if the Town fails to notify Licensee thereof in accordance with the provisions of this section in sufficient time including, without limitation, any responsive motion or answer to a complaint, petition, notice, or other legal, equitable action or claim, but only insofar as such knowing failure to notify Licensee has actually resulted in prejudice or damage to Licensee.

3. With respect to any third party action, lawsuit, proceeding, investigation or other claim which is subject to reimbursement under this section, Licensee shall be entitled to assume and control (with counsel of its choice) the defense of such action, lawsuit, proceeding, investigation or other claim at Licensee's expense; provided, however, that the Town shall be entitled to participate in the defense of such claim and to employ counsel of its choice for such purpose (the fees and expenses of such separate counsel to be borne by the Town) and to assert against any third party any and all cross claims and counterclaims the Town may have, subject to Licensee's consent, which consent shall not be unreasonably withheld. If Licensee elects to assume the defense of any such claim, it may settle such claim in its sole discretion so long as either (i) such settlement provides an unconditional release of the Town, or (ii) Licensee shall obtain the prior written consent of the Town (which consent shall not be unreasonably withheld). If Licensee elects to assume the defense of any claim, the Town shall fully cooperate with Licensee and its counsel in such defense.

4. Licensee shall defend, indemnify and hold harmless the Town and its officials, employees and agents from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses and liabilities whatsoever, including reasonable attorneys' fees (such liabilities together known as "Liability") arising out of Licensee's selection, construction, operation and removal of the Wind Turbines and affiliated equipment including, without limitation, Liability for property or personal injury (including death), whether said Liability is premised on contract or on tort (including without limitation strict liability or negligence). This general indemnification shall not be construed as limiting or qualifying the Town's other indemnification rights available under law.

VIII. STANDARDS

A. Construction Standards. All WECS shall be constructed in compliance with Good Utility Practice for Wind Turbines. In the event after inspection by a qualified expert in Good Utility Practice, the Town concludes that any of the Wind Turbines were not constructed in compliance with Good Utility Practice or constitutes a danger to persons or property, then upon notice being provided, Licensee shall have 90 days to bring the non-compliant Wind Turbine(s) into compliance with such standards. If 90 days is insufficient time to cure the non-compliance, Licensee shall present a plan to the Town describing the reason for the delay and the time frame for the cure to be put in

place. Failure to bring such non-compliant Wind Turbine(s) into compliance or failure to provide a plan for compliance within 90 days shall constitute grounds for the Town Board to order immediate removal of said Wind Turbine(s) at Licensee's expense.

B. Performance Standards. All WECS shall be operated and maintained consistent with Good Utility Practice for comparable facilities.

C. State and Federal Standards. Construction of WECS and Wind Turbines shall meet or exceed current standards and regulations, if any, of any other agency of the state or federal government with the authority to regulate wind powered generators. If such standards and regulations are changed and retroactive application is required for the change, then Licensee shall bring the Wind Turbine(s) into compliance with such applicable revised standards and regulations within 6 months of the effective date of such standards and regulations, unless a different compliance schedule is permitted by the controlling state or federal agency or approved by the Town. A Determination of No Hazard for each Wind Turbine must be obtained from the FAA for each Wind Turbine as a condition precedent to the receipt of a license under this ordinance.

D. Wind Turbine Safety Standards. Licensee shall comply with the following safety standards:

1. All wiring between the Wind Turbines and substations shall be installed at least four (4) feet underground.

2. The outside of Wind Turbines shall not be climbable.

3. All access doors to the towers and electrical equipment shall be locked.

4. Appropriate warning signage shall be placed on each tower, all electrical equipment, and all entrances.

E. Repair & Replacement. Licensee shall be authorized to repair and replace the wind turbine generator and associated equipment consistent with Good Utility Practice during the Term of this License as needed to keep the Facility in good repair and operating condition. However, no such repair or replacement shall entitle Licensee to any extension of the Term of this License, even if it extends the useful life of the Facility. If Licensee desires to extend the term of this License in the future, Licensee shall be required to apply for such extension or amendment of this License in accordance with the terms of this ordinance.

IX. PROCEDURES FOR ALTERATION OR REVOCATION OF LICENSE

A. Amendment. Following the granting of a license any licensee who wishes to materially alter any aspect of the licensed premises which was required to be described in the building plan or site plan required under this Section, shall apply to the

Town Board for an amendment to the license. The application shall explain the nature of the alteration and the reasons therefore and include a non-refundable application fee of $600. The Applicant shall also be required to pay the reasonably necessary engineering expenses, if any, associated with the review. The Town Board shall act on the amendment application consistent with the terms of this ordinance.

B. Revocation of License. An unsafe WECS and an inoperable WECS is hereby declared an unsafe public nuisance, which shall be subject to abatement by repair, rehabilitation, demolition, or removal by the Town Board. An inoperable WECS shall not be considered a public nuisance provided the owner can demonstrate that modernization, rebuilding or repairs are in progress or planned and will be completed within a reasonable time as approved by the Town Board, provided periodic reports on the status of the repairs are provided to the Town Board as requested of the licensee.

1. Each of the following occurrences shall constitute a violation of the terms and conditions of this License (a "Violation") and any such Violation shall be grounds for revocation of this License (whatever the reason for such an event of default and whether it shall be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, order or regulation) after the expiration of the notice and cure period and revocation hearing as set forth below:

a. The Licensee abandons the wind turbine generators located on the premises for a period of six months or more.

b. The Licensee fails to observe or perform any material condition or provision of this License for a period of 30 days after it has received written notice of such failure from the Town; provided, however, that a Violation shall not occur if Licensee commenced performance of such obligation within such 30 day period and is diligently proceeding to complete such performance.

c. There is a material failure by Licensee to comply with any statute, regulation, rule, or license administered by any federal, state or county department, agency, or commission directly related to the operation of the wind turbine generator, and if Licensee fails to cure the material failure to comply for a period of 30 days after the date Licensee receives written notice of such failure from the Town or the federal, state or local governmental body or agency with jurisdiction; provided, however, that a Violation shall not occur if Licensee commences performance of such obligation within such 30 day period and is diligently proceeding to complete such performance.

2. Each Wind Turbine and all related improvements shall be removed in accordance with the Decommissioning and Site Restoration Plan submitted by the applicant and approved by the Town through the licensing process.

3. The owner of a WECS and the underlying property owners shall be jointly liable for the removal of all equipment associated with the Wind Energy Facility at the end of the license period, the useful life of the facility, or when the facility is abandoned or

otherwise out of operation for more than six months, at their expense. Upon removal of a Wind Energy Facility, the owner of the facility and the underlying property owners shall be jointly liable for restoration of the site to its original condition at their expense. To protect the environment, removal shall be done by mechanical means. Blasting is not an approved means for removal. The restoration shall include removal of all materials above and below ground; public road repair, if any; and all re-grading and re-vegetation necessary to return the subject property to the condition existing prior to establishment of the WECS facilities. All hazardous materials shall be removed from the site and disposed of in accordance with state and federal laws.

C. Hearing. The Town shall not revoke any License without first providing the Licensee a hearing and the right to respond, including the right to present evidence regarding any defenses or extenuating circumstances regarding the alleged violations or public or private nuisance.

X. LICENSE EXPIRATION

A. Expiration. Unless the Town Board authorizes a different term based upon analysis of the useful life of the WECS, every license issued pursuant to this ordinance shall terminate upon the expiration of twenty five years from the date of issuance if construction is commenced within one year of issuance. If construction is not commenced within one year of issuance, the license shall expire one year after the date of issuance and the applicant will be required to reapply if it still intends to develop a WECS project.

XI. FEES AND EXPENSES

A. Tax Hold Harmless. In the event that the shared revenue payments payable to the Town are eliminated by the Legislature, Licensee shall be required to pay the Town an amount not less than $1,667 per megawatt per year for Wind Turbines actually installed and operating within the Town. Such payments shall be on an annual basis and payable on the 180th day after notice from the Town of Licensee's obligation to pay under this paragraph. Licensee's obligation to make such payments shall cease if the State adopts or implements a new mechanism to replace the shared revenue payments, to the extent that the new payment mechanism produces revenue not less than the revenue payable under the predecessor program. The shared revenue payments referenced above are paid to the Town directly by the State of Wisconsin, not Licensee. Regardless, Licensee shall be required to supplement the Town's annual shared revenue payments actually received, by an amount equal to the annual percentage change of the Consumer Price Index as of January 1 of each calendar year beginning on the first January following the date the Town receives its first payment. For purposes of this escalator clause, the Consumer Price Index means the U.S. Department of Labor, Bureau of Statistics, Consumer Price Index for the United States, All Urban Consumers, all items, unadjusted index.

B. Property Taxes. If the property tax exemption for WECS under current state law is revised or revoked by future Legislatures, Licensee will be responsible for all related assessments and taxes associated with the license and WECS site. Failure to pay such tax obligation shall be considered a non-compliance with this ordinance.

C. Reimbursement of Fees and Costs. Licensee shall reimburse the Town for its actual reasonable fees and costs incurred in the application, negotiation, administration and enforcement of this ordinance, including, without limitation, the Town's attorney fees, engineering and consultant fees, Town Board meeting and hearing fees, and the costs of public notices relative to the review and consideration of each application filed by an applicant under this ordinance. The preceding fees are payable within 30 days of invoice. Unpaid invoices shall bear interest at the rate of 1% per month until paid. The Town may recover all reasonable costs of collection, including attorneys fees.

XII. WESF NEIGHBOR AGREEMENT

A. Neighbor Agreement. Licensee may offer to non-participating landowners the opportunity to enter into a Windpower Facilities Neighbor Agreement, provided:

1. Landowner has not otherwise entered into a Ground Lease, Easement or Setback Waiver Agreement with Licensee;

2. Has a primary residence or private business located within the setbacks provided for under this ordinance; and

3. Owns the property in fee simple and has applied for a building permit on or before the issuance of a license pursuant to this ordinance. A landowner who enters into such an agreement is not a Participating Residence for purposes of this ordinance.

B. Town Approval. The terms and form of such agreements shall be subject to negotiation between the Licensee and non-participating landowners who may be interested in such an agreement. However, such agreements, once signed, shall be subject to review and approval by the Town Board.

XIII. ADMINISTRATION, ENFORCEMENT, PENALTIES, RELATIONSHIP TO OTHER ORDINANCES, SEVERABILITY & EFFECTIVE DATE

A. Administration. This ordinance shall be administered by the Town Board or its designee.

B. Inspections. The Town Board or its designee may enter upon any property for which a licensing permit has been issued under this ordinance to conduct inspections to determine whether the conditions stated in the permit and other standards and requirements of this ordinance are being complied with.

C. Enforcement. The Town Board or its designee may issue orders to abate any violation of this ordinance or any condition attached to a licensing permit approved by the Town Board. The Town Board or its designee may issue a citation for any violation of this ordinance. The Town Board may refer any violation of this ordinance to the Town's legal counsel or to special counsel for enforcement through litigation. Nothing in this ordinance shall be construed to prevent or limit the Town from using any other lawful means of enforcing this ordinance.

D. Penalties. Any person, applicant or licensee who fails to comply with any provision of this ordinance or of any license issued pursuant to this ordinance shall, upon conviction thereof, forfeit at least five-hundred dollars ($500.00) but not more than one-thousand dollars ($1,000.00) for each offense. A separate offense shall be deemed committed on each day during which a violation occurs or continues. Any person, applicant or licensee who is in default of payment of a forfeiture or costs may be imprisoned in the county jail until the forfeiture or costs are paid, except that the period of imprisonment may not exceed thirty (30) days.

E. Relationship to Other Ordinances. This ordinance does not abrogate, annul, impair, interfere with, or repeal any existing ordinance of the Town or any other governmental body.

F. Severability. The provisions of this ordinance are severable, and the invalidity of any section, subdivision, paragraph, or other part of this ordinance shall not affect the validity or effectiveness of the remainder of the ordinance.

G. Effective Date. This ordinance shall take effect upon passage and posting or publication as provided by law.

Adopted this ____ day of _____ 2008.

_____
Town Chairman

_____
Town Supervisor

_____
Town Supervisor

_____
Attest: Town Clerk

Date Posted: _____

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TOWN OF WILTON

WIND ENERGY CONVERSION SYSTEMS ORDINANCE

The Town Board of the Town of Wilton, 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 Wilton, 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 Wilton 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 Wilton. Therefore, this Town of Wilton licensing ordinance has been adopted under the Town of Wilton'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 Wilton 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.

Ampere: The basic unit measuring the quantity of electricity.

Anemometer: A device for measuring the speed and direction of the wind.

Applicant: Means the person, firm, corporation, company, limited liability corporation or other entity which applies for approval under this ordinance, as well as the applicant's successor(s), assign(s) and/or transferee(s) as to any approved WECS or testing facility. An applicant must have the legal authority to represent and bind the landowner or lessee who will construct, own, and operate the WECS or testing facility. The duties and obligations regarding any approved WECS or testing facility shall be with the owner of the WECS or testing facility, and jointly and severally with the owner and operator or lessee of the WECS or testing facility. Also known as owner or operator.

Aerodynamic Noise: Means a noise that is caused by the flow of air over and past the blades of a WECU.

Ambient Noise: Means intermittent noise events such as from aircraft flying over, dogs barking, mobile farm or construction machinery, and the occasional vehicle traveling along a nearby road are all part of the ambient noise environment, but would not be considered part of the background noise unless they were present for at least 90% of the time.

Background Noise: Sounds that would normally be present at least 90% of the time. Also known as the lull in the ambient noise environment.

Blade Glint: Means the intermittent reflection of the sun off the surface of the blades of a single or multiple WECS.

Board: Means the Town Board for the Town of Wilton, Monroe County, Wisconsin.

Broadband Noise: Means the "swishing" or "whooshing" sound emitted as a function of a WECS(s) operation.

Employee: Means any and all Persons, including but not limited to "operators" who work in or at, or render any services directly related to operation of Wind Energy Conversion Systems.

FAA: Means Federal Aviation Administration.

Good Utilities Practice: Means any of the practices, methods and acts with respect to the safe operation of the Wind Energy Conversion System (WECS) engaged in or approved by a significant portion of the electric utility industry and, in particular, those portions of the industry with experience in the construction, operation, and maintenance of wind turbines during the relevant period; or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a

reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods or acts generally accepted in the region.

High Voltage Electrical Termination: Means connecting of conductors to a device or system where the voltage exceeds 600 volts.

Hub Height: Means the distance to the center of the wind turbine hub as measured from ground level.

Ice Throw: Means accumulated frozen moisture or ice buildup on the rotor and/or blades of a WECU that is or can be thrown during normal spinning or rotation.

Impermissible Interference: Means the blockage of wind from a wind energy conversion unit or system for which a permit has been granted under this ordinance during a use period if such blockage is by any structure or vegetation on property, an owner of which was notified in advance by certified mail or delivered by hand of any property which the applicant proposed to be limited by the permit. Impermissible interference does not include:

1. Blockage by a narrow protrusion, including but not limited to a pole or wire, which does not substantially block the wind from a wind energy conversion unit or system.

2. Blockage by any structure constructed, under construction or for which a building permit has been applied for before the date the last notice was mailed or delivered.

3. Blockage by any vegetation planted before the date the last notice was mailed or delivered.

Impulsive Noise: Means short acoustical impulses or "thumping" sounds, which vary in amplitude and are caused by the interaction of the wind turbine blades with the distributed air flow around the tower of downwind WECU's.

Inoperable: A WECU shall be determined inoperable if it has not generated power within the preceding two calendar quarters equal to at least 60% of the expected production.

Licensee: Means the applicant and/or successor who has received a license under this ordinance.

Livestock Facility: Means a confinement area designed specifically for raising, controlling, feeding, and providing care for livestock. This may include but is not limited to: dairy barns, pastures, feedlots, free stall barns, calf hutches, horse barns, veal barns,

feed storage areas, brooder and laying barns, farrowing and finishing barns, veterinary care.

Low Frequency Noise: Means an ongoing debilitation sound emitted during periods of turbulence as the blades are buffeted by changing winds that can cause structural vibration.

Measurement Point: (MP): Means the location where sound and/or vibration measurements are taken such that no significant obstruction blocks sound and vibration from the site.

Mechanical Noise: Means sound produced as a byproduct of the operation of the mechanical components of a WECU(s). This is also known as "tonal noise." Tonal noises are distinct and tend to be more noticeable at the same relative loudness of other types of noises.

Meteorological Tower: Means a tower used for the measurement of wind speed and direction, also known as MET tower or wind test tower.

NFPA: Means the National Fire Protection Association.

Nacelle: Means the enclosure located at the top of a WECU tower that houses the gearbox, generator and other equipment.

Noise: Means any unwanted sound.

Non-Participating Property Line: Means a continuous line surrounding all contiguous adjacent parcels of property owned by a single individual, company, corporation, partnership or other entity not part of a proposed Wind Energy Conversion System.

Operator: Means the person who is designated on the license application to be the person in charge of daily operation of the premises and who is to be the Wind Energy Conversion System contact person for the Town.

Ownership Property Line: Means a continuous line surrounding all contiguous adjacent parcels of property owned by a single individual, company, corporation, partnership or other entity.

Person: Means an individual, proprietorship, corporation, association, limited liability entity, or other legal entity.

PSCW: Means the Public Service Commission of Wisconsin.

Project Area: Means all the properties within the project boundary and within a one-mile radius beyond the project boundary of a proposed or approved WECS project.

Project Boundary: Means a continuous line, which encompasses all WECU's and related equipment to be used in association with a WECS project.

Property Line: Means the recognized and mapped property parcel boundary line.

Related Equipment: Means transformers, tower, electrical conductors, termination points, switches, fences, substations, and any other related equipment necessary to operate a WECS.

Residences & Other Buildings: Means all private residences and businesses located 2,640 feet, measured from the foundation of an existing residence or business to the outermost edge of the closest of the circular path of the wind turbine rotor blade of a WECS, further providing a non-participating land owner has applied for a building permit on or before a full and complete application is submitted to the Town Board per Section V of this ordinance.

Sensitive Environmental Area: Means an identified habitat for threatened or endangered species, or another designated environmentally significant area as identified by Town, county, state or federal officials.

Sensitive Receptor: Means places that are likely to be more sensitive to the exposure of the noise or vibration generated by WECS(s). This includes but is not limited to: schools, day-care centers, hospitals, parks, residences, residential neighborhoods, places of worship, and elderly care facilities.

Setback: Means the minimum allowable horizontal distance from a given point or line of reference, such as a thoroughfare right-of way, water line, or prospective line to the nearest vertical wall or other element of building or structure.

Setback Area: Means the land base that falls within a specified setback.

Shadow Flicker: Means the effect when the blades of an operating wind energy conversion unit pass between the sun and an observer, casting a readily observable, moving shadow on the observer and his/her immediate environment.

Shadow Flicker and Glade Glint Zone: Means the land area that falls within the setback for shadow flicker or blade glint.

Stray Voltage: Means neutral-to-earth voltage measured from the electrical system neutral and/or any structure bonded to this neutral to earth that adversely affects humans or animals.

Structures: Means residences, livestock facilities, communications towers, commercial businesses, and all sensitive receptors.

Total Height: Means the distance between the ground at normal grade and the highest point of the installed WECS (being the tip of the blade when the blade is in the full vertical position).

Wetland: Means an area of land, which regularly persists in a wet state, or as otherwise defined by the WDNR.

Wind Energy Conversion Unit (WECU): Means a wind driven machine with an output rating greater than 100 kilowatts (kW) and with a total height of greater than 170 feet that converts wind energy into electrical power for the primary purpose of sale, resale, or off-site use. The WECU includes the tower, turbine, footings, and all equipment associated with individual units including the land beneath encompassing the equivalent area of the circumference of the rotors. Also known as a Wind Turbine.

Wind Energy Conversion System (WECS): Means all WECUs, related transformers, electrical conductors substations, and connection points to transmission or distribution lines.

Wind Energy Conversion System Facility or Facility: Means all of the land and equipment used by the wind energy conversion system and its support facilities including the wind turbine, tower, access roads, control facilities, meteorological towers, maintenance and all power collection and transmission systems.

Wind Energy Conversion System Tower: Means any structure that is designed and constructed primarily for the purpose of supporting the Wind Energy Conversion Unit.

Windmill: Means a wind-driven machine that does not produce electricity.

Wind Test Tower: Means the tower on which meteorological equipment is located to measure wind speed, direction, strength, etc., for the purpose of evaluating a potential for WECS siting.

Wind Turbine: Means a wind driven machine that converts wind energy into electrical power, also known as a Wind Energy Conversion Unit (WECU) or turbine.

WDNR: Means the Wisconsin Department of Natural Resources.

III. LICENSING

A. License Required. After the effective date of this ordinance, no WECS of 170 feet in height or greater shall be constructed, operated or maintained in the Town without a license issued by the Town of Wilton Town Board, pursuant to this ordinance. However, WECS of under 170 feet in height and less than 100 kilowatts are exempt from the licensure requirements of this ordinance.

B. Effect of Other Licenses. The fact that an applicant possesses any other valid license or permit required by law does not exempt the applicant from the requirement of obtaining a WECS license under this ordinance.

C. Non-Assignment. A license issued under this ordinance may not be assigned or transferred to any other Person than the Licensee, without the express prior written consent of the Town. Such consent shall not to be unreasonably withheld within one year after issuance of a license, provided the Licensee and the Person who the license is proposed to be assigned or transferred to shall both submit affidavits to the Town demonstrating the following:

1. The new Person who will hold the license wholly owns the new entity.

2. The new entity is properly formed and authorized to do business in the State of Wisconsin.

3. The written assignment requires the new entity to assume all of the Licensee's rights, duties and obligations under the License including but not limited to the letter of credit requirements and the certificate of insurance requirements.

IV. LICENSE APPLICATION PROCEDURE FOR WECS

A. Application. Any person desiring to secure a WECS license from the Town shall file a complete application, together with two additional copies, with the Town Clerk. The application shall be on a form approved by the Town Board and shall be provided to the applicant by the Town Clerk.

B. Required Information. The following information shall be required of each Applicant and shall be provided with the application. The Person(s) filing the application shall sign it under oath or affirmation as witnessed by a Notary Public:

1. Name, address, and phone number of Applicant(s).

2. If the Applicant is a corporation, partnership, limited liability company, limited liability partnership, or other entity recognized by law, the application shall include: the name of the business entity; the date of incorporation, registration or organization; the state in which the entity was incorporated, registered or organized; the name and address and home phone numbers of the registered agent(s) where applicable; the names and addresses of all officers and directors; operating or managing partners or general partners, managing members or managers, whichever is applicable for the particular form of business entity.

3. Name and address of any other current or past WECS developed or operated by the Applicant, whether in the State of Wisconsin or any other state or nation.

4. Name, address and phone number of the individual(s) responsible for the day-to-day operation of the proposed WECS, who will be deemed the Operator for purposes of this section, and who will be the contact Person for the Town.

5. Evidence that the Applicant is the owner of the underlying real estate and other property necessary for the WECS project or that the Applicant has the written permission of the owner(s) of such real estate and other property to make such an Application.

6. A signed statement by the underlying landowner(s) acknowledging that the landowner(s) will be financially responsible if the owner/operator fails to reclaim the site as required, and that any removal and reclamation costs incurred by the Town shall become a lien on the real estate and other property and may be collected from the landowner(s) in the same manner as property taxes.

7. A statement that the Applicant is familiar with, and in compliance with, the provisions of this ordinance, including the responsibility to reimburse all reasonable costs and professional fees associated with the processing, examination and analysis of the application for a license and such further expenses associated with monitoring the WECS and enforcing the terms of the license.

8. Proof of continuous liability insurance in the minimum amount of five million dollars ($5,000,000.00) per occurrence shall be submitted to the Town of Wilton indicating coverage for potential damages or injury to landowners, occupants, Town property and Town roads, and other third parties. The Town shall be named as an additional insured on the policy.

C. Additional Information. Each Application shall be accompanied by:

1. Detailed Site Plan. A site plan which meets all the requirements of this Section and applicable provisions of the County Zoning Code pertaining to Land Use Permits, as well as any additional site specific requirements of the Town in accordance with the technical requirements in this ordinance. Each application shall be accompanied by a site plan showing the location of the proposed WECS Tower Site(s), including:

a. Total acreage occupied by the facility;

b. A detailed map of the area showing parcel boundaries and individual Wind Turbine locations and their distances to existing structures;

c. Existing structures and proposed facilities;

d. Location of existing and proposed transmission lines, substations, driveways, access and maintenance roads, etc. All proposed electric transmission and distribution lines shall shown and shall be placed underground;

e. Location of meteorological or wind testing towers; and

f. Location of wells, abandoned and active, within a half-mile radius of project boundary.

2. Specific Information. The applicant shall provide specific information on WECS including:

a. The type, size, total installed height, rotor material, rated power output, performance history, safety history, and noise characteristics of each type of WECS, tower and electrical transmission equipment. Identify the length of service of the proposed components.

b. A structural safety certificate shall be provided from a professional engineer stating that the structure is of new construction and not refurbished or rebuilt and has been designed to operate in cold weather conditions and is safe.

c. Photographs or detailed drawings of each wind turbine model including the tower and foundation. Provide design and specifications for all proposed structures and foundations. (Foundation at and around the tower base shall be designed so that no surface water or runoff can access subsurface aquifer at any time during construction, operation or decommissioning.)

d. Detailed computer and photographic simulation(s) overlaid on the existing environment showing the proposed WECS project area fully developed with all proposed wind energy conversion units and related facilities. The format shall be subject to the approval of the Town.

3. Timeline. The applicant shall provide a proposed timeline showing all aspects of construction with a starting and final completion date.

4. Affected Property Owners. The applicant shall submit the name and address of property owners within WECS setback areas. Considering that development rights of adjacent property owners may be forfeited due to these setbacks as per this ordinance, a written agreement for non-development within the specified setback must be obtained and recorded on the affected properties' deeds. Copies of the agreements must be submitted with the application.

5. Impermissible Interference Notification. The applicant shall deliver by certified mail or by hand a notice to the owner of any property, which the applicant proposes to be restricted by the permit. The applicant shall submit to the Town of Wilton a copy of a signed receipt for every notice delivered in addition to the following information:

a. The name and address of the applicant, and the address of the land upon which the WECS is or will be located.

b. That the applicant has filed an application.

c. That the permit, if granted, may affect the rights of the notified owner to develop his or her property and to plant vegetation.

d. That any person may request a hearing within 30 days after receipt of the notice, and the address and procedure for filing the request.

6. Wind Access Agreements. Evidence (a signed statement from the applicant and countersigned by the landowner) that the applicant has negotiated with adjacent landowners and has obtained written agreements with all landowners whose wind rights may be affected by the WECS or who could otherwise potentially interfere with the applicant's wind access.

7. Easements, Leases & Property Rights. The applicant shall submit copies of signed letters of intent to grant easements, long-term leases or other property rights from all involved landowners and any governmental units responsible for right-of-ways for access, construction, electric transmission and distribution lines, etc.

8. Notifications. The applicant shall notify the following agencies, via certified mail upon submitting an Application to the Town. Copies verifying proof of delivery shall be provided to the town:

a. Federal Aviation Administration;
b. Wisconsin Bureau of Aeronautics;
c. County Emergency Services Agencies;
d. Local Fire Departments;
e. County Planning & Zoning and Land Records Departments;
f. County Highway Department;
g. County Sheriff's Department;
h. Local School Districts;
i. Local Utilities and Electric Cooperatives;
j. Wisconsin Public Service Commission;
k. Wisconsin Department of Natural Resources; and
l. U.S. Department of Defense facilities located with 50 miles of the proposed WECS.

9. Wind Study. A study documenting minimum, maximum, and average wind speeds and prevailing wind directions over the course of one year. Anemometers shall be calibrated regularly to ensure a measurement of error of 1% or less. All anemometers shall be placed at the expected hub height of the proposed wind turbines. Sufficient wind resources, as described by the U.S. Department of Energy, include areas with a wind power class 4 or higher. The town shall retain the services of an independent, recognized expert to review the results of the wind resources study prior to acting on the application. Said study shall indicate the long-term commercial economic viability of the proposed WECS project.

10. Critical Communications. The applicant shall provide a critical communication study prepared by a registered professional engineer showing that the proposed WECS will not interfere with emergency (fire, police/sheriff, ambulance) radio two-way communications (base stations, mobile, and hand held radios, including digital), paging, television, telephone (including cellular and digital), microwave, satellite (dish), navigational, internet or radio reception communications to and from neighboring areas. The applicant shall provide a signed affidavit stating that the applicant shall be responsible for the full cost of any removal of WECS facilities and any other remediation necessary to provide correct any problems; including relocation or removal of the WECS facilities and any and all related electric transmission lines, transformers, and other components related thereto. The applicant shall maintain equivalent communications throughout the life of the WECS even as future technologies may change.

11. Noise Study. The Applicant shall provide to the Town a pre-construction noise survey within a one mile radius of each proposed Wind Turbine location showing ambient background noise levels over a one year period prior to final layout and construction of the proposed WECS. The noise survey shall be conducted by a qualified person on behalf of the applicant, and shall be reviewed and approved by an independent consultant selected by the Town Board, at the Applicant's expense, prior to review and approval of the Application.

12. Shadow Flicker and Blade Glint. The applicant shall provide a shadow flicker and blade glint model for any proposed wind energy conversion unit. The study shall be conducted by a qualified person on behalf of the applicant, and shall be reviewed and approved by an independent consultant selected by the Town Board, at the Applicant's expense, prior to review and approval of the Application.

13. Ice Throw Calculations. A report from a Wisconsin professional engineer that calculates the maximum distance that ice from the turbine blades could be thrown. The basis of the calculation and all assumptions must be disclosed. The report shall be prepared by a qualified person on behalf of the applicant, and shall be reviewed and approved by an independent consultant selected by the Town Board, at the Applicant's expense, prior to review and approval of the Application.

14. Blade Throw Calculations. A report from a Wisconsin professional engineer that calculates the maximum distance pieces of the turbine blades could be thrown. The report shall be prepared by a qualified person on behalf of the applicant, and shall be reviewed and approved by an independent consultant selected by the Town Board, at the Applicant's expense, prior to review and approval of the Application.

15. Ground Water. An environmental study specifically indicating the impact the project will have on the groundwater beneath and in the vicinity of the proposed Wind Turbine sites. If a Wind Turbine foundation is proposed in a bedrock area, a baseline of all wells and certified public drinking sources in a half-mile radius shall be established and provided to the Town as part of the application. The study shall be prepared by a

qualified person on behalf of the applicant, and shall be reviewed and approved by an independent consultant selected by the Town Board, at the Applicant's expense, prior to review and approval of the Application.

16. Travel Route. The applicant shall provide the town, county and state notice of intended travel routes to proposed WECS site. The applicant shall provide, at is expense, a pre-construction inventory of road conditions performed by a certified Wisconsin professional engineer. The applicant shall abide by all town, county and state laws and ordinances that may affect travel and/or ingress or egress to the WECS facilities.

17. Soils Report. A geotechnical report that shall at a minimum include the following:

a. Soils engineering and engineering geologic characteristics of the site based on on-site sampling and testing;

b. Slope stability analysis;

c. Grading criteria for ground preparation, cuts and fills, soil compaction; and

d. Certification from a registered geotechnical engineer that the soils can support a WECS.

18. Site Preparation & Erosion Control. The applicant shall submit the following:

a. A site preparation plan that has been approved by the County Land Conservation Department. The plan shall show planned storage and retention of topsoil, and all types of subsoil for later site restoration.

b. A construction site erosion plan and storm water runoff control plan that has been approved by the County Land Conservation Department. The plan shall comply with all state statutes and county ordinances. The plan shall be prepared so as to minimize the potential adverse impacts on sinkholes, wetlands, streams and the banks and vegetation along those streams and wetlands, and to minimize erosion or sedimentation.

19. Hazardous Waste. A plan shall be submitted showing compliance with all laws applicable to the generation, storage, clean up, transportation and disposal of hazardous wastes generated during any phase of the proposed WECS life.

20. Fire Prevention, Emergency Rescue Plan. The applicant shall submit a plan to outline preventative measures, and to identify, train and fund fire and rescue personnel to ensure readiness and appropriate response. This plan shall also identify potential fire, rescue, and hazardous materials scenarios over the life of the WECS.

21. Stray Voltage Test Results. The applicant shall perform at least two pre-construction stray voltage tests at all livestock facilities within the proposed project boundary and within a one-mile radius beyond the proposed project boundary. The tests shall be performed by a mutually acceptable Wisconsin certified stray voltage investigator and shall be conducted once in the spring and once in the fall of the year. The tests shall be performed according to the PSCW Phase II Stray Voltage Testing Protocol. A copy of the test results shall be sent to each of the following: property owners, PSCW, local utilities, Wisconsin Public Service Commission, and the Town. The applicant shall obtain written permission from property owners prior to stray voltage testing. If permission is denied, all responsibility for stray voltage problems shall be with the property owner.

22. Lighting Plan. The Applicant shall provide a plan showing lighting on and around all WECS and related facilities. Lighting on WECS shall be lit to FAA minimal standards only using red rather than white lights, if possible. Lighting shall be shielded from ground view to FAA maximum standards.

23. Avian and Bat Impact Study Plan. The applicant shall submit a plan for monitoring the avian and bat impact of the WECS to the Town for its review and approval. Such plan shall document and follow accepted scientific study procedures. In addition, the applicant shall submit a quarterly report to the Town which identifies the number of bird and bat fatalities found within 500 feet of all WECS facilities.

24. Abandonment, Removal and Site Restoration Plan. The applicant shall submit an abandonment, removal and site restoration plan, along with a cost estimate for removal and site restoration, to the Town with the application. The plan shall identify the specific properties it applies to and shall indicate the timeline and process to be used for removal of all materials above and below ground; road repair costs, if any; and all re-grading and re-vegetation necessary to return the subject property to the condition existing prior to establishment of the WECS. The plan shall reflect the site-specific character including topography, vegetation, drainage, and any unique environmental features at the site. The plan shall reflect any standards set forth in this ordinance and shall include a certified estimate of the total cost (by element) of implementing the removal and site restoration plan.

25. Application Fees & Security. The following fees and financial security guarantees shall be paid to the Town by the applicant:

a. Application, Legal and Consultant Fees. The applicant shall pay an application fee of $1,000 to the Town upon filing an application under this ordinance. In addition, within fourteen (14) days of filing an application the applicant shall deposit in a joint escrow account with the Town the sum of $25,000, as partial payment for the appropriate Town expenses in hiring consultants and experts, as these authorities shall, at their discretion, deem desirable. At any time the balance of this fund shall fall below $15,000, the applicant shall submit an additional $15,000 so that the Town's full and actual expenses of examining and verifying the data presented by the applicant shall be

paid in full by the applicant. If at any time the balance of this fund shall fall below $15,000 for a period of 30 days, the application shall be considered to have been withdrawn. The balance of the escrow account, after all the Town's expenses have been paid, shall be returned to the applicant.

b. Road Repair. An amount to be determined by agreement of the applicant and the Town Board, to be used as security for Town road maintenance and repair, shall be deposited in a joint escrow account with the Town within fourteen (14) days of approval of a license under this ordinance. When determining the amount of such required security, the Town may require an annual escalator or increase based on current construction costs and/or the Federal Consumer Price Index. This security shall be kept in full force and effect during the entire time a WECS is in existence and shall be used to maintain roads during the construction, maintenance and decommissioning of the WECS facility. Such security shall be irrevocable or non-cancelable (except by written consent by both the Town Board and the owner of the WECS) for the life of the approved license. Failure to comply will subject the applicant to revocation of the license.

c. Site Reclamation. Advance payment for WECS site reclamation and restoration shall be placed in a joint escrow account or surety bond, the amount to be determined by the Town Board. Said amount shall be sufficient to fully remove the WECS and all components thereof. Such financial security shall be kept in full force and effect during the entire time while a WECS facility exists or is in place. This financial security shall be irrevocable and non-cancelable until such time as the Town Board certifies that reclamation and restoration are complete and release the obligation.

d. Decommissioning. An appropriate continuous renewal bond amount shall be established for each Wind Turbine for decommissioning should the Owner/Operator fail to comply with the Ordinance requirements or if a Wind Turbine is inoperable for a period of twelve (12) consecutive months.

V. LICENSING PERMIT PROCEDURE

A. Notice & Procedure. After determining that an application is complete, the Town Board shall conduct a public hearing on the application after a class 2 hearing notice is published in the Town's official newspaper. The public hearing shall be held within ninety (90) days, after the Town Board determines that the application is complete. Within fourteen (14) days after the close of the public hearing, the Town Board shall meet in open session to deliberate and make a decision concerning the application. The deliberation meeting shall be noticed to the applicant and the public at least five (5) days prior to the deliberation meeting. The Town Board may have the assistance of legal counsel at the public hearing and the deliberation meeting.

B. Decision on Application. The Town Board shall approve and application and grant a WECS license if it determines that the requirements of this ordinance have been and shall be met by the applicant, and granting the license will not adversely affect public health and safety. The Town Board may include conditions in the license which

go beyond the minimum regulations set forth herein, if the conditions are reasonably necessary to protect public health and safety; do not significantly increase the cost of the system or significantly decrease its efficiency; or allow for an alternative system of comparable cost and efficiency. In addition to other provisions and standards set forth in this ordinance, the Town Board may consider the following factors when establishing such conditions:

1. The proposed ingress and egress;

2. The proximity to transmission lines to link the system to the electric power grid;

3. The number of wind turbines and their proposed locations;

4. The nature of land use on adjacent and nearby properties;

5. The surrounding topography;

6. The proximity to residential structures, residential zoning districts, and areas identified for future residential use;

7. Design characteristics that may reduce or eliminate visual obtrusiveness and the distraction of motorists on nearby roads;

8. Possible adverse effects on migratory birds, raptors, and other animals and plants;

9. Possible adverse effects of stray voltage, interference with broadcast signals, shadow and flicker effects, and noise;

10. Impacts on the orderly development, property values, and aesthetic conditions of the Town as they may also relate to public health and safety and other factors under Wis. Stat. § 66.0401;

11. Effects on public roads;

12. Recommendations from the town boards of adjacent towns, which may be affected by a WECS;

13. Any other factors which are relevant to the proposed WECS.

C. Request for Waiver of Standards by Applicant. If requested by an applicant, the Town Board may waive or reduce the burden on the applicant of one or more of the standards and requirements of this ordinance, if it concludes that the purpose of this ordinance will be met, that any requested waiver(s) by an applicant are justified based on credible evidence or information submitted to the Town Board by the applicant with the application, and that the requested waiver(s) will not adversely affect public health and safety. The installation and continued operation of a WECS is otherwise

contingent on compliance with all standards of this ordinance and all conditions established by the Town Board relative to the approval or conditional approval of an application and licensing permit.

D. Recording & Notice of Decision. The Town Board's decision to approve, conditionally approve or deny an application, the reason(s) for its decision, and any conditions established by the Town Board relative to a conditional approval of an application and license shall be recorded in the Town Board's minutes. The Town Board and Town Clerk shall issue a license to the applicant or inform the applicant that the application for a licensing permit has been denied within thirty (30) days of the Town Board's final action on the completed application. At the same time, the Town Clerk shall publicly post a notice of the final decision of the Town Board at the Town Hall.

E. Appeal to Circuit Court. The Town Board's final decision on approval, conditional approval or denial of an application may be appealed to Circuit Court by anyone aggrieved by the decision, including but not necessarily limited to the applicant or any aggrieved resident or property owner of the Town, within thirty (30) days of the issuance of the decision, and the posting of public notice of the decision, by the Town Clerk. In addition, any revocation of a license or other enforcement action by the Town Board under this ordinance may be appealed to Circuit Court by the applicant or any other aggrieved party within (30) days of actual notice to the applicant or other aggrieved party of such revocation or enforcement action.

VI. DEVELOPMENT & PERFORMANCE STANDARDS FOR LICENSING

A. Development & Performance Standards. All WECS and testing structures shall comply with the Development & Performance Standards set forth in this section. It is recognized that the standards herein are neither exclusive, nor exhaustive. In instances where a health or safety concern is identified with regard to any application for a WECS, additional or more restrictive conditions may be included in the license to address such concerns. The Town reserves the right to impose additional standards as circumstances warrant. Such additional and more restrictive standards may include, but are not limited to: a) longer setbacks from nearby property lines, roads, electric transmission and distribution lines, residences, businesses and other inhabited structures; b) more restrictive noise limitations, and c) more restrictive limitations to protect surface water and groundwater.

B. Design. Each Wind Turbine shall consist of a tower, generator(s), nacelle and blades. Each WECS site shall have access roads, underground transmission cabling to connect the generators to a local utility's electric distribution lines, and underground fiber optic lines. The application shall disclose the nature, type, make and model of the proposed Wind Turbines. Detailed product literature, specifications, and safety guidance for maintenance of the turbines shall accompany the application. Each Wind Turbine shall also comply with the following design requirements:

1. Wind Turbines shall be painted a non-reflective, non-obtrusive color.

2. Each WECS site, the design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the WECS to the natural setting and the existing environment.

3. Wind Turbines shall not be artificially lighted, except to the extent required by the FAA or other applicable authority; strobe or other intermittent lights are prohibited.

4. Wind Turbines shall not be used for displaying any advertising.

5. Wind Turbines shall not display any name or logo.

6. Electrical controls and control wiring and power-lines must be wireless or not above ground, except where wind farm collector wiring is brought together for connection to the transmission or distribution network, adjacent to that network.

7. The clearance between the ground and the Wind Turbine blades shall be at least 75 feet.

C. Aircraft Protection. The wind turbine generator towers shall be marked as required by the Federal Aviation Administration (FAA). There shall be no lights on the outside of the tower other than as required by the FAA or other applicable authority, or as otherwise agreed in connection with the issuance of the license. Notwithstanding the foregoing, this restriction shall not apply to infrared heating devices used to protect the monitoring equipment. The tower shall be connected to an uninterruptible back-up power source to ensure continuous compliance with FAA regulations. To the extent consistent with FAA regulations, shrouding for the lights shall direct reflection of light up. Aircraft safety and protection shall also be accomplished by establishing sufficient setbacks between all Wind Turbines and adjoining properties in order to allow for safe crop-dusting of agricultural fields, and safe emergency medical aircraft landings on all adjoining properties.

D. Blasting. Licensee shall not undertake any blasting in connection with the construction of the Facility unless Applicant shall have notified the Town and submitted a blasting plan consistent with applicable laws and regulations. The plan must be submitted by the Licensee, reviewed and approved by the Town Board, before any blasting may take place. The plan shall, at a minimum, provide that:

1. Blasts must comply with the State ground vibration limitations.

2. Fly-rock traveling in the air or along the ground must remain in the controlled blasting area site owned or controlled by the applicant.

3. All blasting must be performed by or under the direct supervision of a State-licensed blaster.

4. A blasting log for each blast will be kept on-site at the WECS office for not less than 5 years, and copies of the required blasting log will be promptly submitted to the Town upon its request.

5. A resident call list must be established for the purpose of notifying neighbors at homes in the vicinity of the WECS of eminent blasting activity. This call list must be maintained and utilized on a "request basis only" for all residents in the vicinity of the WECS who asked to be notified prior to any blast.

6. The storage of explosives will be in accordance with Wisconsin law.

E. Communications Interference. WECS shall be sited and operated so that they do not interfere with emergency (fire, police/sheriff, ambulance) radio two way communications (base stations, mobile, and hand held radios, including digital) and/or paging, television, telephone (including cellular and digital), microwave, satellite (dish), navigational, internet or radio reception to neighboring areas. The applicant and/or operator of the facility shall be responsible for the full cost of any remediation necessary to provide equivalent alternate service or correct any problems; including relocation or removal of the facility caused or exacerbated by the operation of such equipment and any and all related transmission lines, transformers, and other components related thereto. The applicant shall maintain equivalent communications throughout the life of the WECS even as future technologies may change.

1. The owner/operator of the WECS shall respond within five business days to any request for communications interference investigation by a property owner within the project boundary and a three-mile radius beyond the project boundary. Testing will commence within ten working days of the request. The owner/operator is responsible for mitigating within ten working days from the determination of interference cause attributed to the operation of the WECS.

2. The owner/operator of the WECS shall respond within one business day to any request for communications interference investigation by any emergency agency (fire, police/sheriff, ambulance). Testing will commence within two working days of the request. The owner/operator is responsible for mitigating within two business days from the determination of interference cause attributed to the operation of the WECS.

F. Electromagnetic Interference. WECS shall be sited and operated so that they do not interfere with television, telephone (including cellular and digital), microwave, satellite (dish), navigational, or radio reception to neighboring areas. The applicant and/or operator of the facility shall be responsible for the full cost of any remediation necessary to provide equivalent alternate service or correct any problems; including relocation or removal of the facility, caused or exacerbated by the operation of such equipment and any and all related transmission lines, transformers, and other components related thereto. The owner/operator of the WECS shall respond within five business days to any request for a communications interference investigation by a property owner within the project boundary and a three-mile radius beyond the project

boundary. Testing shall commence within ten working days of the request. Owner/operator is responsible for mitigating within ten working days from determination of interference cause attributed to the operation of the WECS.

G. Groundwater Protection. Licensee shall construct and operate the Facility so as not to cause groundwater contamination in violation of applicable law. Nothing contained in the license is intended to authorize or permit any degradation of the quantity or quality of the groundwater in connection with the WECS.

1. No excavations deeper than nine (9) feet below the surface of the soil shall be allowed in the construction of any Wind Energy Facility or Wind Turbine unless the applicant submits evidence of increased cost or design necessity based on actual foundation designs. Any change in foundation design shall maintain the water quality standards of this ordinance.

2. Wells shall not be drilled within the boundaries of a WECS site.

3. The applicant shall complete a plan for managing surface water runoff to prevent pollution of groundwater through sinkholes, wetlands and infiltration through the soil and underlying bedrock within a 1,000-foot radius of each Wind Turbine site and along all access roads and driveways leading to Wind Turbine sites. The plan shall provide for surface water management so that the water flows away from the Wind Turbine sites and known sinkholes rather than toward them.

4. If a Wind Turbine foundation is proposed in a bedrock area, a baseline of all wells and certified public drinking sources in a half-mile radius shall be established and permanent remedies shall be the responsibility of the developer if contamination occurs.

H. Noise.

1. Audible Sound Limit.

a. No Wind Turbine or group of turbines shall be located so as to cause an exceedance of the pre-construction/operation background sound levels by more than 5 dBA or dBC. The background sound levels shall be the L90 dB sound descriptor (both A and C weighting) measured during a pre-construction noise study during the quietest time of evening or night. Measurements shall be for ten (10) minutes or more. L90 results are valid when L10 results are no more than 15 dB above L90 for the same time period. Noise sensitive sites are to be selected based on wind farm's predicted sound emissions (in dBA, dBC and 1/3 octaves to blade passage frequency), which are to be provided by developer.

b. A 5 dB penalty is applied for pure tones or when the sound emissions fluctuate in amplitude or frequency over time in reasonable synchronicity with the blade revolution

2. In-Audible (e.g., Low Frequency) Sound Limit.

a. Not to exceed dBC-dBA greater than 20 dB inside or outside any occupied structure.

3. General Clause.

a. Not to exceed 40 dBA or dBC within 100 feet of any occupied structure.

4. Requirements.

a. All instruments must meet ANSI Type 1 performance specifications.

b. Procedures must meet ANSI S12.9 and other applicable ANSI standards.

c. Measurements must be made when ground level winds are 10 mph or less. Background sound measurements are with winds of 5 mph or less. Wind shear in the evening and night often result in low ground level wind speed. At turbine fan heights, the wind is at or above nominal operating wind speeds.

d. IEC 61400 procedures are not suitable for enforcement of these requirements. ANSI standards shall be followed for testing procedures. 5. In the event the noise levels resulting from the WECS exceed the criteria listed above, a waiver to said levels may be granted by the Town Board provided that the following has been accomplished:

(1) Written consent from the affected property owners has been obtained stating that they are aware of the WECS and the noise limitations imposed by this Ordinance, and that consent is granted to allow noise levels to exceed the maximum limits otherwise allowed; and

(2) If the applicant wishes the waiver to apply to succeeding owners of the property, a permanent noise impact easement has been recorded in the Office of the County Register of Deeds which describes the benefited and burdened properties and which advises all subsequent owners of the burdened property that noise levels in excess of those permitted by this Ordinance may exist on or at the burdened property.

I. Fire Protection. The applicant shall prepare a plan in consultation with fire department having jurisdiction over the area prior to construction. The plan shall address all activities at the WES and site from the start of construction through the end of power generation and the final removal and restoration of the site, and shall result in a response plan to address all identified potential fire, rescue, hazardous materials scenarios.

1. The owner/operator shall assure that the WECS and site comply with the following control and prevention measures and incurs associated costs.

a. Fire proof or fire resistant building materials and buffers or fire retardant landscaping.

b. Incorporation of a self contained fire protection system to address nacelle fires and approved by NFPA or comparable underwriter.

c. Maintain firebreak areas cleared of vegetation and maintained as a fire/fuel break as long as the WECS is in operation. Firebreaks shall be 30 feet in width around the periphery of the proposed WECS site, 10 feet in width around all transformers, and 30 feet in width around all buildings.

d. Fire fighting and rescue services, including programs and costs associated with equipment and training, for local fire protection and rescue personnel.

e. Any additional fire fighting or rescue personnel, services, materials, and/or vehicles as may be required to address any call related to the WECS or site that is beyond the capabilities of local fire fighting and/or rescue services.

f. The owner/operator shall be responsible for compliance with all laws applicable to the generation, storage, clean up, transportation and disposal of hazardous wastes generated during any phase of the project's life.

J. Public Roads. Licensee shall, prior to the initiation of construction and use of haul roads, consult with the Town Board, County Highway Commissioner, the Wisconsin State Police and the County Sheriff's Office for load paths and restrictions on their respective roads or bridges. At Licensee's expense:

1. Licensee shall provide, the Town Board, a preconstruction evaluation and identification of road surface materials stating the type and amount of surface cover, PASER ratings, and photographic or video documentation of predetermined designated traffic route, performed by a Wisconsin certified professional engineer mutually agreed upon by applicant and municipality.

2. Licensee shall contract with qualified contractors, approved by the town, to repair any damage to the haul roads due to transportation of equipment and Facility components ('Road Repair Obligations').

3. In the event a hazardous road condition exists that is not immediately corrected by Licensee, the Town Board may order emergency road repairs, be performed by qualified contractors. Licensee shall promptly reimburse the Town for reasonable emergency road repair costs.

4. Licensee shall assure funding of the Road Repair Obligations by a letter of credit or guaranty prior to initiation of any construction.

5. Weather permitting, the final Road Repair Obligations shall be completed to the reasonable satisfaction of the Town Board within six (6) months after completion of construction of the Facility, or as soon thereafter as weather conditions permit.

K. Shadow Flicker or Blade Glint. WECS shall be designed such that shadow flicker or blade glint will not fall on or in any existing sensitive receptor. Shadow flicker or blade glint expected to fall on a roadway or a portion of a residential parcel may be acceptable under the following circumstances:

1. The flicker or glint will not exceed 10 hours per year.

2. The flicker or glint will fall more than 100 feet from an existing residence.

3. The traffic volumes are less than 500 vehicles per day on the roadway.

4. The flicker or glint shall not fall onto an intersection.

5. If shadow flicker or blade glint exceeds any of the conditions listed in this section, the source WECS shall be shut down until the flicker or glint problem has been remedied.

L. Setbacks. Setbacks shall be measured from the outermost edge of the closest of the circular path of the wind turbine rotor blade. The Town Board may increase the following minimum setbacks on a case-by-case basis, in order to protect public health and safety.

1. Participating Property Line: 1.1 times the total height of the Wind Turbine from the nearest property line of a participating property owner.

2. Non-Participating Property Line**:** Five (5) times the rotor diameter but not less than 1,300 feet from the nearest property line of a non-participating property, unless the owner of the non-participating property grants an easement for a lesser setback. The easement must be recorded with the County Register of Deeds and may not provide for a setback that is less than 1.1times the total height of the Wind Turbine.

3. Public Roads and Highways: 1,300 feet or three (3) times the total height of the Wind Turbine, whichever is greater.

4. Above Ground Power/Telephone Lines: 1,300 feet or three (3) times the total height of the Wind Turbine, whichever is greater, from the nearest above-ground public electric power line or telephone line.

5. Residences & Other Buildings: 2,640 feet from the nearest residence, business, school, daycare facility, church, hospital and other sensitive receptors.

6. Wetlands: 1,000 feet from all sinkholes and wetlands.

7. Water Bodies Setbacks: 1,300 feet from the ordinary high water mark of all navigable water bodies.

8. Parks & Public Property: 2,640 feet from any town, county or state park, property, recreational or rest area.

9. Spacing and Density: Minimum setback distances between turbines shall be (2) times the total height of each WES.

M. Signage and Fencing. Licensee shall provide reasonable signage at the Facility, identifying the Premises as being part of the Facility and providing appropriate safety notices and warnings against trespassing. The no trespassing signs shall be posted around the entire premises at an appropriate distance for posting but no less than 2 conspicuous places for every 40 acre parcel within the Facility. Signs should be sized at a minimum to meet the provisions of Wis. Stat. § 943.013(2).

1. No wind turbine, tower, building, or other structure associated with a wind energy system may be used to advertise or promote any product or service. No word or graphic representation, other than appropriate warning signs and owner or landowner identification, may be placed on a wind turbine, tower, building, or other structure associated with a wind energy system so as to be visible from any public road.

2. This prohibition shall include the attachment of any flag, decorative sign, streamers, pennants, ribbons, spinners or waving, fluttering or revolving devices, but not including weather devices.

N. Electrical Standards. All wiring between Wind Turbines and the Wind Energy Facility substation shall be underground. All neutral grounding connectors from Commercial Wind Turbines shall be insulated from the earth and shall be sized to accommodate at least twice the peak load of the highest phase conductor, to absolutely prevent transient ground currents, in order to comply with the National Electric Safety Code and the IEEE Standard 519-1992, approved by the American National Standards Institute, as follows:

1. Grounding of both the electrical transmission lines and the supply lines to the internal electrical systems of the turbines themselves, shall comply with Rule 92D, Current in Ground Conductors: "Ground connector shall be so arranged that under normal circumstances, there will be no objectionable flow of current over the grounding conductor."

2. Rule 215B: [It is not permissible] "to use the earth as a part of a supply circuit."

3. Under no circumstances shall any Wind Turbine be connected directly to the grid; connection must be made through a substation or transformer properly grounded and filtered to keep harmonic distortion within recommended limits.

4. Bare, concentric neutrals are specifically prohibited in buried lines between turbines and in underground transmission lines to substations.

5. Electrical controls and control wiring and power-lines shall be wireless or not above ground except where wind farm collector wiring is brought together for connection to the transmission or distribution network, adjacent to that network.

O. Stray Voltage. The Licensee shall respond within (5) five business days to any request for a stray voltage investigation by a property owner within the project boundary and a one-mile radius beyond the project boundary. The tests shall be performed by a mutually acceptable Wisconsin certified stray voltage investigator. The tests shall be performed according to PSCW Phase II Stray Voltage Testing Protocol. Testing shall commence within (10) ten working days of the request. If testing cannot be initiated within (10) days, the Wind Turbine(s) in question shall be shut down until the testing can be started. The investigation shall be provided to the property owner at no cost up to a maximum of two investigations within a 12-month period. At no time shall the operation of a WECS increase the measured cow contact voltage (Vcc) or primary neutral to remote voltage (Vpn) on a livestock facility within the project boundary and a one-mile radius beyond the project boundary, above the maximum pre-construction levels. The owner/operator agrees to abide by all rules, procedures, standards, and reporting established by the PSCW for stray voltage and related electrical phenomena. Owner/operator is responsible for mitigating within five working days from determination any net increase in cow contact voltages (Vcc) or primary neutral to remote voltages (Vpn) attributed to the operation of the WECS. If corrections cannot be initiated within (5) five working days, the Wind Turbine(s) in question shall be shut down until the voltages in question are mitigated. A copy of the test results shall be sent to the property owner, PSCW Rural Electric Power Services staff, and the Town Board within (30) days of test completion.

P. Reporting and Complaint Resolution Procedure. Licensee shall report to the Town as follows:

1. Quarterly Power Production Reports: The Licensee shall submit a quarterly power production report to the Town which shall cover the proceeding calendar quarter and include actual power production in kilowatt-hours for each commercial wind energy facility in the Town.

2. Annual Monitoring Reports. The Licensee shall submit an annual monitoring report to the Town, containing data on the operations and environmental impacts of the WECS site. Such reports shall describe all safety inspections of the WECS.

3. Extraordinary Events. Within 24 hours of any extraordinary event, Licensee shall notify the Town. "Extraordinary events" shall include but not be limited to tower collapse, catastrophic turbine failure, fires, leakage of hazardous materials, unauthorized entry to the tower base, thrown blade or hub, any injury to a Facility worker or other person that requires emergency medical treatment, or other event that impacts the public health and safety of the Town.

4. Complaints. The Licensee shall, at the licensee's expense and in coordination with the Town develop a system for detailed logging and investigation of all complaints related to the operation of the WECS. The Town will select a qualified individual to investigate complaints. The Licensee shall provide this qualified individual with direct phone contact and address information of the licensee representative. The reasonable cost and fees incurred by the Town in retaining said qualified individual shall be reimbursed by the owner of the WECS. After the investigation, if the Town Board reasonably concludes that operational violations or other public or private nuisances have been caused by the WECS, the Town shall require Licensee to use all reasonable efforts to mitigate or eliminate such problems on a case-by-case basis, as required by the Town Board. In order to address such complaints, the Town Board may require planting trees and installing awnings, limiting the hours of Wind Turbine operation, repair of WECS, removal and decommissioning of Wind Turbines.

Q. Emergency Shutdown. The Licensee shall be required to immediately cease operations for the duration of any Emergency. Emergency shall mean a proven condition or situation caused by the Facility or by other conditions that present an imminent physical threat of danger to life or significant threat to property. A WECS that is found to present an imminent physical threat of danger to life or significant threat of damage to property shall be immediately shut down and repaired or otherwise made safe and certified so by a Wisconsin professional engineer prior to resumption of operation. The Town shall have the right to access all WECS to verify conditions and/or repair progress with reasonable notice to the WECS owner/operator. Within 24 hours of an occurrence of a tower collapse, turbine failure, property damage or contamination, fires, thrown blade or hub, collector or feeder line failure, injured WECS worker or private person, the owner/operator shall notify the Town of the occurrence and proposed remedial action.

R. Turbine Decommissioning and Site Restoration Plan. Each Wind Turbine and all related improvements shall be removed in accordance with the Decommissioning and Site Restoration Plan submitted by the applicant and approved by the Town through the licensing process.

1. The owner of a WECS and the underlying property owners shall be jointly liable for the removal of all equipment associated with the WECS at the end of the permit period, the useful life of the facility, or when the facility is abandoned or otherwise out of operation for more than six months, at their expense.

2. Upon removal of a WECS facility, the owner of the facility and the underlying property owners shall be jointly liable for restoration of the site to its original condition at their expense. To protect the environment, removal shall be done by mechanical means. Blasting is not an approved means for removal. The restoration shall include removal of all materials above and below ground; public road repair, if any; and all re-grading and re-vegetation necessary to return the subject property to the condition existing prior to establishment of the Wind Energy Facility. All hazardous materials shall be removed from the site and disposed of in accordance with state and federal laws.

3. The owner of a Wind Energy Facility and the underlying property owner shall provide proof of financial responsibility for the removal of the facility and restoration of the site in the form of a bond or an irrevocable standby letter of credit held in trust in favor of the Town, in a form to be approved by the legal counsel for the Town.

VII. INSURANCE AND INDEMNIFICATION

A. Insurance. All Licensees shall maintain the following insurance coverage commencing upon construction of the facility:

1. The owner/operator shall, at its expense, maintain a broad form comprehensive coverage policy of public liability insurance insuring Applicant and Participating Landowners against loss or liability caused by Applicant's occupation and use of the Property under the Lease, in an amount not less than Five Million Dollars ($5,000,000) of combined single limit liability coverage per occurrence, accident or incident, which has a commercially reasonable deductible. The Town shall be named as an additional insured on the policy.

2. Worker's compensation coverage in an amount required by Wisconsin law. Applicant shall require subcontractors and others not protected under its insurance to obtain and maintain worker's compensation and employers' liability insurance.

3. Certificates of insurance evidencing compliance with these requirements shall be provided upon request of the Town. The insurer will provide notice to the Town in the event there is a lapse in coverage exceeding thirty (30) days. All policies other than worker's compensation shall be written on an occurrence and not on a claim-made basis.

B. Defense of Land Use Decision and Indemnity. In addition to the indemnification described below, Licensee shall reimburse the Town its reasonable attorneys' fees incurred in defending any legal actions brought by third parties challenging the legality or enforceability of this ordinance or any portion thereof, or the issuance of a License by the Town pursuant to this ordinance.

1. If the Town seeks reimbursement, it shall notify Licensee in writing promptly upon discovering any claim entitling it to a land use defense reimbursement, but in no event later than 120 days after receiving written notice of any action, lawsuit, proceeding,

investigation or other claim against it which may give rise to a claim for a land use defense reimbursement.

2. Licensee shall not be obligated to reimburse the Town with respect to any such liability, action or claim if the Town fails to notify Licensee thereof in accordance with the provisions of this section in sufficient time including, without limitation, any responsive motion or answer to a complaint, petition, notice, or other legal, equitable action or claim, but only insofar as such knowing failure to notify Licensee has actually resulted in prejudice or damage to Licensee.

3. With respect to any third party action, lawsuit, proceeding, investigation or other claim which is subject to reimbursement under this section, Licensee shall be entitled to assume and control (with counsel of its choice) the defense of such action, lawsuit, proceeding, investigation or other claim at Licensee's expense; provided, however, that the Town shall be entitled to participate in the defense of such claim and to employ counsel of its choice for such purpose (the fees and expenses of such separate counsel to be borne by the Town) and to assert against any third party any and all cross claims and counterclaims the Town may have, subject to Licensee's consent, which consent shall not be unreasonably withheld. If Licensee elects to assume the defense of any such claim, it may settle such claim in its sole discretion so long as either (i) such settlement provides an unconditional release of the Town, or (ii) Licensee shall obtain the prior written consent of the Town (which consent shall not be unreasonably withheld). If Licensee elects to assume the defense of any claim, the Town shall fully cooperate with Licensee and its counsel in such defense.

4. Licensee shall defend, indemnify and hold harmless the Town and its officials, employees and agents from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses and liabilities whatsoever, including reasonable attorneys' fees (such liabilities together known as "Liability") arising out of Licensee's selection, construction, operation and removal of the Wind Turbines and affiliated equipment including, without limitation, Liability for property or personal injury (including death), whether said Liability is premised on contract or on tort (including without limitation strict liability or negligence). This general indemnification shall not be construed as limiting or qualifying the Town's other indemnification rights available under law.

VIII. STANDARDS

A. Construction Standards. All WECS shall be constructed in compliance with Good Utility Practice for Wind Turbines. In the event after inspection by a qualified expert in Good Utility Practice, the Town concludes that any of the Wind Turbines were not constructed in compliance with Good Utility Practice or constitutes a danger to persons or property, then upon notice being provided, Licensee shall have 90 days to bring the non-compliant Wind Turbine(s) into compliance with such standards. If 90 days is insufficient time to cure the non-compliance, Licensee shall present a plan to the Town describing the reason for the delay and the time frame for the cure to be put in

place. Failure to bring such non-compliant Wind Turbine(s) into compliance or failure to provide a plan for compliance within 90 days shall constitute grounds for the Town Board to order immediate removal of said Wind Turbine(s) at Licensee's expense.

B. Performance Standards. All WECS shall be operated and maintained consistent with Good Utility Practice for comparable facilities.

C. State and Federal Standards. Construction of WECS and Wind Turbines shall meet or exceed current standards and regulations, if any, of any other agency of the state or federal government with the authority to regulate wind powered generators. If such standards and regulations are changed and retroactive application is required for the change, then Licensee shall bring the Wind Turbine(s) into compliance with such applicable revised standards and regulations within 6 months of the effective date of such standards and regulations, unless a different compliance schedule is permitted by the controlling state or federal agency or approved by the Town. A Determination of No Hazard for each Wind Turbine must be obtained from the FAA for each Wind Turbine as a condition precedent to the receipt of a license under this ordinance.

D. Wind Turbine Safety Standards. Licensee shall comply with the following safety standards:

1. All wiring between the Wind Turbines and substations shall be installed at least four (4) feet underground.

2. The outside of Wind Turbines shall not be climbable.

3. All access doors to the towers and electrical equipment shall be locked.

4. Appropriate warning signage shall be placed on each tower, all electrical equipment, and all entrances.

E. Repair & Replacement. Licensee shall be authorized to repair and replace the wind turbine generator and associated equipment consistent with Good Utility Practice during the Term of this License as needed to keep the Facility in good repair and operating condition. However, no such repair or replacement shall entitle Licensee to any extension of the Term of this License, even if it extends the useful life of the Facility. If Licensee desires to extend the term of this License in the future, Licensee shall be required to apply for such extension or amendment of this License in accordance with the terms of this ordinance.

IX. PROCEDURES FOR ALTERATION OR REVOCATION OF LICENSE

A. Amendment. Following the granting of a license any licensee who wishes to materially alter any aspect of the licensed premises which was required to be described in the building plan or site plan required under this Section, shall apply to the

Town Board for an amendment to the license. The application shall explain the nature of the alteration and the reasons therefore and include a non-refundable application fee of $600. The Applicant shall also be required to pay the reasonably necessary engineering expenses, if any, associated with the review. The Town Board shall act on the amendment application consistent with the terms of this ordinance.

B. Revocation of License. An unsafe WECS and an inoperable WECS is hereby declared an unsafe public nuisance, which shall be subject to abatement by repair, rehabilitation, demolition, or removal by the Town Board. An inoperable WECS shall not be considered a public nuisance provided the owner can demonstrate that modernization, rebuilding or repairs are in progress or planned and will be completed within a reasonable time as approved by the Town Board, provided periodic reports on the status of the repairs are provided to the Town Board as requested of the licensee.

1. Each of the following occurrences shall constitute a violation of the terms and conditions of this License (a "Violation") and any such Violation shall be grounds for revocation of this License (whatever the reason for such an event of default and whether it shall be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, order or regulation) after the expiration of the notice and cure period and revocation hearing as set forth below:

a. The Licensee abandons the wind turbine generators located on the premises for a period of six months or more.

b. The Licensee fails to observe or perform any material condition or provision of this License for a period of 30 days after it has received written notice of such failure from the Town; provided, however, that a Violation shall not occur if Licensee commenced performance of such obligation within such 30 day period and is diligently proceeding to complete such performance.

c. There is a material failure by Licensee to comply with any statute, regulation, rule, or license administered by any federal, state or county department, agency, or commission directly related to the operation of the wind turbine generator, and if Licensee fails to cure the material failure to comply for a period of 30 days after the date Licensee receives written notice of such failure from the Town or the federal, state or local governmental body or agency with jurisdiction; provided, however, that a Violation shall not occur if Licensee commences performance of such obligation within such 30 day period and is diligently proceeding to complete such performance.

2. Each Wind Turbine and all related improvements shall be removed in accordance with the Decommissioning and Site Restoration Plan submitted by the applicant and approved by the Town through the licensing process.

3. The owner of a WECS and the underlying property owners shall be jointly liable for the removal of all equipment associated with the Wind Energy Facility at the end of the license period, the useful life of the facility, or when the facility is abandoned or

otherwise out of operation for more than six months, at their expense. Upon removal of a Wind Energy Facility, the owner of the facility and the underlying property owners shall be jointly liable for restoration of the site to its original condition at their expense. To protect the environment, removal shall be done by mechanical means. Blasting is not an approved means for removal. The restoration shall include removal of all materials above and below ground; public road repair, if any; and all re-grading and re-vegetation necessary to return the subject property to the condition existing prior to establishment of the WECS facilities. All hazardous materials shall be removed from the site and disposed of in accordance with state and federal laws.

C. Hearing. The Town shall not revoke any License without first providing the Licensee a hearing and the right to respond, including the right to present evidence regarding any defenses or extenuating circumstances regarding the alleged violations or public or private nuisance.

X. LICENSE EXPIRATION

A. Expiration. Unless the Town Board authorizes a different term based upon analysis of the useful life of the WECS, every license issued pursuant to this ordinance shall terminate upon the expiration of twenty five years from the date of issuance if construction is commenced within one year of issuance. If construction is not commenced within one year of issuance, the license shall expire one year after the date of issuance and the applicant will be required to reapply if it still intends to develop a WECS project.

XI. FEES AND EXPENSES

A. Tax Hold Harmless. In the event that the shared revenue payments payable to the Town are eliminated by the Legislature, Licensee shall be required to pay the Town an amount not less than $1,667 per megawatt per year for Wind Turbines actually installed and operating within the Town. Such payments shall be on an annual basis and payable on the 180th day after notice from the Town of Licensee's obligation to pay under this paragraph. Licensee's obligation to make such payments shall cease if the State adopts or implements a new mechanism to replace the shared revenue payments, to the extent that the new payment mechanism produces revenue not less than the revenue payable under the predecessor program. The shared revenue payments referenced above are paid to the Town directly by the State of Wisconsin, not Licensee. Regardless, Licensee shall be required to supplement the Town's annual shared revenue payments actually received, by an amount equal to the annual percentage change of the Consumer Price Index as of January 1 of each calendar year beginning on the first January following the date the Town receives its first payment. For purposes of this escalator clause, the Consumer Price Index means the U.S. Department of Labor, Bureau of Statistics, Consumer Price Index for the United States, All Urban Consumers, all items, unadjusted index.

B. Property Taxes. If the property tax exemption for WECS under current state law is revised or revoked by future Legislatures, Licensee will be responsible for all related assessments and taxes associated with the license and WECS site. Failure to pay such tax obligation shall be considered a non-compliance with this ordinance.

C. Reimbursement of Fees and Costs. Licensee shall reimburse the Town for its actual reasonable fees and costs incurred in the application, negotiation, administration and enforcement of this ordinance, including, without limitation, the Town's attorney fees, engineering and consultant fees, Town Board meeting and hearing fees, and the costs of public notices relative to the review and consideration of each application filed by an applicant under this ordinance. The preceding fees are payable within 30 days of invoice. Unpaid invoices shall bear interest at the rate of 1% per month until paid. The Town may recover all reasonable costs of collection, including attorneys fees.

XII. WESF NEIGHBOR AGREEMENT

A. Neighbor Agreement. Licensee may offer to non-participating landowners the opportunity to enter into a Windpower Facilities Neighbor Agreement, provided:

1. Landowner has not otherwise entered into a Ground Lease, Easement or Setback Waiver Agreement with Licensee;

2. Has a primary residence or private business located within the setbacks provided for under this ordinance; and

3. Owns the property in fee simple and has applied for a building permit on or before the issuance of a license pursuant to this ordinance. A landowner who enters into such an agreement is not a Participating Residence for purposes of this ordinance.

B. Town Approval. The terms and form of such agreements shall be subject to negotiation between the Licensee and non-participating landowners who may be interested in such an agreement. However, such agreements, once signed, shall be subject to review and approval by the Town Board.

XIII. ADMINISTRATION, ENFORCEMENT, PENALTIES, RELATIONSHIP TO OTHER ORDINANCES, SEVERABILITY & EFFECTIVE DATE

A. Administration. This ordinance shall be administered by the Town Board or its designee.

B. Inspections. The Town Board or its designee may enter upon any property for which a licensing permit has been issued under this ordinance to conduct inspections to determine whether the conditions stated in the permit and other standards and requirements of this ordinance are being complied with.

C. Enforcement. The Town Board or its designee may issue orders to abate any violation of this ordinance or any condition attached to a licensing permit approved by the Town Board. The Town Board or its designee may issue a citation for any violation of this ordinance. The Town Board may refer any violation of this ordinance to the Town's legal counsel or to special counsel for enforcement through litigation. Nothing in this ordinance shall be construed to prevent or limit the Town from using any other lawful means of enforcing this ordinance.

D. Penalties. Any person, applicant or licensee who fails to comply with any provision of this ordinance or of any license issued pursuant to this ordinance shall, upon conviction thereof, forfeit at least five-hundred dollars ($500.00) but not more than one-thousand dollars ($1,000.00) for each offense. A separate offense shall be deemed committed on each day during which a violation occurs or continues. Any person, applicant or licensee who is in default of payment of a forfeiture or costs may be imprisoned in the county jail until the forfeiture or costs are paid, except that the period of imprisonment may not exceed thirty (30) days.

E. Relationship to Other Ordinances. This ordinance does not abrogate, annul, impair, interfere with, or repeal any existing ordinance of the Town or any other governmental body.

F. Severability. The provisions of this ordinance are severable, and the invalidity of any section, subdivision, paragraph, or other part of this ordinance shall not affect the validity or effectiveness of the remainder of the ordinance.

G. Effective Date. This ordinance shall take effect upon passage and posting or publication as provided by law.

Adopted this ____ day of _____ 2008.

_____
Town Chairman

_____
Town Supervisor

_____
Town Supervisor

_____
Attest: Town Clerk

Date Posted: _____

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STATE OF WISCONSIN **TOWN OF WOODVILLE**

WIND ENGERGY SYSTEMS LICENSING ORDINANCE

The Town Board of the Town of Woodville Wisconsin, does ordain as follows:

WIND ENERGY SYSTEMS LICENSING ORDINANCE

I. FINDINGS OF FACT.

A. These regulations are adopted under the authority granted pursuant to Wis. Stat. § 66.0401, which provides:

> Wis. Stat. § 66.0401 (2002)
> Regulation relating to solar and wind energy systems.
>
> (1) AUTHORITY TO RESTRICT SYSTEMS LIMITED. No county, city, town, or village 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, as defined in s. 66.0403(1)(m), 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.

B. It is necessary and appropriate to protect the unique natural resources and geological features of the Town of Woodville ("Town").

C. The natural resources and geological features of the Town make the groundwater susceptible to degradation by blasting and related industrial/commercial construction activity because the soil and underlying bedrock may be unable to perform its normal filtration process due to cracks in the subsurface soil and/or bedrock. Unregulated wind energy systems may, therefore, have an adverse, direct impact on local drinking water resources.

D. The Town finds that Wind Energy Systems operating in the Town require special licensing by the Town in order to protect and preserve the health, safety, and welfare of the citizens of the Town and people in general. In this regard, the Town adopts and incorporates by reference a report issued by the National Research Council entitled *Environmental Impacts of Wind-Energy Projects*, May

2007 ("2007 NRC Report"). The Town further finds that the provisions of the "Draft Model Wind Ordinance for Wisconsin" do not adequately protect public health and safety and have no legal basis under Wisconsin law.

E. Licensing is a legitimate and reasonable means of accountability to ensure that the construction of and operation by employees of Wind Energy Systems comply with reasonable regulations and to ensure that operators and employees do not allow their establishments to be hazardous to the public health or safety.

F. It is not the intent of this ordinance to significantly increase the cost of the system or significantly decrease the efficiency of any Wind Energy System proposed to be located in the Town.

II. PURPOSE AND INTENT.

Based upon the findings stated above, it is the intended purpose of the Town to regulate Wind Energy Systems to promote the health, safety, and general welfare of the citizens of the Town and to establish reasonable and uniform regulations for the operation thereof so as to minimize potentially dangerous effects of these Systems on the community.

III. DEFINITIONS.

The following terms have the meanings indicated:

1. "Applicant" means the individual or business entity that seeks to secure a license under this section of the Town municipal code.

2. "Board" means the Town Board for the Town of Woodville, Calumet County, Wisconsin.

3. "Employee" means any and all Persons, including but not limited to "operators," who work in or at, or render any services directly related to operation of Wind Energy Systems.

4. "Good Utility Practice" means any of the practices, methods and acts with respect to the safe operation of the Wind Energy System Facility ("WESF") engaged in or approved by a significant portion of the electric utility industry and, in particular, those portions of the industry with experience in the construction, operation and maintenance of wind turbines during the relevant time period; or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others,

but rather to be acceptable practices, methods or acts generally accepted in the region.

5. "Non-Participating Residence or Business" means all private residences and businesses located within 1/2 of a mile measured from the foundation of the residence or business to the center of the nearest WESF turbine, provided the non-participating land owner owned the property in fee simple and applied for a building permit on or before the issuance of a license pursuant to this Ordinance.

6. "Operator" means the person who is designated on the license application to be the person in charge of the daily operation of the premises and who is to be the Wind Energy Systems contact person for the Town.

7. "Person" means an individual, proprietorship, corporation, association, partnership, limited liability entity, or other legal entity.

8. "Stray Voltage" means neutral-to-earth voltage measured from the electrical system neutral and/or any structure bonded to this neutral to earth that adversely affects humans or animals.

9. "Wind Energy Systems" means equipment that converts and then stores or transfers energy from the wind into usable forms of energy on a large, industrial scale for commercial or utility purposes. Small scale wind systems of less than 170 feet in height and less than 100 kilowatts are exempt from this definition.

10. "Wind Energy Systems Facility" or "Facility" means all of the land and equipment used by the wind energy system and its support facilities including the wind turbine, tower, access roads, control facilities, meteorological towers, maintenance and all power collection and transmission systems.

11. "Wind Energy System Tower" means any structure that is designed and constructed primarily for the purpose of supporting the Wind Turbine.

12. "Wind Energy System Tower Site" means the land area encompassing a tower and all related equipment, structures paved or graveled areas, safe clearance areas, fencing and other items used in connection with said tower.

13. "Wind Turbine" or "Turbine" means a mechanical device which captures the kinetic energy of the wind and converts it into electricity. The primary components of a wind turbine are the blade assembly, electrical generator and tower.

IV. LICENSING

A. License Required.

From and after the effective date of this ordinance, no Wind Energy Systems shall be operated or maintained in the Town without first obtaining a license to operate issued by the Town. However, small scale wind energy systems of less than 170 feet in height and less than 100 kilowatts are exempt from the licensure requirements of this Ordinance.

B. **Effect of Other Licenses.**

The fact that a person possesses any other valid license or permit required by law, does not exempt that Person from the requirement of obtaining a Wind Energy Systems license under this Section.

C. **Non-assignability of Licenses.**

The license is not assignable or transferable to any other Person, without the express prior written consent of the Town, such consent not to be unreasonably withheld; provided, however, the Licensee may assign the License once to a new entity, upon notice to the Town, if the Licensee submits an affidavit demonstrating the following:

(a) The new entity is wholly owned by the Licensee.

(b) The new entity is properly formed and authorized to do business in Wisconsin.

(c) The written assignment requires the new entity to assume all of the Licensee's rights, duties and obligations under the License including but not limited to the letter of credit requirements and the certificate of insurance requirements.

V. LICENSE APPLICATION PROCEDURE FOR WIND ENERGY SYSTEMS

A. Any person desiring to secure a Wind Energy Systems license shall file an application together with two additional copies of the application with the Town Clerk.

B. The application shall be on a form provided by the Town Clerk.

C. The following information shall be required of each Applicant, and must be provided under oath or affirmation:

1. Name, address, and phone number.

2. If the Applicant is a corporation, partnership, limited liability company or limited liability partnership, the application shall include the name of the

business entity; the date of incorporation, registration or organization; the state in which the entity was incorporated, registered or organized; the name and address and home numbers of the registered agent where applicable; the names and addresses of all officers and directors; operating or managing partners or general partners; managing members or managers, whichever is applicable for the particular form of business entity.

3. Name and address of any other current or past Wind Energy Systems operated by the Applicant whether in this State or any other State or District within the United States.

4. Name, address and phone number of an individual who is responsible for the day-to-day operation of the facility, who will be deemed the Operator for purposes of this section, and who will be the contact Person for the municipality.

5. A statement that the Applicant is familiar and in compliance with the provisions of this section of the Town's code, including the responsibility to reimburse all reasonable costs and professional fees associated with the processing, examination and analysis of the proposed facility.

D. Each application shall be accompanied by:

1. A site plan which meets all the requirements of this Section and applicable provisions of the County and/or Town Zoning Code pertaining to Land Use Permits, as well as any additional site specific requirements of the County and/or Town in accordance with the technical requirements in this ordinance. Each application shall be accompanied by a site plan of the Wind Energy System Tower Site(s), including total acreage occupied by the facility, a detailed map of the area showing parcel boundaries, individual Wind Turbine locations, accessory structures (transmission lines, substations, etc.), and a complete list of participating property owners and grantors of related leases and easements. In addition, each application shall be accompanies by:

a) A pre-construction noise survey within a one mile radius of each proposed Wind Turbine location showing ambient background noise levels over a six-month period prior to final layout and construction, as recommended by the 2007 NRC Report in Box 5-4, pages 214-215; and

b) An environmental study specifically indicating the impact the project will have on the groundwater beneath and in the vicinity of the proposed Wind Turbine sites.

c) A proposed Decommissioning and Site Restoration Plan which must specifically address the reclamation of each proposed Wind Energy System Tower Site and the proposed method of removal and site restoration concerning each Wind Energy System Tower Site. The Decommissioning and Site Restoration Plan must also include adequate proof of financial responsibility on the part of the owner of a Wind Energy Facility and the underlying property owner for the removal of the facility and restoration of the site in the form of a bond or an irrevocable standby letter of credit to be held in trust in favor of the Town., all of which must be in a form to be approved by legal counsel for the Town, and approved by the Town Board as part of the application.

2. Each application shall be signed by the Applicant and by all participating property owners.

3. Each application shall be accompanied by payment of nonrefundable application fee to be determined from time to time by separate resolution of the Town Board. Filing of the application does not occur until this fee has been paid.

4. The Town Clerk shall date the filing of the application in the face of the application.

5. Upon receipt of the application, the Town Clerk shall distribute a copy of the application to all other affected Towns in the County, the Town Board, County Zoning Administrator and all affected Town Fire Departments.

6. The Town Board may refer the application to the Town engineer or a qualified consulting engineer for further review. The reasonably necessary costs associated with the engineering review shall be the responsibility of the applicant, in accord with the terms of this ordinance.

7. The Town Board may refer the application to a committee for a public hearing and recommendation to the Town Board. It may also hold a public hearing of its own on the application.

8. The Town Board shall refer the application to a public hearing for purposes of receiving public comment.

9. Following a public hearing and review, the Town Board shall either grant the license or deny the application after reviewing the application for compliance with the licensing standards found in this ordinance and under state law. A license may be granted with conditions. No license may be granted for a period of time to exceed 30 years.

10. If the license is granted by the Town Board, then the Town Clerk shall issue the license within seven (7) business days. A license may be revoked at any time by the Town Board for good cause, including but not necessarily limited to protection of public health and safety. A license shall be initially effective for one year from the date of issuance. If construction has not begun within one-year of issuance, the license shall expire and the Licensee shall be required to apply for a new license.

11. If the Town Board decides to deny the application for a license, the Board shall immediately notify the Applicant in writing of the reasons for denial. Such notice shall be sent to the Applicant within five (5) business days of the decision by certified mail, return receipt requested.

12. Any Applicant or other person aggrieved by such a decision of the Town Board, including any resident or owner of property in the Town, shall be entitled to immediately appeal the Board's decision in Circuit Court. Such an appeal must be made within 30 days of the date of the written decision by the Board. The Town explicitly elects not to be governed by Wis. Stat. Ch. 68, and to provide the review procedures described in this Section.

13. Each license issued for a Wind Energy System shall state on its face the name of the licensee, the name of the establishment, the street address of the establishment, the date of issue of the license and its expiration date.

VI. TECHNICAL REQUIREMENTS FOR LICENSING

This ordinance is intended to require implementation of restrictions through licensing regarding the design, construction and operation of Wind Energy Systems. It is recognized that the restrictions herein are neither exclusive, nor exhaustive. In instances where a health or safety concern is identified with regard to any application for a Wind Energy System, additional and/or more restrictive conditions may be included in the license to address such concerns. All rights are reserved to impose additional restrictions as circumstances warrant. Such additional and/or more restrictive conditions may include, but are not limited to: a) longer setbacks from nearby property lines, roads, power lines, residences, businesses and inhabited structures; b) more restrictive noise limitations, and c) more restrictive limitations to protect surface water and groundwater.

A. Design.

Each Wind Turbine shall consist of a tower, generator(s), nacelle and blades. The total height of a Wind Turbine cannot exceed 400 feet above grade. Each WESF site must have access roads, underground transmission cabling to connect

the generators to local utility electric distribution lines, and underground fiber optic lines. The application shall disclose the nature and type of the proposed Wind Turbine to be installed. Detailed product literature shall accompany the application. Each Wind Turbine shall also comply with the following design requirements (a) Wind Turbines shall be painted a non-reflective, non-obtrusive color; (b) at each WESF site, the design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the WESF to the natural setting and the existing environment; (c) Wind Turbines shall not be artificially lighted, except to the extent required by the FAA or other applicable authority; strobe or other intermittent lights are prohibited; (d) Wind Turbines shall not be used for displaying any advertising, except for reasonable identification of the manufacturer or operator of the WESF; (e) electrical controls and control wiring and power-lines must be wireless or not above ground, except where wind farm collector wiring is brought together for connection to the transmission or distribution network, adjacent to that network; and (f) the clearance between the ground and the Wind Turbine blades shall be at least 40 feet.

B. **Aircraft Protection.**

The wind turbine generator tower shall be marked as required by the Federal Aviation Administration (FAA). There shall be no lights on the outside of the tower other than what is required by the FAA or other applicable authority or as otherwise agreed in connection with the issuance of the License. Notwithstanding the foregoing, this restriction shall not apply to infrared heating devices used to protect the monitoring equipment. The tower shall be connected to an uninterruptible back-up power source to ensure continuous compliance with FAA regulations. To the extent consistent with FAA regulations, shrouding for the lights shall direct reflection of light up. Aircraft safety and protection shall also be accomplished by establishing sufficient setbacks between all Wind Turbines and adjoining properties in order to allow for safe crop-dusting of agricultural fields, and safe emergency medical aircraft landings on all adjoining properties.

C. **Blasting.**

Licensee shall not undertake any blasting in connection with the construction of the Facility unless Applicant shall have notified the Town and submitted a blasting plan consistent with applicable laws and regulations. The plan must be reviewed and approved by the Town Board after it has been submitted by the Licensee before any blasting may take place. The plan shall provide, at a minimum, (a) all blasts must comply with the State ground vibration limitations; (b) flyrock traveling in the air or along the ground must remain in the controlled blasting area site owned or controlled by the applicant; (c) all blasting must be performed by or under the direct supervision of a State-licensed blaster; (d) a blasting log for each blast will be kept on-site at the WESF office for not

less than 5 years, and copies of the required blasting log will be promptly submitted to the Town upon its request; (e) a resident call list must be established for the purpose of notifying neighbors at homes in the vicinity of the WESF of eminent blasting activity. This call list must be maintained and utilized on a "request basis only" for all residents in the vicinity of the WESF who asked to be notified prior to any blast; and (f) the storage of explosives will be in accordance with Wis. Admin. Code Ch. Comm. 7.

D. **Electromagnetic Interference.**

The Licensee shall minimize or mitigate any interference with electromagnetic communications, such as radio, telephone or television signals caused by any WESF.

E. **Emergency Shutdown.**

Licensee shall be required to immediately cease operations for the duration of any Emergency. Emergency shall mean a proven condition or situation caused by the Facility that presents an imminent physical threat of danger to life or significant threat to property.

F. **Groundwater Protection.**

Licensee shall operate the Facility so as not to cause groundwater contamination in violation of applicable law. Nothing contained in the license is intended to authorize or permit any degradation of the quantity or quality of the groundwater in connection with the WESF. Furthermore, no wells may be drilled within the boundaries of the WESF site, and no excavations deeper than nine (9) feet below the surface of the soil shall be allowed in the construction of any Wind Energy Facility or Wind Turbine. In addition, the licensee shall complete a plan for managing surface water runoff to prevent pollution of groundwater through sinkholes and infiltration through the soil and underlying bedrock within a 1,000-foot radius of each Wind Turbine site and along all access roads and driveways leading to Wind Turbine sites. The plan shall provide for surface water management so that the water flows away from the Wind Turbine sites and known sinkholes rather than toward them.

G. **Noise.**

1. Noise emitted by Wind Turbines shall not exceed 38 dBC, 35 dBA, or 5 dBA over background ambient noise levels, whichever is lower, when measured from the outside of the nearest residence, business, school, daycare facility, church, hospital and other inhabited structures. (Note: This restriction is based on the German standard of "35dB(A) for rural nighttime environments," as reported by the 2007 NRC Report at page

159, and on the need to prevent the types of adverse public health effects from wind turbines as documented and reported by Dr. Nina Pierpont and others who have done research on this issue and lived near wind turbines. *See Health Effects of Wind Turbine Noise*, Nina Pierpont, MD, PhD, available online at: www.ninapierpont.com.)

2. In the event noise due to WESF operations contains a steady pure tone, such as a whine, screech, or hum, the standards for noise set forth in subparagraph (1) of this subsection shall be reduced by five (5) dBA. A pure tone is defined to exist if the one-third (1/3) octave band sound pressure level in the band, including the tone, exceeds the arithmetic average of the sound pressure levels of the two (2) contiguous one-third (1/3) octave bands by five (5) dBA for center frequencies of five hundred (500) Hz and above, by eight (8) dBA for center frequencies between one hundred and sixty (160) Hz and four hundred (400) Hz, or by fifteen (15) dBA for center frequencies less than or equal to one hundred and twenty-five (125) Hz.

3. In the event the ambient noise level (exclusive of the development in question) exceeds the applicable standard given above, the applicable dBA standard shall be adjusted so as to equal the ambient noise level. The ambient noise level shall be expressed in terms of the highest whole number sound pressure level in dBA, which is succeeded for more than five (5) minutes per hour. Ambient noise levels shall be measured at the exterior of potentially affected existing residences, schools, hospitals, churches and public libraries. Ambient noise level measurement techniques shall employ all practical means of reducing the effect of wind-generated noise at the microphone. Ambient noise level measurements may be performed when wind velocities at the proposed project site are sufficient to allow Wind Turbine operation, provided that the wind velocity does not exceed thirty (30) mph at the ambient noise measurement location.

4. Any noise level falling between two whole decibels shall be the lower of the two.

H. **Public Roads.**

Licensee shall, prior to the initiation of construction and use of haul roads, consult with the Town Board and the County Sheriff's Office for load paths and restrictions on their respective roads or bridges. At Licensee's expense, Licensee shall provide the Town Board with a videotape documenting the condition of all haul roads in the Town prior to beginning and after completing construction of the Facility. At Licensee's expense, the Licensee shall contract with qualified contractors to repair any damage to the haul roads due to transportation of equipment and Facility components ("Road Repair Obligations"). In the event a

hazardous road condition exists that is not promptly corrected by Licensee, Town Board may order emergency road repairs be performed by qualified contractors, and Licensee shall promptly reimburse the Town for reasonable emergency road repair costs. Licensee shall assure funding of the Road Repair Obligations by a letter of credit or guaranty from a contractor of Applicant. Weather permitting, the final Road Repair Obligations shall be completed to the reasonable satisfaction of the Town Board within six (6) months after completion of construction of the Facility, or as soon thereafter as weather conditions permit.

I. **Screening.**

Licensee shall design the Facility so as to minimize visual impacts such as glare, reflection or shadow flicker. Complaint of such visual impacts occurring inside any residence exceeding five (5) hours per year shall be dealt with in accordance with the Reporting and Complaint Resolution procedures herein.

J. **Setbacks.**

Wind Turbines shall comply with the following minimum setbacks, which may be increased on a case-by-case basis by the Town Board in order to protect public health and safety:

1. Setbacks. Each Wind Turbine must be set back:

   a. at least 1.1 times the total height of the Wind Turbine from the nearest property line of a participating property owner;

   b. at least 1,000 feet from the nearest property line of a non-participating property, unless the owner of the non-participating property grants an easement for a lesser setback. The easement must be recorded with the County Register of Deeds and may not provide for a setback that is less than 1.1 times the total height of the Wind Turbine;

   c. at least 1,000 feet or three (3) times the total height of the Wind Turbine, whichever is greater, from any public road, railroad or power line right-of-way;

   d. at least 1,000 feet or three (3) times the total height of the Wind Turbine, whichever is greater, from the nearest above-ground public electric power line or telephone line;

   e. at least 2,640 feet from the nearest residence, business, school, daycare facility, church, hospital and other inhabited structures, unless the owner of a private residence or business agrees to grant an easement to allow a reduced setback. The setback in such

cases shall never be less than 1,320 feet from a private residence or business. However, the setback from schools, daycare facilities, churches, hospitals and other inhabited structures shall never be less than 2,640 feet; and

f. at least 1,000 feet from all sinkholes to prevent groundwater contamination.

(Note: The above setbacks are based on the 2007 NRC Report, which states at page 158 that, "some people feel disturbing amounts of vibration or pulsation from wind turbines," but the "[n]oise produced by wind turbines generally is not a major concern for humans beyond a half mile (2,640 feet) or so because various measures to reduce noise have been implemented in the design of modern turbines." The 2007 NRC Report also states on page 161 that, "[s]hadow flicker can be a nuisance to people living near a wind-energy project. It is sometimes difficult to work in a dwelling if there is shadow flicker on a window.... If a turbine is close to a highway, the movement of the large rotor blades and possible resulting flicker can distract drivers. Irish guidelines, for example, recommend that turbines be set back from the road at least 300 meters." See 2007 NRC Report at 161. However, longer residential setbacks of up to 1.5 miles are recommended by some experts to fully protect public health and safety. *See Health Effects of Wind Turbine Noise*, Nina Pierpont, MD, PhD, available online at: www.ninapierpont.com.)

2. Definition of Participating and Non-Participating. For purposes of this Ordinance "Participating" shall mean a property owner or property (including a residence) that is subject to an agreement, authorization or lease with Licensee to place Wind Turbines upon or near such property. "Non-Participating" shall mean all property owners or property (including a residence) which are not Participating property owners or property.

3. Spacing and Density. A Wind Turbine must be separated from every other Wind Turbine by a sufficient distance so that it does not interfere with the other Wind Turbine.

K. **Signage and Fencing.**

Licensee shall provide reasonable signage at the Facility, identifying the Premises as being part of the Facility and providing appropriate safety notices and warnings against trespassing. The no trespassing signs shall be posted around the entire premises at an appropriate distance for posting but no less than 2 conspicuous places for every 40 acres within the Facility. Signs should be sized at a minimum to meet the provisions of Wis. Stat. § 943.013(2).

No advertising material or signage other than warning, equipment information or indicia of ownership shall be allowed on the Wind Turbines. This prohibition shall include the attachment of any flag, decorative sign, streamers, pennants, ribbons, spinners or waving, fluttering or revolving devices, but not including weather devices.

L. **Stray Voltage.**

Licensee shall utilize Good Utility Practice, as approved by the Town Board, to minimize, to the extent practicable, the impact, if any, of stray voltage caused by the Facility.

M. **Reporting and Complaint Resolution Procedure.**

Licensee shall report to the Town as follows:

1. Extraordinary Events. Within 24 hours of any extraordinary event, Licensee shall notify the Town. "Extraordinary events" shall include tower collapse, catastrophic turbine failure, unauthorized entry to the tower base, thrown blade or hub, any injury to a Facility worker or other person that requires emergency medical treatment, or other event that in Licensee's opinion reasonably impacts the public health and safety of the Town.

2. Complaints. The Licensee of the Wind Energy System Facility shall, at the Licensee's expense and in coordination with the Town develop a system for logging and investigating all complaints related to the operation of the Wind Energy System Facility. If the Town determines that it is reasonably necessary, it may undertake an investigation of the complaints by a qualified individual acceptable to the Town Board. The reasonable cost and fees incurred by the Town in retaining said qualified individual shall be reimbursed by the owner of the Wind Energy System Facility. After the investigation, if the Town Board reasonably concludes that operational violations or other public or private nuisances are shown to be caused by the Wind Energy System Facility, the Licensee shall use reasonable efforts to mitigate or eliminate such problems on a case-by-case basis, as required by the Town Board, including, but not necessarily limited to, measures such as planting trees and installing awnings, limiting the hours of Wind Turbine operation, and/or removal and decommissioning of Wind Turbines.

N. **Turbine Decommissioning and Site Restoration Plan.**

Each Wind Turbine and all related improvements shall be removed in accordance with the Decommissioning and Site Restoration Plan submitted by the Licensee in

accordance with the application procedures described above and as approved by the Town Board.

The owner of a Wind Energy Facility and the underlying property owners shall be jointly liable for the removal of all equipment associated with the Wind Energy Facility at the end of the permit period, the useful life of the facility, or when the facility is abandoned or otherwise out of operation for more than six months, at their expense. Upon removal of a Wind Energy Facility, the owner of the facility and the underlying property owners shall be jointly liable for restoration of the site to its original condition at their expense. The restoration shall include removal of all materials above and below ground; public road repair, if any; and all re-grading and re-vegetation necessary to return the subject property to the condition existing prior to establishment of the Wind Energy Facility. All hazardous materials shall be removed from the site and disposed of in accordance with state and federal laws.

The owner of a Wind Energy Facility and the underlying property owner shall provide proof of financial responsibility for the removal of the facility and restoration of the site in the form of a bond or an irrevocable standby letter of credit held in trust in favor of the Town, in a form to be approved by the legal counsel for the Town, as described in Decommissioning and Site Restoration Plan as approved by the Town Board.

VII. INSURANCE AND INDEMNIFICATION

A. Insurance.

All licensees shall maintain the following insurance coverages commencing upon construction of the facility.

1. Licensee shall, at its expense, maintain a broad form comprehensive coverage policy of public liability insurance insuring Applicant and Participating Landowners against loss or liability caused by Applicant's occupation and use of the Property under the Lease, in an amount not less than Five Million Dollars ($5,000,000) of combined single limit liability coverage per occurrence, accident or incident, which has a commercially reasonable deductible. The Town shall be named as an additional insured on the policy.

2. Worker's compensation coverage in an amount required by Wisconsin law. Applicant shall require subcontractors and others not protected under its insurance to obtain and maintain worker's compensation and employers' liability insurance.

3. Certificates of insurance evidencing compliance with these requirements shall be provided upon request of the Town. The insurer will provide notice to the Town in the event there is a lapse in coverage exceeding thirty (30) days. All policies other than worker's compensation shall be written on an occurrence and not on a claim-made basis.

B. **Defense of Land Use Decision and Indemnity.**

1. Defense of Land Use Decision.

In addition to the indemnification described below, Licensee shall reimburse the Town its reasonable attorneys' fees incurred in defending any legal actions brought by third parties challenging the legality or enforceability of this ordinance or any portion thereof, or the issuance of a License by the Town pursuant to this ordinance. If the Town seeks reimbursement, it shall notify Licensee in writing promptly upon discovering any claim entitling it to a land use defense reimbursement, but in no event later than 120 days after receiving written notice of any action, lawsuit, proceeding, investigation or other claim against it which may give rise to a claim for a land use defense reimbursement. Licensee shall not be obligated to reimburse the Town with respect to any such liability, action or claim if the Town fails to notify Licensee thereof in accordance with the provisions of this section in sufficient time including, without limitation, any responsive motion or answer to a complaint, petition, notice, or other legal, equitable action or claim, but only insofar as such knowing failure to notify Licensee has actually resulted in prejudice or damage to Licensee. With respect to any third party action, lawsuit, proceeding, investigation or other claim which is subject to reimbursement under this section, Licensee shall be entitled to assume and control (with counsel of its choice) the defense of such action, lawsuit, proceeding, investigation or other claim at Licensee's expense; provided, however, that the Town shall be entitled to participate in the defense of such claim and to employ counsel of its choice for such purpose (the fees and expenses of such separate counsel to be borne by the Town) and to assert against any third party any and all cross claims and counterclaims the Town may have, subject to Licensee's consent, which consent shall not be unreasonably withheld. If Licensee elects to assume the defense of any such claim, it may settle such claim in its sole discretion so long as either (i) such settlement provides an unconditional release of the Town, or (ii) Licensee shall obtain the prior written consent of the Town (which consent shall not be unreasonably withheld). If Licensee elects to assume the defense of any claim, the Town shall fully cooperate with Licensee and its counsel in such defense.

2. Indemnification.

Licensee shall defend, indemnify and hold harmless the Town and its officials, employees and agents from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses and liabilities whatsoever, including reasonable attorneys' fees (such liabilities together known as "Liability") arising out of Licensee's selection, construction, operation and removal of the Wind Turbines and affiliated equipment including, without limitation, Liability for property or personal injury (including death), whether said Liability is premised on contract or on tort (including without limitation strict liability or negligence). This general indemnification shall not be construed as limiting or qualifying the Town's other indemnification rights available under law.

VIII. STANDARDS

A. **Construction Standards.**

Wind Turbines shall be constructed in compliance with Good Utility Practice for Wind Turbines. In the event after inspection by a qualified expert in Good Utility Practice, the Town concludes that any of the Wind Turbines were not constructed in compliance with Good Utility Practice or constitutes a danger to persons or property, then upon notice being provided, Licensee shall have 90 days to bring the non-compliant Wind Turbine(s) into compliance with such standards. If 90 days is insufficient time to cure the non-compliance, Licensee shall present a plan to the Town describing the reason for the delay and the time frame for the cure to be put in place. Failure to bring such non-compliant Wind Turbine(s) into compliance or failure to provide a plan for compliance within 90 days shall constitute grounds for the Town Board to order immediate removal of said Wind Turbine(s) at Licensee's expense.

B. **Performance Standards.**

Any Wind Energy System or Wind Energy System Facility shall be operated and maintained consistent with Good Utility Practice for comparable facilities.

C. **State and Federal Standards.**

Construction of Wind Turbines shall meet or exceed current standards and regulations, if any, of any other agency of the state or federal government with the authority to regulate wind powered generators. If such standards and regulations are changed and retroactive application is required for the change, then Licensee shall bring the Wind Turbine(s) into compliance with such applicable revised standards and regulations within 6 months of the effective date of such standards and regulations, unless a different compliance schedule is permitted by the

controlling state or federal agency or approved by the Town. A Determination of No Hazard for each Wind Turbine must be obtained from the FAA for each Wind Turbine as a condition precedent to the receipt of a license under this ordinance.

D. **Wind Turbine Safety Standards.**

Licensee shall comply with the following safety standards:

1. All wiring between the Wind Turbines and substations shall be installed at least four (4) feet underground;

2. The outside of Wind Turbines shall not be climbable;

3. All access doors to the towers and electrical equipment shall be locked; and

4. Appropriate warning signage shall be placed on each tower, all electrical equipment, and all entrances.

IX. REPAIR AND REPLACEMENT

Licensee shall be authorized to repair and replace the wind turbine generator and associated equipment consistent with Good Utility Practice during the Term of this License as needed to keep the Facility in good repair and operating condition. However, no such repair or replacement shall entitle Licensee to any extension of the Term of this License, even if it extends the useful life of the Facility. If Licensee desires to extend the term of this License in the future, Licensee shall be required to apply for such extension or amendment of this License in accordance with the terms of this ordinance.

X. PROCEDURES FOR ALTERATION OR REVOCATION OF LICENSED PREMISES.

A. **Amendment.**

Following the granting of a license any licensee who wishes to materially alter any aspect of the licensed premises which was required to be described in the building plan or site plan required under this Section, shall apply to the Town Board for an amendment to the license. The application shall explain the nature of the alteration and the reasons therefore and include a non-refundable application fee. The Applicant shall pay the reasonably necessary engineering expenses, if any, associated with the review. The Town Board shall act on the amendment application consistent with the terms of this ordinance.

B. **Revocation of License**.

Each of the following occurrences shall constitute a violation of the terms and conditions of this License (a "Violation") and any such Violation shall be grounds for revocation of this License (whatever the reason for such an event of default and whether it shall be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, order or regulation) after the expiration of the notice and cure period and revocation hearing as set forth below:

1. if Licensee abandons the wind turbine generators located on the premises for a period of one year or more; or

2. if Licensee fails to observe or perform any material condition or provision of this License for a period of 30 days after it has received written notice of such failure from the Town; provided, however, that a Violation shall not occur if Licensee commenced performance of such obligation within such 30 day period and is diligently proceeding to complete such performance; or

3. if there is a material failure by Licensee to comply with any statute, regulation, rule, or license administered by any federal, state or county department, agency, or commission directly related to the operation of the wind turbine generator, and if Licensee fails to cure the material failure to comply for a period of 30 days after the date Licensee receives written notice of such failure from the Town or the federal, state or local governmental body or agency with jurisdiction; provided, however, that a Violation shall not occur if Licensee commences performance of such obligation within such 30 day period and is diligently proceeding to complete such performance.

C. **Hearing**.

The Town shall not revoke any License without first providing Licensee a hearing and the right to respond, including the right to present evidence regarding any defenses or extenuating circumstances (such as Applicant's prompt commencement of remedial measures that cannot reasonably be concluded within 30 days) regarding the alleged Violations or public or private nuisance.

D. **Judicial Review**.

Licensee shall have the right to appeal any revocation to Circuit Court within 30 days of the date of the revocation.

XI. LICENSE EXPIRATION

Unless the Town Board authorizes a different term based upon analysis of the useful life of the Wind Energy Systems Facility, every license issued pursuant to this Section will terminate upon the expiration of thirty years from the date of issuance.

XII. FEES AND EXPENSES

A. Tax Hold Harmless.

The parties acknowledge that the shared revenue payments payable to the Town under current state law may be revised or revoked by future Legislatures. In the event that the shared revenue payments payable to the Town are eliminated by the Legislature, Licensee will pay to the Town an amount not less than $1,667 per megawatt per year for Wind Turbines actually installed and operating within the Town. Such payments shall be on an annual basis and payable on the 180th day after notice from the Town of Licensee's obligation to pay under this paragraph. Licensee's obligation to make such payments shall cease if the State adopts or implements a new mechanism to replace the shared revenue payments, to the extent that the new payment mechanism produces revenue not less than the revenue payable under the predecessor program.

The parties acknowledge that the shared revenue payments referenced above are paid to the Town directly by the State of Wisconsin, not Licensee. Regardless, Licensee agrees to supplement the Town's annual shared revenue payments actually received by an amount equal to the annual percentage change of the Consumer Price Index as of January 1 of each calendar year beginning on the first January following the date that the Town receives its first payment. For purposes of this escalator clause, the Consumer Price Index means the U.S. Department of Labor, Bureau of Statistics, Consumer Price Index for the United States, All Urban Consumers, all items, unadjusted index.

B. Reimbursement of Fees and Costs.

Licensee agrees to reimburse the Town's actual reasonable fees and costs incurred in the preparation, negotiation, administration and enforcement of this ordinance, including, without limitation, the Town's attorneys' fees, engineering consultant fees, Town Board meeting and hearing fees, and the costs of public notices. The preceding fees are payable within 30 days of invoice. Unpaid invoices shall bear interest at the rate of 1% per month until paid. The County/Town may recover all reasonable costs of collection, including attorneys' fees.

XIII. WESF NEIGHBOR AGREEMENT

Licensee may offer to non-participating landowners the opportunity to enter into a Windpower Facilities Neighbor Agreement, provided that such landowner (1) has not otherwise entered into a Ground Lease, Easement or Setback Waiver Agreement with Licensee; (2) has a primary residence or private business located within (one-half mile) 2,640 feet of a project turbine measured from the foundation of the residence or business to the center of the turbine; and (3) owns the property in fee simple and has applied for a building permit on or before the issuance of a license pursuant to this ordinance. A landowner who enters into such an agreement is not a Participating Residence for purposes of this ordinance. The terms and form of such agreements shall be subject to negotiation between the Licensee and non-participating landowners who may be interested in such an agreement. However, such agreements, once signed, shall be subject to review and approval by the Town Board.

XIV. SEVERABILITY

If any section, clause, provision or portion of this ordinance is adjudged unconstitutional or otherwise invalid by a court of competent jurisdiction, such judgment shall not affect the remainder of this ordinance.

XV. EFFECTIVE DATE

This ordinance shall take effect upon passage and posting or publication as provided by law.

This ordinance was passed and adopted by the Town Board of Woodville on this 5th day of December, 2007.

TOWN OF WOODVILLE

By:_____
Chairperson

Attest:

_____
Clerk

Published and posted this _____ day of _____, _____.

EXHIBIT L

Walker's bill eyes big setbacks for wind projects

By Thomas Content of the Journal Sentinel

Jan. 11, 2011 |(52) Comments

A rules and regulatory reform bill proposed Tuesday by Gov. Scott Walker would require wind turbines to be set back at least 1,800 feet from nearby properties, unless those property owners consent in writing.

The bill also would require any agency's proposed rule to go through the governor's office before it can take effect, and expands the economic impact reporting requirements for proposed agency rules.

In a statement, Gov. Walker said, "We need to ensure that state agencies are focused on job creation. The proposed review process will make sure only the most necessary rules are implemented so businesses are no longer held back by the costs of overregulation."

The bill itself contains a series of changes to siting requirements for wind farms that would make building wind turbines much more difficult than a rule proposed last month by the state Public Service Commission. The PSC rules would require most turbines to be at least 1,250 feet from nearby homes.

The proposed legislation would require the PSC and its wind siting advisory council to conduct an inquiry into the impact of wind farms on property values.

Wind power developers on Thursday called the 1,800 foot setback proposal a jobs-killer because it would make new wind farm projects unviable and uneconomical.

Bill Rakocy, a partner in the development firm Emerging Energies of Wisocnsin, said his Brown County wind farm, the state's newest wind development, would have only one turbine instead of eight if an 1,800-foot setback were imposed.

The Shirley Wind project opened in November in Glenmore.

"If the setbacks are expanded further than they already have been it would create a major obstacle to wind, and the construction jobs and manufacturing opportunites that could go with it. It would be an unfortunate turn of events," he said.

An analysis of wind projects already developed in Wisconsin by the advocacy group Renew Wisconsin found that developers would have been allowed to build one-fourth of the turbines that were erected at several different projects in Fond du Lac County, and none of the turbines at the state's oldest wind farm in Kewaunee County.

Tom Green, senior manager of development at Wind Capital Group in Madison, said an 1,800-foot seback would make projects the firm is considering building in the state unviable, if not impossible, to build. It would drive up the cost of development and make the projects uneconomical, he said.

"We're trying to create wind facilities that can compete with other forms of electrical generation, and provide clean renewable energy for the lowest price possible," he said.

EXHIBIT M

Cape Cod Commission Approves Wind Turbine Regulations

- Cape Cod Commission Hearing On Revised Turbine Regulations Set For Thursday
- Three Resign Over Committee's Approval Of NStar's Herbicide Use
- Busy Family & Probate Court Office Hosts State Pilot Program
- Cape Cod Commission Hearing Procedural Only - No Testimony To Be Taken

Region community

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By: Michael C. Bailey
Published: 02/18/11

A set of proposed regulations for the siting and review of land-based wind turbines got the Cape Cod Commission's seal of approval yesterday, and now heads to the Barnstable County Assembly of Delegates for its vote.

The commission was barely at a quorum when it voted to approve the proposed changes to the Regional Policy Plan (RPP) following 90 minutes of public testimony, which was split between those who felt the standards were too lenient and did not adequately protect homeowners, and those who felt the standards were too strict and could unduly impede wind turbine development.

Royden Richardson, Barnstable's representative and chairman of the CCC, and Mary L. (Pat) Flynn of Falmouth, the representative from the Barnstable County Board of County Commissioners, voted in favor of the regulations.

Michael Blanton, Bourne's representative, left the meeting before the vote was taken just before 5 PM. Mario DiGregorio, Ernest Virgilio, and Joanne O'Keefe -- respectively the representatives from Falmouth, Mashpee, and Sandwich -- were absent from the meeting.

When the Assembly takes up the matter at its March 2 meeting, it will mark the second time the county's legislative branch has weighed in. The Assembly last reviewed the amendments to the RPP's energy section in November, but rejected the proposal as too lenient and in some areas too vague.

The Cape Cod Commission spent the following weeks crafting more specific and restrictive language that still granted maximum flexibility to develop onshore wind turbines. A revised proposal received a public hearing last month, and this past Monday underwent a final bit of fine-tuning during a joint meeting of the CCC's planning and regulatory subcommittees.

The final draft approved on Monday, which would apply to any proposed turbine greater than 65 feet in height (as measured from the base to the tip of the rotors at the apex of their rotation):

• Establishes a "clear area" of 1.5 times the overall height of the turbine or the turbine manufacturer's recommended minimum clear area, whichever is greater;

• Establishes for all turbines of 660 kilowatt (KW) capacity or greater a noise setback of 10 times the diameter of the turbine blades, as measured from the base to the nearest

receptor -- defined as any occupied residential or commercial property -- or residentially zoned parcel;

• Requires all project applicants for projects of 660 KW capacity or greater to conduct a noise impact study and fund a CCC review of that study. Project applicants seeking a reduced noise setback may use the study results to prove minimal impacts to prove minimal impacts to receptors;

• Mandates project applicants prepare plan detailing reduced operating procedures, including full decommissioning of the turbine, to mitigate and address noise complaints by abutters;

• Requires all applicants to conduct studies of shadow flicker on all receptors, and file a mitigation plan that limit shadow flickers events to less than 10 hours per year;

• Directs project applicants to provide to the CCC security to cover full decommissioning of a turbine. A turbine would be decommissioned automatically if a turbine is inoperative for more than 120 consecutive days;

• Outlines visual mitigation requirements to reduce a turbine's impact on local aesthetics, particularly in scenic areas and protected areas (i.e., historical districts)

The subcommittees on Monday approved a new noise setback provision. The previous language called for a 3,000 foot minimum setback for turbines with a maximum generation capacity equal to or greater than one megawatt.

The subcommittees also deleted language that would apply the DRI review process to meteorological towers, which are often erected months in advance of a turbine project to measure a site's wind conditions.

The latest batch of provisions was approved almost unanimously at Monday's meeting, foreshadowing yesterday's vote. The sole holdout at both meetings was Roger L. Putnam, Wellfleet's representative to the CCC, who blasted the entire proposal as "watered-down and vitiated and garbled," and contrary to the Cape Cod Commission's mission.

"We are obligated under our (Cape Cod) Commission Act to preserve, protect, and enhance" Cape Cod, he said. "Does this preserve? No. Does it protect? No. Does it enhance? No…I object to even voting for these regulations until we have decided what we're going to do to preserve, protect, and enhance."

Mr. Putnam specifically faulted the language for shadow flicker, which he believed should come with a maximum daily limit of 15 minutes instead of the 10 hours per year standard. Mr. Putnam said limiting flicker to 15 minutes per day would protect homeowners better, particularly during certain times of the year when the angle of the sun could expose a house to several continuous hours of flicker.

Paul J. Niedzwiecki, executive director of the Cape Cod Commission, called the 10-hour standard "as conservative of any regulations on the planet," noting that other states use a standard shadow flicker limit of 30 hours per year.

As for the noise standard, Mr. Putnam said that should be based on raw decibel levels rather than turbine size. "If you raise the noise level, it hurts. If you raise the flicker level, it hurts," he said. "We're debating how much we ought to hurt people, and that's not right."

Mr. Niedzwiecki and Ryan Christenberry, CCC planner, explained that the noise issue had to take into account individual projects, which could be affected by factors such as surrounding topography and ambient background noise, and as such it would be problematic to establish a blanket standard for all turbines based on decibel levels.

"It would be so variable on different parts of the Cape," Ms. Christenberry said. "The decibel level is the same, but the approach to an allowable level over ambient is different. The ambient noise level in Wellfleet or Truro might vary greatly from the ambient noise level, particularly in daytime or nighttime, in Hyannis or in Falmouth or in Sandwich. It's site-specific."

Mr. Niedzwiecki said the county would address decibel levels as it develops detailed noise standards in a technical bulletin, which would be attached to the RPP regulations. "The decibel level is one part of the potential harm," he said.

Other subcommittee members further noted that noise complaints from Falmouth residents living near the town-owned turbine on Blacksmith Shop Road have been based on the possible health effects of ultra low-frequency "infrasound" as well as the audible swishing sound of the blades in motion.

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EXHIBIT N

The Morning Journal (**morningjournal.com**), Serving Northern Ohio

News

Blade comes off wind turbine at Perkins High School

Wednesday, December 1, 2010

By RICHARD PAYERCHIN
rpayerchin@MorningJournal.com

PERKINS TOWNSHIP — Wind turbines that power Perkins High School are shut down after a blade detached from one of the machines on Monday evening.

No one was hurt when the blade came off the rotating hub of the northernmost turbine, one off three at the school at 3714 Campbell St.

This was the second time in two years the school district had a wind turbine fail due to a problem with blades. The turbine that failed this week was not the one that had earlier problems, officials said.

"At this point we're going to take a step back, find out what happened and make decisions from there," Perkins school Superintendent Jim Gunner said.

In this week's incident, the blade did not break when it hit the ground, said Gunner and David L. Rengel, vice president of Wilkes & Co., which also operates energy consultant Engineered Process Systems Ltd. of Huron. The company installed the turbines, which are manufactured by ReDriven Power Inc. of Iroquois, Ontario.

"One of the blades fell off the attachment bolts," Rengel said. "It appeared to be sheared off. How it happened, what caused it, I have really no idea."

A technician from ReDriven was on the way to Erie County yesterday to examine what went wrong, Rengel said.

"They're the experts," Rengel said. "We're installers, but they are the experts on their equipment."

The wind turbines had been operating as expected, and there were no signs of a strong wind gust or severe weather on Monday evening, Rengel said.

School was not in session when the blade came off about 5:30 p.m., Gunner said. A few students were at the school for swim practice and a parent there first noticed the blade came off, Gunner said. The parent began calling Perkins school board members, and board President Dr. Brian Printy quickly called Gunner.

The blade is part of the third set of blades to be on the turbines, Rengel said.

Perkins schools gained national attention in 2008 when the district and consultant Honeywell Inc. unveiled an energy-saving plan that included three wind turbines to generate electric power for the high school and nearby Briar Middle School on South Avenue.

The three turbines were installed in January 2009, and the district made headlines again the next month when three of the blades came off one of the turbines. The blades broke apart while spinning and the fiberglass pieces sailed up to 40 yards away from the turbine's monopole tower.

The turbines were stopped, but began spinning again with replacement blades. Finally, ReDriven provided a third set of reinforced blades and those were installed and remained in place until Monday's incident, Rengel said.

He emphasized the wind turbine industry has a good record of safety and the incident Monday did not include flying fiberglass.

"Pieces didn't go flying and the wind turbine blade didn't go flying," Rengel said. "The blade dropped at the base of the tower.

EXHIBIT O

Fallen turbine

More information needed on collapses

WEDNESDAY, DECEMBER 30, 2009

New Yorkers need to understand why a 300-foot tall wind turbine weighing 187 tons collapsed in a Madison County cornfield.

The collapse is not an isolated incident. However just because such a failure is uncommon provides no excuse not to aggressively pursue the reasons why. All across the state communities are facing pressure to site wind turbines. As these local governments proceed they must know why the turbine fell.

The turbine near Fenner in northern Madison County came crashing to the ground Sunday before sunrise. Less than 10 years old, the structure fell more than 1,000 feet away from a house or road. That is fortunate.

The owners of the 20-turbine wind farm, Canastota Windpower LLC., a subsidiary of Enel North America Inc. based in Andover, Mass., were investigating the circumstances earlier this week. Such an investigation by the owner is certainly necessary but is not adequate.

Besides the Fenner site, which can produce as much as 30 megawatts of electricity, the company operates a 6.6 megawatt facility in Gainesville, Wyoming County, and owns wind farms in Minnesota, Kansas, Texas and Newfoundland.

Another industrial turbine toppled in New York earlier this year — in Altona, Franklin County. There the blades of a 392-foot-tall turbine spun out of control after the braking system malfunctioned, causing a fire and a partial collapse of the structure.

The collapses and malfunctions of wind turbines do not disqualify the technology from being used. But wind turbines are like any evolving technology — knowledge and higher degrees of safety are developed by a thorough analysis of the causes of every failure.

Independent engineers need to determine whether soil conditions, design flaws, construction short cuts, poor manufacturing or lack of maintenance contributed to the failure.

Given the vast economic and political interest in exploiting the wind to create electricity, New York state should immediately take control of this investigation with a goal of providing improved building code standards for any turbine built in New York. The investigation should also include rigorous inspection criteria for existing wind turbines to determine any potential flaws.

Attorney General Andrew M. Cuomo's office is well suited to execute this independent appraisal. It has the expertise, the authority and the credibility to deliver a report and recommend new design and construction requirements, which will assure New Yorkers that the burgeoning wind generation business is not a threat to their safety. Mr. Cuomo should take control and initiate the required investigation immediately.

EXHIBIT P

The Telegraph

Homeowners living near windfarms see property values plummet

Estate agents have said no one is likely to buy the Jones's house, which was worth £170,000 before the wind farm was built

By Nigel Bunyan and Martin Beckford
12:01AM BST 26 Jul 2008

Thousands of homeowners may see the value of their properties plummet after a court ruled that living near a wind farm decreases house prices.

When the wind stops - the other side of the wind turbine argument (http://www.telegraph.co.uk/earth/main.jhtml?xml=/earth/2008/07/23/nosplit/eawind123.xml)

Refusal for wind turbine on iconic landscape (http://www.telegraph.co.uk/earth/main.jhtml?xml=/earth/2008/05/26/eawind126.xml)

Wind turbines 'are ruining our quality of life' (http://www.telegraph.co.uk/news/uknews/1548746/Wind-turbines-%27are-ruining-our-quality-of-life%27.html)

In a landmark case, Jane Davis was told she will get a discount on her council tax because her £170,000 home had been rendered worthless by a turbine 1,000 yards away.

The ruling is effectively an official admission that wind farms, which are accused of spoiling countryside views and producing a deafening roar, have a negative effect on house prices.

It means many other families living in the shadow of the giant turbines could see thousands wiped off the value of their homes, as the Government pushes ahead with plans to build 7,000 more wind farms over the next decade to meet ambitious green targets.

Campaigners also fear ministers want to remove the legal right to complain about noise nuisance, condemning those who live near wind farms to years of blight and reducing the opportunity for them to resist expansion plans.

Wind farm battle to go to High Court (http://www.telegraph.co.uk/earth/earthnews/6195145/Wind-farm-battle-to-go-to-High-Court.html)

Mrs Davis, who launched a nationwide campaign after her own home was rendered worthless by the deafening roar of a wind farm, claims ministers are tabling an amended to the Planning Act which will remove eight crucial words that previously offered at least some protection to householders.

"For people living near wind farms, both now and in the future, it will be a disaster," she said.

"There are many, many people living in Middle England who have worked hard all their lives and yet will see the values of their homes suddenly diminish.

"This isn't about Nimbyism, but the rights of ordinary people to live a normal life."

Mrs Davis, 52, a retired nurse, lives 1,017 (930m) from a wind farm at Deeping St Nicholas, Lincolnshire. Her husband, Julian, 43, originally bought the property from the county council and the couple had planned to extend it.

But the noise generated by the turbines is so severe, particularly when certain winds make all the blades rotate in unison, that it left the Davises unable to sleep. They currently live in a rented house a few miles away.

"It's just like the effect you get in a car when the sun roof is open or a window at the back is open. In a car you can do something about it. But if it's in your house and is coming from a giant turbine a few yards away, you can do nothing," said Mrs Davis.

Local estate agents have acknowledged that the house, worth £170,000 before the wind farm was built in 2006, is now so severely blighted that no one is likely buy it.

Earlier this week the Davises won a landmark victory that reduced their council tax banding.

Although financially the difference is minimal, the reduction was granted on the basis that their home had been blighted by noise "on the balance of probability".

Furthermore, the couple secured the ruling in the absence of a statutory noise nuisance - a fact that brought dismay to wind farm operators.

But Mrs Davis now fears the imminent change in legislation will turn the advantage back to the wind farm lobby, which is planning to build 4,000 turbines across the countryside - double the current number - and increase the number of those offshore from 150 to 3,000 by 2020.

EXHIBIT Q

LOCAL

Saturday, December 4, 2010 8:10 AM EST

Canaan denies local permit for BNE Energy wind turbine

CANAAN -- The Planning and Zoning Commission recently denied two applications from BNE Energy Inc. of West Hartford to erect a wind turbine on the property of Lone Oak Campsites in East Canaan. Chairman Steve Allyn said the decision was made because there is nothing in the regulations dealing with turbines. He said two applications, one a regular one and the other for a special permit, were submitted. The commission took the action after consultations with the zoning enforcement officer, its attorney and a land-use consultant, said Allyn.

BNE Energy has proposed two larger projects in the area, wind turbines in Colebrook and in Prospect, which because of their size will require Connecticut Siting Council approval.

More Stories About: Canaan, BNE Energy, Wind turbines, Wind power, Alternative Energy, Green power

karen reich wrote on Dec 4, 2010 4:47 PM:

" fyi "

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- Two men injured in fight outside Torrington bar (9)
- Synthetic marijuana taken off store shelves (8)
- Waterbury mayor presents gloomy financial future for city (8)
- Survivor of Brutal Cheshire Home Invasion to Appear on Oprah (8)

EXHIBIT R

Conn. residents see Falmouth wind power up close

Associated Press | Monday, December 6, 2010 | http://www.bostonherald.com | Northeast

HARTFORD, Conn. — Residents of Prospect concerned about a proposal to build wind power turbines in their small Connecticut town have gotten a close-up look at a wind project in neighboring Massachusetts to see what they might be up against.

Mayor Robert Chatfield hired a bus and took nearly three dozen residents to Cape Cod on a recent weekend to look at a wind turbine on Falmouth property and to talk to neighbors.

"When I first heard of it, I thought it was the best thing since sliced bread," the mayor said. "Now I've kind of backed off a little bit."

Chatfield said most of those who took the bus trip were opposed to the proposal. He said the project has been the most contentious issue in town since the late 1990s when plans to build a regional high school drew opposition.

BNE Energy Inc. of West Hartford wants to build two 1.6-megawatt wind turbines. The company did not immediately return a call Monday.

On its application to the Connecticut Siting Council, BNE Energy said its "Wind Prospect" project will not result in air emissions, will have minimal impacts on state water quality standards and will advance Connecticut's energy policy by developing renewable energy resources.

Chatfield said the project would bring the town $150,000 a year in taxes, a small contribution to Prospect's budget of $7 million and millions more in school spending.

Jerry Potamis, wastewater superintendent at Falmouth, greeted the Prospect visitors on his day off.

said one turbine has been operating since March at the town's wastewater plant and another is planned. The turbine far has generated revenue of $164,000 and is expected to bring in additional $99,000 in less than a year, he said.

"It's definitely a cash cow," Potamis said.

During the planning stages, no one opposed the project, he said. But that has changed because of noise produced by the turbine.

"There's a growing number of people that don't like it visually or say they don't like the whooshing noise," Potamis said.

Prospect neighbors of the proposed project cite, among other complaints, noise and flickering sunlight produced by the turbines.

Resident Tim Reilly, who visited Falmouth, said the proposed turbines would be 1,800 feet from his house. Speaking to Falmouth residents unhappy with the wind turbine gave him new insight, he said.

"It was eye-opening to hear the personal accounts," he said.

Reilly, a high school marketing teacher, and other residents say the project is potentially dangerous to public safety, health, quality of life, wildlife and real estate values.

"These things should not be in anyone's back yards," he said. "These things should be on a mountain range, on a bay somewhere."

Other pressures working against the project include Connecticut's energy goals. The state set goals 10 years ago to increase renewable energy in its portfolio of power sources, but an annual plan submitted to state regulators earlier this year sought significant increases in megawatts generated by sources other than wind — landfill gas, hydro power, biomass, fuel cells and solar energy.

ddition, Falmouth may have better prospects generating wind power than Connecticut. The Cape has a superior

location near the Atlantic Ocean, while Connecticut does not have access to the stiff winds generated by the ocean and has no mountains to produce so-called wind corridors.

Linda Roberts, executive director of the Connecticut Siting Council, said the agency has 60 days from the Nov. 17 filing of the proposal to take action on it.

Article URL: http://www.bostonherald.com/news/national/northeast/view.bg?articleid=1301254

EXHIBIT S

ne of the nation's first nuisance lawsuits against a ..ind farm ended with rulings in 2006 in favor of the company that developed it after landowners near the Abilene, Texas, project objected to turbine noise.

Objections to wind farms continue to be raised:

• Pierpont's website, [illegible] com, includes reports of illness from Union, Ore.; Mars Hill, Maine; Saginaw, Texas; King City, Mo.; and elsewhere.

Wendy Todd, who lives 2,500 feet from a turbine in Mars Hill, says she suffers sleep deprivation, and her neighbors have headaches and dizziness. "You just can't get used to it," she says of the noise.

• British physician Amanda Harry said in a 2007 study that people living near turbines can experience anxiety, depression, vertigo and tinnitus.

• Mariana Alves-Pereira, a Portuguese acoustical engineer, said in a 2007 study that turbines can cause vibroacoustic disease, which can lead to strokes and epilepsy.

A 2008 study funded by the European Union, however, found that the sound annoys many people, ıt it doesn't affect health "except for the .terruption of sleep."

Some of Meyer's neighbors don't understand the fuss. People who say the noise makes them ill are exaggerating, says Rudy Jaeger, 67, who has a turbine on his farm. "It's no worse than traffic driving by." Francis Ferguson, chairman of the Byron Town Board, which voted to approve the project here, has heard talk that the sound makes people sick, but says, "I haven't seen any documentation."

The American Wind Energy Association would like to see "a credible, third-party" scientific study, Jodziewicz says. Setbacks are settled between developers and communities, and there's no industry standard, she says

Susan Dennison, spokeswoman for Invenergy, the Chicago company that built the 86-turbine wind farm here, says it hasn't received any complaints about health problems in the area.

The turbines here, which are 389 feet tall including blades, must be 440 feet from property lines and at least 1,000 feet from homes, she says.

Concerns over home values

Eric Rosenbloom of National Wind Watch, an information clearinghouse, says noise and health concerns are the top issues in communities considering them. The group recommends 1-mile setbacks from homes.

Rick James, an acoustical engineer from Okemos, Mich., suggests keeping turbines 1¼ miles from homes.

That makes sense to Larry Wunch, a firefighter who lives a few miles from the Meyers. Turbines encircle his property, and when the wind tops 15 mph, he says, they "just scream." The closest is 1,100 feet from his house.

Wunch says he and his wife, Sharon, "have lost sleep and are irritated." He worries his home's value has declined and says the wind farm has created tension between opponents and those who have them on their property in exchange for annual payments that Dennison says are about $5,000 a year. "It's really turned our township upside down," Wunch says.

"If it's affecting your health," Meyer says, "it's hard to ignore."

EXHIBIT T

WICKED LOCAL NEWBURYPORT
WITH NEWS FROM THE NEWBURYPORT CURRENT

A 292-foot mistake

By Staff reports
GateHouse News Service
Posted Feb 27, 2009 @ 07:39 AM

Newburyport – There's no doubt that Mark Richey had nothing but good and green intentions when he erected an industrial wind turbine to generate electricity for his wood-working factory in the city's industrial park. And there's no question that city leaders who ushered in that project - first with a wind turbine ordinance and then with a Zoning Board of Appeals special permit - believed they were putting Newburyport in the lead of local communities that support alternative and renewable forms of energy.

But now that it's up and running, it seems clear that both Richey and the city failed to fully investigate the potential impact of the 292-foot-high turbine on the Back Bay neighborhood. And it's the residents of that neighborhood who are going to pay for that mistake.

This week, more than a dozen homeowners turned out for the City Council meeting to explain what it's like to live next door to the huge, high-tech windmill that is so dramatically out of scale with everything surrounding it. Some described an incessant hum from the generator; others talked about a continual whooshing sound created as the blades cut through the air. In the afternoons, residents say their homes are hit with a shadow and light flicker; in the evenings, some catch a red strobe-light effect in their windows. Some say they have trouble sleeping and one resident reported that the turbine interrupts his television reception.

Residents raised those exact concerns months ago before the turbine was built, but their worries were dismissed by a stack of reports and experts who said those problems, if they existed at all, would be so insignificant, that no one would notice.

And what's troubling about all the experts and turbine proponents being so far off the mark on these issues is the fact that most were equally dismissive about concerns the neighbors have raised about safety. Over the past several years, as more and more industrial wind turbines have been erected, there have been an increasing number of failures that include blade throws, oil leaks, fires and, in some cases, a complete collapse of the towers.

In light of all of that, the City Council unanimously agreed this week to send the city's wind turbine ordinance back to its Planning and Development Subcommittee for review. It is the very least the city can do. The next step may be to answer the concerns of homeowners who have an eye-level view of the head of the turbine from their windows and back porches. Most would probably agree that those homes have lost some of their market value, and the city should re-assess those properties and adjust their taxes accordingly.

And one other thing about those homeowners - throughout the wind turbine debate, residents of the Back Bay neighborhood have been accused of being a NIMBY crowd that supports green initiatives except when it comes to their backyard. Although the residents who spoke at the council meeting were upset with what's happened to their neighborhood and angry with the city for failing to listen to them and protect their homes, they were not there this week for their backyards. Just about everyone who spoke this week was resigned to the fact that the wind turbine is a reality that isn't going to go away. Back Bay residents are speaking out now to make sure that no other neighborhood in the city is forced to live with the problems and worries of a wind turbine in their back yard.

They understand and agree that wind power is part of the solution to the country's challenge to find alternative sources of energy. What they want in Newburyport is an ordinance that protects the entire community with adequate setback and site requirements that take into consideration the health and safety of residents, no matter what part of the city they live in.

And there's nothing NIMBY about that.

EXHIBIT U

Energy Tribune
Leading the debate. Beating the street.

Britain's Wind Farms are 'No Spin Zones' When Cold Hits

By Peter C Glover
Posted on Jan. 14, 2011

Britain's Wind Farms are 'No Spin Zones' When Cold Hits
By Peter C Glover

Some media groups like to refer to themselves as 'no spin zones'. But among energy insiders the phrase has been applied to wind farms, given that turbines mostly operate at well below 30 percent of installed capacity. Recently, serious cold weather has badly affected Britain and its much-vaunted 'wind power experience' and it turns out that wind farms are, quite literally in deepest winter, no spin zones.

Such is the grip the Big Freeze has had on Britain (as in northern Europe and the eastern U.S.) since early November that leading industrialists have forcibly reiterated last years' warning about growing over-reliance on wind power. As the latest figures show, just when Britain was in the greatest need from its burgeoning wind farm industry to perform from November through January with temperatures plunging to as much as minus 20 celsius, wind power failed miserably.

Why the 'British wind experience' matters

Britain's world lead in wind development is primarily because of two major natural advantages: Britain has the windiest conditions in Europe along with the longest continuous coastline. In short, if wind power can't work in Britain it cannot work anywhere else. But fail it did yet again this winter. Indeed, as it has for most of the last 12 winters.

Figures released in early January showed that as temperatures plunged to well below freezing and electric power demand soared, electricity production at Britain's 3,100+ wind turbines fell from an average of 8.6 percent of Britain's electricity mix to just 1.8 percent. Instead of serving up to 3 million homes, wind farms were serving just 30,000 homes, a mere one-hundredth of normal capacity. On the evening of December 20 Britain's average temperature fell to minus 5.6 celsius. At 6.30 that evening, the nation's wind farms, which claim a generating capacity of 5.2 GW of electricity, were actually generating a piffling 40 MW, the equivalent of 20 turbines working at full capacity.

As Jeremy Nicholson, director of the UK Energy Intensive Users Group, states, "What is worrying is that these sorts of figures are not a one-off. It was exactly the same last January and February when high pressure brought freezing cold temperatures, snow and no wind." Nicholson added, "We can cope at the moment because there is still not that much power generated by wind. But all this will change. What happens when we are dependent on wind turbines for 30 percent of our power and there is suddenly a period when the wind does not blow and there is high demand?"

When British wind farms were reportedly producing "practically no electricity" over a similar period in 2010 the British Government was forced to ask 95 major industrial consumers to turn off their gas pipelines. Nobody knows how much that cost the country. Back then, Nicholson stated, "If we had this 30 GW of wind power [the government's stated goal for 2030] it wouldn't have contributed anything of significance this winter."

After this month's repeat of the wind power-out, Nicholson observed that while the government was well aware of the problem, there was a need for a massive back-up infrastructure. "But it will cost billions to put these measures in place," explains Nicholson, "and we will have to pick up the tab". Yet another cost that advocates fail to factor in.

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Supergrids are no answer

In previous years the British wind industry has asserted that intra-national Supergrids could be the answer. Speaking to the *Daily Mail* in the wake of this year's mounting British media criticism, Nick Medic of Renewables UK insisted that overseas imports of their 'spare capacity' could solve the problem. No one appears to have told Medic, however, that avenue was effectively closed off in 2008 when a team led by British energy consultant James Oswald published a key and critical report, *Will British weather provide reliable electricity?*

The report showed that whenever cold weather and high pressure combine a lack of wind is usually the result. And it is a slow-moving phenomenon that tends to affect enormous continental regions way beyond state boundaries for more than just a few days. As Oswald's report says, "Neighbors are just as likely to suffer a simultaneous shortfall in wind power". Above all, Oswald's report predicted an electricity shortfall crisis if government policy favoring wind power over hydrocarbons and nuclear persisted. In 2009/10 and 2010/11 the country came perilously close to experiencing blackouts because wind failed to uphold its end; a situation unlikely to ease while eco-zealot Chris Huhne remains as minister for energy and climate policy.

In fact, Oswald's report focused exclusively on the month of peak demand, January, for the 12 years prior to 2008. So why would that matter? It's just one month in twelve. But January also happens to be the month of Britain's *highest* wind output. While the report supports the usual concerns over wind's unreliability and intermittency, it adds to them the key problem of (load factor) volatility. Because of the dramatic falls in load factor, Oswald identified a raft of key problems, chief among them the repeated necessity of gas turbine back-up systems kicking in. He predicted two associated problems: a high degree of cracking in hot components *not least* as electricity operators will almost certainly keep their investment costs down by installing cheap, less efficient, back-ups. None of which, Oswald points out, is ever factored in by wind advocates.

Worst of all, Oswald's 2008 report showed that load factors monitored by the National Grid actually reveal occasions when the consumption of electricity by wind farms exceeded output. In other words, there are times, when turbines *use* more electricity than they generate.

Windy rhetoric

According to a recent news report, Britain's National Grid provider is "looking into the problem of erratic energy supplies". The only solution, however, would, as the report says, mean, "changing demand at times of crisis" or, put another way, enforced cuts. Given that much of the northern hemisphere appears to have slipped into a period of cooling, this is likely to mean a "crisis" every winter, with smart meters being installed to switch off refrigerators and other business and household appliances, at government whim.

Yet we might just stop for a moment and ask ourselves why, when we have centuries (yes, centuries) of oil and, particularly gas, 'in the global tank', the myth of renewable energy as a viable economic and energy proposition is so difficult to dislodge in the political media and thus public consciousness. The British energy industry regulator Ofgem has calculated that for Britain to achieve the sustainable energy targets set by Brussels it would cost £200 billion. To achieve this goal energy prices in the UK must double within ten years from the current (already) European high of £1240/$1940 per household to £2400/$3750 per household.

It seems that Britain's much-touted wind experience is not something that other governments should be rushing to emulate. Wind proved to be a spin-free experience.

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Related Articles

- Wind Energy: The Truth Blows
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EXHIBIT V

DVD TO BE PROVIDED.

EXHIBIT W

Save Prospect Corp.
42 Woodcrest Drive
Prospect, CT 06712
noisyprospect@comcast.net

Fair Wind CT
PO Box 225
Colebrook, CT 06021
info@fairwindct.com

February 3, 2011

Representative

Re: We request your support for HB 6249

Dear Representative ,

We are the Presidents of local citizens groups from both Prospect and Colebrook who are working to raise awareness of the many issues surrounding the proposed development of industrial wind turbines in residential areas in Connecticut. In response to petitions #980, 983 and 984, as filed by BNE Energy, Inc. with the Connecticut Siting Council, we have formed as growing groups of residents who are disillusioned by the possibility that massive 492-foot tall wind turbines will be constructed in residential neighborhoods in our towns. In both towns there are residences located within less than 1,000 feet of the proposed turbines. This distance falls within the "hard-hat" zones for Vestas, the largest manufacturer of industrial wind turbines in the world, and the "Ice-Throw" zone for GE Energy, the largest manufacturer of industrial wind turbines in America.

The lessons learned over many years in America and around the world when industrial turbines have been located too close to residential areas are undisputable. Health impacts such as sleep deprivation, depression, and anxiety, combine with the very real loss of home values due to the close proximity of wind turbines. In that Connecticut has no regulations for the development and operation of industrial wind turbines, we ask you to spend time researching this important issue.

In both the Prospect and Colebrook proposals there are many issues to be addressed. In short, all deal with the lack of sufficient setbacks to protect the quality of life, individual's health and safety, and the protection of property, including registered historic structures.

We ask for your support of House Bill 6249 - AN ACT ESTABLISHING A MORATORIUM ON THE SITING OF WIND PROJECTS UNTIL THE ADOPTION OF REGULATIONS.

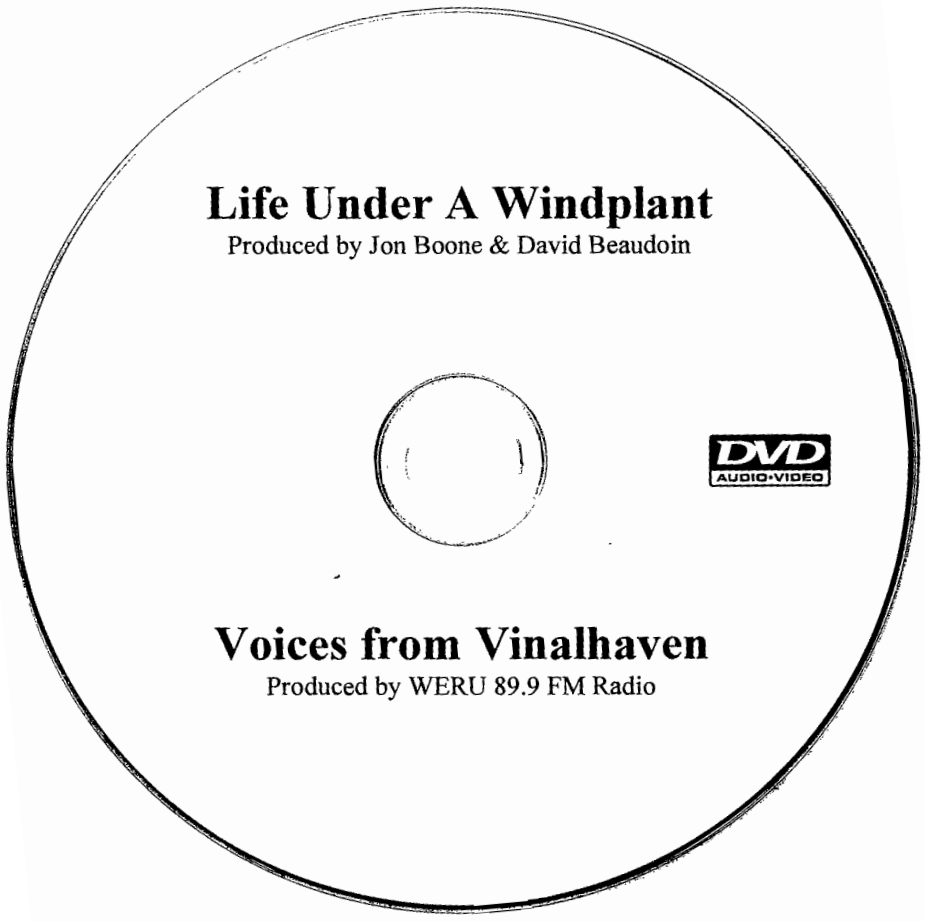
Today we made our case to the Energy and Technology Committee, providing the many reasons why this bill is so desperately needed. We also provided a short informational video, a copy of which is enclosed for your review as well.

Please contact either of us with any questions you may have, and refer to our websites listed above to learn more about our efforts.

Sincerely,

Timothy Reilly	Joyce Hemingson
Timothy Reilly	Joyce Hemingson
President	President
Save Prospect Corp	FairWindCT

EXHIBIT X



DVD TO BE PROVIDED.

EXHIBIT Y

BANGOR DAILY NEWS

DEP: Vinalhaven wind turbines too loud

By Matt Wickenheiser, BDN Staff
Posted Nov. 23, 2010, at 10:16 p.m.

The Maine Department of Environmental Protection has found that three wind turbines on Vinalhaven have exceeded nighttime noise limits and has asked Fox Islands Wind LLC to modify its operations.

The small island wind farm has proven controversial since it began operating a year ago, with some neighbors complaining of noise and other related problems. A group of neighbors has made two official complaints, and the DEP monitored the turbines in July.

According to a letter sent out Tuesday, the DEP found that the wind farm was producing noise levels of 47 decibels when it wasn't supposed to exceed 45 decibels.

"The department views the compliance issues identified at this facility as a serious matter," the DEP wrote.

The DEP wrote that the farm seems "likely to exceed" 45 decibels when there is "significant vertical and directional wind shear." It directed Fox Islands Wind to submit a revised operational plan to ensure the windmills don't exceed noise limits during those weather conditions.

George Baker, CEO of Fox Islands Wind, said a sound consultant who measured noise during the same period "absolutely doesn't agree" that the evidence shows the farm is out of compliance. Using different methods for dealing with ambient noise, the consultant pegged the turbine sound level at 43 decibels, said Baker.

That said, "in the interest of being done with all of this," Fox Islands Wind plans to install technology that automatically will slow the turbines down when the wind is out of the southwest with a very strong wind shear — where hard winds blow aloft with barely any breeze on the ground. That's the condition DEP identified as problematic for noise, Baker said.

"What the letter says and what we intend to do is submit a revised operating protocol that takes care of this specified condition," said Baker.

Cheryl Lindgren of the Fox Islands Wind Neighbors, a group upset with the wind farm, said residents were meeting with the DEP this morning, and she didn't want to comment extensively ahead of that.

"We welcome any solutions that they can come up with, and we'll look at them very carefully," said Lindgren. "After a year, I'm very glad there is some movement on this."

She said the DEP's finding was "verification of what we've known for a whole year." The DEP gave Fox Islands Wind until the end of January to submit a final operational plan. Lindgren said she preferred residents didn't have to wait longer for action.

"As encouraged as I am by going one more step in this process, we would like to take a couple of steps and get this solved," said Lindgren.

Baker said the weather conditions detailed by the DEP happen rarely and only in the summertime. In a Nov. 18 meeting with the agency, Fox Islands Wind was told by the state that if it didn't fight efforts to slow down turbine speeds during those specific weather conditions then regulators would consider allowing the wind farm to exceed decibel levels during storms — when the noise on the ground from heavy wind was well above 45 decibels

anyhow.

"If the DEP sticks to their word, we'll generate more electricity than we do now," said Baker.

The wind farm issue has generated interest both nationally and globally as the small island community struggles to balance the overall benefit to the community of lower power prices with the concerns of neighbors. It's a scenario that's being played out elsewhere in Maine, in rural communities across the state.

In 2008, members of the Fox Islands Electric Cooperative voted 382-5 in favor of the wind power plan with the goal of stabilizing or even reducing high power prices.

Baker said he didn't want to minimize the concern, but noted that a small number of people are upset in an island community of 2,000 households.

"As a public policy matter, we have to figure out how we address these issues, and how we go forward with what I think are very important parts of our energy future in the face of some people who are very, very strongly opposed," said Baker.

The issue is personal for neighbors to the wind farm. Lindgren's husband, Arthur Lindgren, said the noise was "constant and it's awful."

"It's ruined my property value — my house is worthless now; nobody would buy this," he said.

http://new.bangordailynews.com/2010/11/23/business/dep-vinalhaven-wind-turbines-too-loud/ printed on March 7, 2011

EXHIBIT Z

The Martha's Vineyard Times

Visit to Vinalhaven wind turbines leaves questions

By Janet Hefler Published: November 23, 2010

A group from Martha's Vineyard who are interested in wind energy recently took part in a conference on the topic in Maine. They learned from other New Englanders, and from a close-up look at the municipal turbines at Vinalhaven in Penobscot Bay, that many communities are only beginning to understand and address the effects of the relatively new technology.

Mr. Knabel serves as West Tisbury's representative on the Dukes County wind energy work group.

"Although Vinalhaven residents didn't say it explicitly, what it really means is that if your permitting process is based on decibel levels of one sort or another or differential sound levels, it doesn't work, that those criteria are inadequate," Mr. Knabel said.

"And that the only way to really deal with this," he added, "is to create such large setback distances that the likelihood of having complaints and having people unhappy and uncomfortable becomes vanishingly small."

Nantucket Energy Committee
Nantucket Wind Turbines
White Paper – Mod 4.8
As of September 17, 2010

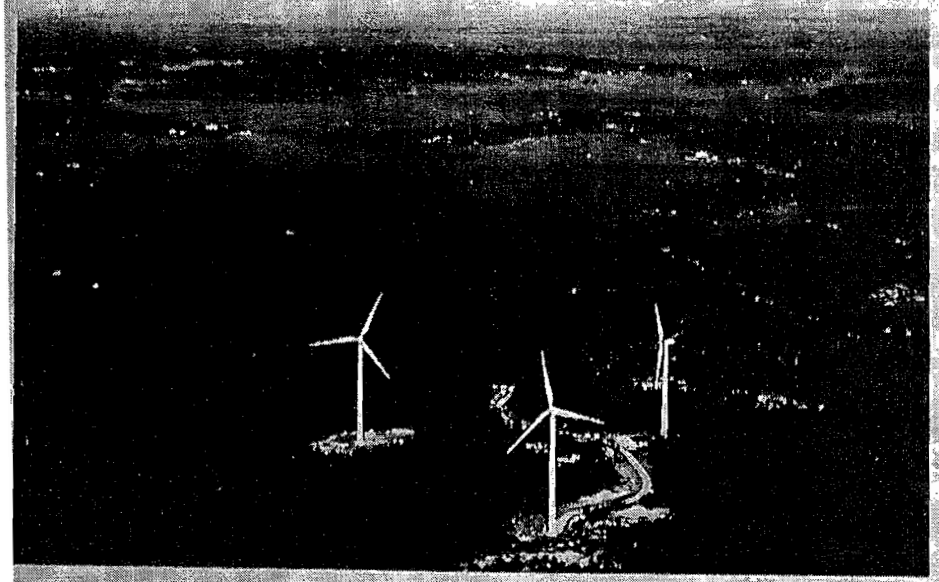
"Most of the Vinalhaven noise complaints have come within the half-mile range. *The noise goes away somewhere between one and three miles. The Fox Island Electricity Cooperative (FIEC) offered to buy properties in a subdivision within 1,000 to 1,500 feet of the turbines. A group of residents who live within half a mile to one mile have organized a protest against the noise."*

Vinalhaven: 15 property owners within a ½ mile.

Prospect: 140 homes within a ½ mile!

Prospect: 924 homes within 1.25 miles!

11/23/10 – Maine DEP finds that Vinalhaven, Maine wind turbines are too loud



Current generation GE 1.5 MW Wind Turbines
Installed and operational November 2009.

11/23/10 10:16 pm Updated

By Matt Wickenheiser
Bangor Daily News Staff

The Maine Department of Environmental Protection has found that three wind turbines on Vinalhaven have exceeded nighttime noise limits and has asked Fox Islands to modify its operations.

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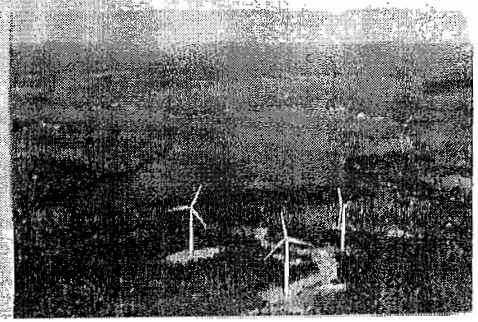

EXHIBIT AA

The Martha's Vineyard Times

Visit to Vinalhaven wind turbines leaves questions

By **Janet Hefler**
Published: November 23, 2010

- Printer-friendly
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A group from Martha's Vineyard who are interested in wind energy recently took part in a conference on the topic in Maine. They learned from other New Englanders, and from a close-up look at the municipal turbines at Vinalhaven in Penobscot Bay, that many communities are only beginning to understand and address the effects of the relatively new technology.

Photo by Bill Veno

The tour group stops on a granite knoll where one of Vinalhaven's three wind turbines looms large behind them.

The Island Institute in Rockland, Maine hosted a Sustainable Island Living Conference, November 5-7. The event attracted New England islanders who are involved in energy projects and planning.

The conference agenda included two breakout sessions that focused on offshore wind development and island power grids, as well as a tour of the Fox Islands Wind project at Vinalhaven. (Vinalhaven and North Haven Islands face one another across a waterway called the Fox Islands Thoroughfare.) Bill Veno, senior planner for the Martha's Vineyard Commission (MVC) spoke to the assembly, as did Ted Bayne, director of Vineyard Power, a community owned energy cooperative developed by the Vineyard Energy Project (VEP).

Mr. Veno talked about Martha's Vineyard's Island-wide wind energy development planning process and about the new collaborative effort between Rhode Island and Massachusetts to develop an area of mutual interest in federal waters between the two states.

Mr. Bayne reported on VEP's smart grid grant and program for VP, in conjunction with General Electric and the Department of Energy. The new technology allows the energy co-op to shift electric loads and maximize use during times when electricity demand and costs are less.

Turbines up close

Prior to the conference, Mr. Veno emailed information about it to Vineyarders interested in wind energy, including MVC commissioners and members of the Dukes County wind energy work group. Although West Tisbury selectman Richard Knabel did not attend the conference, he and his friend Nick Puner drove up to Maine on Sunday and joined Mr. Veno and his wife Aubyn on the tour of Vinalhaven, led by town manager Marjorie Stratton.

Mr. Knabel serves as West Tisbury's representative on the Dukes County wind energy work group. Mr. Puner, a West Tisbury resident and former Westchester County planning member, shared Mr. Knabel's interest in the tour.

The Fox Islands are approximately 12 miles from Rockland in mid-coast Maine. Each of three General Electric 1.5-megawatt turbines stands 388 feet high, from the ground to blade tip, on a 25-acre parcel of land on the northwest, sparsely populated side of Vinalhaven.

A strong wind on the day of the tour made for a rough 75-minute ferry ride from Rockland to Vinalhaven. It also spun the turbines so they produced maximum power.

Mr. Knabel said it was worthwhile to see them first-hand.

"You have to experience it," he explained. "They are a very, almost eerie, presence, because the scale is so much larger than anything there. The natural vegetation of the forest tends to be evergreens, pines, and balsams and spruces, and these things just absolutely tower over everything."

Mr. Puner agreed. "The Vinalhaven turbines dominate the landscape, and they're awesome," he said. "They're not ugly, but they're right on top of everything. I definitely think it's a mixed bag."

Like the Vineyard, the Fox Islands depended on electricity delivered via an underwater cable from the mainland. One of the wind project's goals was to generate enough electricity for the two islands' approximately 2,000 year-round residents to lower high electric rates.

The Vinalhaven and North Haven ratepayers own the Fox Islands Electric Cooperative (FIEC). Fox Islands Wind (FIW) LLC, a subsidiary of the electric co-op, operates the wind turbines, which cost about $14.5 million. The wind energy project involved a complex financing structure, special permitting, and detailed environmental impact and engineering studies.

FIEC members overwhelmingly supported the Fox Islands Wind Project with a vote of 382-5 in favor. Since the turbines went into operation about a year ago, Vinalhaven residents say their electricity costs have decreased. However, some residents who live closest to the turbines, within a radius of half a mile to a mile and a half, complain that the level of noise is much worse than anticipated. They formed the Fox Islands Wind Neighbors as an organized protest against the noise.

Noisy or not?

Mr. Veno said he was interested to hear about the FIEC's efforts to address the residents' complaints, including noise data collection and mitigation measures. He also talked to some Vinalhaven residents about their concerns.

"Something that strikes me is that the way communities have traditionally looked at noise and have a noise limit with decibels, that tool wasn't really designed for the type of noise that seems to be involved with wind turbines," Mr. Veno said. "Because it's not really the decibels so much, and it's not exactly a pure tone situation, and so we're really trying as a society to figure out where that appropriate level is."

The Vineyard group's reactions to noise from the Vinalhaven turbines varied.

"When we were at the site, it sounded to me like airplanes flying overhead," Ms. Veno described. "But then we stopped at the bus driver's house, who lived about three-quarters of a mile away, and got out of the bus and listened from there, and it sounded really just like ocean waves do in the distance from our house on the Vineyard."

Mr. Puner said ambient wind noise competed with the sound of the turbines on the day of the tour.

"I didn't think it was that dramatic, but on the other hand, I don't dismiss that somebody could be seriously upset by the constancy of it," he said. "One person's music is another person's noise."

Although Mr. Bayne did not go on the tour, on a previous visit to Vinalhaven, he went inside one of the turbines.

"The column that the turbines rest on is like a flute," he recalled. "It's hollow, and it's got an object on top of it, which is generating this low-frequency resonance. It's not the blades, because they're only going 18 rpm and aren't going to make a lot of noise. It's the motor, basically — the mechanical parts that are up above that are resonating."

The Island group's consensus was that their visit was too short to make any definitive judgments about Vinalhaven's wind turbine noise, which varies from day to day. The tour did, however, leave them with a new awareness of how subjective the noise debate is and how it might influence zoning bylaws for wind energy development on Martha's Vineyard.

"Although Vinalhaven residents didn't say it explicitly, what it really means is that if your permitting process is based on decibel levels of one sort or another or differential sound levels, it doesn't work, that those criteria are inadequate," Mr. Knabel said.

"And that the only way to really deal with this," he added, "is to create such large setback distances that the likelihood of having complaints and having people unhappy and uncomfortable becomes vanishingly small."

As Mr. Veno summed it up, "We're all in a learning curve."

EXHIBIT BB

NANTUCKET WIND TURBINES
WHITE PAPER - Mod 4.8
As of September 17, 2010

New information since Mod 4.7

ENERGY COMMITTEE

The Nantucket Energy Committee (NEC) is an advisory committee appointed by the Nantucket Board of Selectmen. The NEC reports to the BOS on energy related issues affecting Nantucket energy users; recommends policy or code amendments; evaluates and explores potential energy production for Nantucket; and serves as a resource for information on renewable and sustainable energy including wind, tidal, solar, wave power, and energy conservation measures.

The following white paper introduces a concept to install 1-3 turbines with a size range of 660 KW to 1.5 MW in the Landfill / Massasoit area, as well as a plan to install solar arrays at the Nantucket Municipal Airport, the Wannacomet Water Company and at the Waste Water Treatment Facility (WWTF).

GENERAL BACKGROUND

Wind has been the fastest growing source of electricity generation in the world. The majority of this growth has been in Europe, where conventional energy costs are higher than those in the U.S. With large untapped wind energy resources throughout the U.S. and declining wind energy costs, the U.S. is now moving forward into the 21st century with an aggressive initiative to accelerate the progress of wind technology.

In 2009 the United States installed 9,900 MW of wind power an increase of 39 percent more capacity. Total US capacity now stands at 35 GW[1]. The United States leads the world in wind capacity additions and in cumulative capacity. The competitive cost of wind had made it the second largest source of new electric power generation in the U.S. for the past three years behind natural gas and ahead of coal[8].

The U.S. lags behind other countries for wind as a percentage of electricity consumption. The U.S. national power capacity is 1032 GW. Wind generation represents just 2% of the U.S. electricity supply, while that percentage is not as high as 20% in Denmark, 12% in Spain, 9% in Portugal, 8% in Ireland, and 7% in Germany.

China is the fastest growing market for wind power [(3)]. Demand for electricity in China is increasing at ~ 10% per year. China has 12.2 GW of installed wind capacity at the end of 2008. It now ranks 4th in the world, only surpassed by the US, Germany, and Spain. Current Chinese policy calls for 100 GW of installed capacity by 2020.

MA Governor Patrick has set a goal of having 2000 MW of installed capacity by 2020. Currently MA has about 7 MW of installed capacity [(7)]. Wind Energy Reform Siting Act Legislation is being proposed by the Governor. The permitting timeline will be reduced from 5+ years to between 1 – 1.5 years

NANTUCKET BACKGROUND

[1] New York Times, Jan 26, 2010

Nantucket's energy costs in winter are some of the highest in the United States. Massachusetts with an average cost of 17.85 ¢/kWh has the third highest electricity rates behind New York (19.42 ¢/kWh) and Connecticut (20.24¢/kWh).

Nantucket has two principal sources of energy. Electric power transmitted from the mainland via two 35 MW and 41 MW under water cables and petroleum products shipped from the mainland. The electric power cost to the consumers includes delivery services (summer rate 7.74 ¢/kWh or winter rate 6.61¢/kWh) and supply services (11.79 ¢/kWh). Nantucket imports approximately 10 million gallons of fuel per year.

Nantucket has some of the highest prevailing winds in the United States. Our wind power is classified as outstanding (17.9 to 19.7 mph) by the US Department of Energy. The long term wind resource in the Nantucket potential project areas is about 8.90 m/s (19.9 mph) at 80 meters above ground level, about 7.64 m/s (17.1 mph) at 50 meters, and 6.50 m/s (14.5 mph) at 30 meters [(2)].

In 2008 at the request of the NEC, The UMass Amherst surveyed 10 Nantucket land based sites for wind turbines [(4)]. Considerations included distance from the airport, distance from housing, and average wind speed / directions. The recommended sites were at the Surfside Waste Water Treatment Facility (WWTF) and at the DPW Solid Waste Treatment facility. Both these sites are heavy power consumers which makes turbines feasible as a way to reduce the Town's operational expenses.

In 2009, the Massachusetts Collaborative Trust (MTC) entered into a Work Order with Black & Veatch to perform a wind project feasibility study for the Town of Nantucket [(2)]. The FAA site is an attractive site for Roll-on Roll-off (RORO) methods for transporting wind turbines to the site. A GE 1.5 MW sle turbine at this site yields a capacity factor [(a)] of nearly 47%. A GE 1.5 MW sle turbine located at the FAA site yields a simple payback of 4.5 years with virtual net metering. "Virtual net metering" allows for the Town and community to benefit directly from wind generation anywhere on the Island.

Black & Veatch study noted that a potential location for a wind turbine could be at an abandoned radio tower at the northwestern portion of the site. The 467 ft tower is located adjacent to the DPW office and was once used for cable TV communications. Unexploded ordinance (UXO) is known to exist in and around the northern end of the landfill from previous US Navy operations, and poses as a major safety hazard to the construction and maintenance of a wind turbine. Any development of a project on this site would require the UXO be located and removed by qualified specialists.

DATA ACQUISITION

1. (May 9, 2008) At the request of the NEC, the Massachusetts Technology Collaborative (MTC) provided a grant which enabled Charles McClelland and Mary Knipe of the UMass Renewable Research Laboratory (RERL) to visit ten potential sites on Nantucket Island in order to evaluate their suitability for medium and utility-scale wind turbines.

2. (June 26, 2008) Members of the NEC made a site visit to Hull, MA to discuss their wind turbines. We met with Richard Miller, Operations Manager of Hull Municipal Light Plant.

3. (July 7, 2008) Members of the NEC met with William M. Moore *(Atlantic Renewable Energy Corp)* developer of wind farms and wind turbine consultant. Bill Moore spends summers and votes on Nantucket.

4. (August 7, 2008) The NEC invited the following individuals to their monthly meeting for a discussion on wind energy: Chris Amory an engineer working in Shanghai, China for a company that manufactures wind turbine blades; Dave Fredericks is National Grid's acting Vice President New England South; and William Moore a wind farm consultant.

5. (From October 27 to December 17, 2008) Four Students (Diana Berlo, Jennifer Hunt, Amanda Martori, and Justin Skelly) and Professor Michael Elmes from Worchester Polytechnic Institute (WPI) Department of Management working on certain aspects of the Nantucket Wind Energy Project. The WPI Students had three objectives:

(1) Explore the laws, regulations, and permits required to develop wind power on Nantucket.
(2) Analyze financial and ownership arrangements
(3) Investigate concerns regarding wind power for Nantucket

6. (October 2009) Bartlett's Farm WES 250kW wind turbine came on line on April 22, 2009. The electric power produced is given below:

Month	Energy Produced	Total Capacity	Capacity %
Apr 09	3,208 kWh	60,000 kWh	5.35
May 09	11,512 kWh	186,000 kWh	6.18
June 09	26,872 kWh	180,000 kWh	14.93
July 09	27,744 kWh	186,000 kWh	14.92
Aug 09	17,112 kWh	186,000 kWh	9.20
Sep 09	31,632 kWh	180,000 kWh	17.57
Oct 09	50,408 kWh	186,000 kWh	27.10
Nov 09	54,672 kWh	180,000 kWh	30.37
Dec 09	63,248 kWh	186,000 kWh	34.00
Lifetime	286,408 kWh	1,530,000 kWh	18.72

The turbine sits on a 30 meter tower (98'5"). The top of the blade at its highest point of rotation is 145'6". The windmill starts operating at a wind speed of about 6 mph (2.5 M/S). It will turn out of wind at 56 mph (24 M/S). The survival speed of the windmill is

134 mph (57 M/S). The Bartlett Farm turbine blade failed on Monday Jan 18th. The cause is not presently known

As of August 15, 2010, Hull MA has generated the following[2]:

Hull 1, 660 KW has generated 13,405,490 kWh in 2,922 days.
3,156 days x 24 hrs x 660 KW = 49,991,040 kWh capacity
13,405,490 / 49,991,040 = 26.8% capacity factor

Hull 2, 1.8 MW has generated 16,031,274 kWh in 1,564 days.
1,564 days x 24 hrs x 1,800 KW = 67,564,800 kWh capacity
16,031,274 / 67,564,800 = 23.7% capacity factor

7. (August 6, 2009) Robert Patterson, energy consultant, presented a briefing entitled "*Energy Efficiency/Conservation Programs/Projects Development & Funding*". The briefing included: MA Funding Sources; Next Steps; Leveraging Funding Sources; Points of Contact; and Support Services.

Vestes has sold their 660 KW turbine design to India. There have been problems with the Indian product. The 1.65 MW Vestes would be a better fit for Nantucket. GE Turbine shows great promise. Turbine diameters are shortening enabling high wind protection. Lead time is 6 to 8 months. A 1.65 MW turbine is costing $3.8M. Nantucket needs to obtain a consultant to determine size and make of turbines and then develop a robust cost model.

OPTIMUM BUILD OUT PLAN

Predicted Wind Resource *– the economics of wind power at a given site depends on many factors; one of the most important is wind speed. Understanding wind speed and turbulence is critical to estimating the energy that can be produced at a given site. Winds on the Island may be too high to accommodate full-scale turbines, which typically experience more stress than medium scale turbines at high wind speeds.*

Germany is a world leader in terms of installed wind power, with 20.621 GW installed, yet it has only a fraction of the wind energy potential that North Dakota alone has. Large wind systems require average wind speeds of 6 meters/second (13 mph).

Wind resource potential is divided into: "moderate" means wind speeds of 6.4-7 m/s at a 50-meter height, "good" means 7-7.5 m/s, and "excellent" means 7.5 m/s and higher. Nantucket sites are better than "excellent".

Wind Turbine Component Transportation & Access *– Transporting turbine components and the necessary installation equipment (cranes, flat bed trucks) could add to the cost of wind turbine installation on Nantucket. In addition, there would be some logistical challenges transporting wind turbine components from the harbor to the sites*

[2] Wind Energy in Hull, MA, www.hullwind.org/

because of the trucks' large turning radii needed to move from the dock to the turbine sites. An alternate method of transportation is using heavy lift helicopters.

Distance to transmission/distribution lines for power distribution *– The power generated by any installed wind turbine must be transmitted to adequately sized lines. Proximity to utility distribution or transmission lines is an important cost consideration. All of the proposed sites are within 250 meters of either transmission or distribution lines.*

The power to the Cape requires a booster plant because of line losses. With a variable load such as a Nantucket Wind farm and other facilities, a larger unused stand-by capability may have to be included in future cost analyses.

Noise *– MA State regulations do not allow a rise of 10 dB or greater above background at the property boundary. Modern turbines easily meet these criteria. From a distance of several hundred feet, utility scale turbines can be compared to the sound level of a refrigerator. Any eventual wind turbine should be sited so that it would be minimally audible at the nearest residences. Wind turbines should be sited at least three blade tip height from residences. Distances from mixed use areas may be shorter.*

At the landfill site the background noise is dominated by the sound of the surf. The higher the wind velocity the more the turbine noise, and the higher the background noise from the ocean. Modern turbine towers act like an organ pipe with their own resonance frequency. This resonance frequency can be mitigated by proper muting devices.

Vinalhaven, Maine is home to New England's largest coastal wind-power facility. [3] *The three General Electric 1.5-megawatt turbines are expected to generate 11,605 MWH/yr (Capacity Factor = 29.4%). After paying all expenses and financing costs Vinalhaven is receiving electricity @ $0.055 per kWH. The cost of transmission and distribution is included in a separate delivery charge.*

Most of the Vinalhaven noise complaints have come within the half-mile range. The noise goes away somewhere between one and three miles. The Fox Island Electricity Cooperative (FIEC) offered to buy properties in a subdivision within 1,000 to 1,500 feet of the turbines. A group of residents who live within half a mile to one mile have organized a protest against the noise.

The FIEC conducted an experiment in February 2010 in which the wind turbines were randomly slowed at night for one month to see if it made a difference in noise, which also means a reduction in generated electricity[4]*. Accentech Inc. of Cambridge, MA monitored the sounds and collected data from log-books kept by the residents. The FIEC is considering sound baffling or insulation in the turbines.*

The US DOE National Renewable Energy Laboratory (NREL) is working on the Island's turbine sound issues including possible insulation or sound deadening material in the turbine nacelles. The Maine Technology Institute is working on active sound cancellation technology. General Electric is considering testing a new type of blade technology,

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[3] The Martha's Vineyard Times, "*How the Wind Blows in Vinalhaven*", Janet Hefler, May 13, 2010
[4] Cape Cod Times, September 15, 2010, "*CEO: No Easy Fix to Turbine Noise*"

3. WANNACOMET WATER COMPANY PV#1 (Lovers Lane)

The daily power requirements at the Wanacomet Water Company PV Site #1 (Lovers Lane) are 767 kW/day [11] or 32kW/hr. A solar farm with a capacity of 2.0MW at an average efficiency of 13% would have an output of 260kW/hr, or 228kW/hr more than the year-round power requirements for the Site #1. This means that 228kW/hr could either be sold to National Grid on the open market, that future power requirements accommodated, or community Net Metering off-sets permitted.

4. WANNACOMET WATER COMPANY PV#2 (1 Milestone Road)

The daily power requirements at the Wanacomet Water Company PV Site #2 (1 Milestone Road) are 608 kW/day [12] or 25kW/hr. A solar farm with a capacity of 2.0MW at an average efficiency of 13% would have an output of 260kW/hr, or 235kW/hr more than the year-round power requirements for the Site #2. This means that 235kW/hr could either be sold to National Grid on the open market, that future power requirements accommodated, or community Net Metering off-sets permitted.

5. NANTUCKET CONSERVATION LAND

Nantucket conservation land is a very sensitive subject. Much of Nantucket's conservation land has very stringent restrictions, and yet from a philosophical point-of-view wind farms have a significant conservation objective.

The amount of Town owned land available for wind farms is limited. Ideally the conservation land is an untapped resource for windfarms. It will be important to determine what can and can not be accomplished to determine the build out plan.

This would entail communicating with the various conservation groups on the Island and discussing the pros and cons of using their land. On one hand, there would be a strong negative push back, and yet on the other hand the windmill argument is compelling..

As of January, 2009 Nantucket contains approximately 30,000 acres (47 square miles) of which 16,627 or approximately 55 % is in open space as follows.

a. Nantucket Conservation Foundation has 8,858.2 acres;
b. Nantucket Islands Land Bank has 2,530 acres;
c. Trustees of Reservations has 987 acres;
d. Massachusetts Audubon Society has 947 acres;
e. Nantucket Land Council has 339 acres;
f. Boy Scouts of America 98 acres
g. Linda Loring Nature Foundation, Inc. 83 acres

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[11] Schedule Z based on FY2010 Metered Consumption- National Grid Meter 235310004 at Wannacomet Water Co, Lovers Lane Pump

[12] Schedule Z based on FY2010 Metered Consumption- National Grid Meter 893090709 at Wannacomet Water Co, 1 Milestone Ave Pump

h. Sconset Trust. Inc 63 acres
i. Madaket Conservation Land Trust 56 acres
j. Other 25 acres
k. Federal, State or Local Government-owned properties have 2,641 acres.

6. FALMOUTH, MA WIND TURBINE

Town of Falmouth Wind Energy Avian Assessment. A 1.5 MW turbine on a tubular tower has a hub height of between 65 and 80 meters (213 to 262 ft); a rotor diameter between 77 to 80 meters (253 to 262 ft) and an overall height with a blade at @ 12 o'clock of 104 to 120 meters (341 to 394 ft). For comparison purposes, the existing tower at the Nantucket Solid Waste Facility is 142.5 meters (468 ft) in height.

7. VINALHAVEN, MAINE WIND FARM

Vinalhaven, Maine is home to New England's largest coastal wind-power facility. The three General Electric 1.5-megawatt turbines are expected to generate 11,605 MWH/yr (Capacity Factor = 29.4%). After paying all expenses and financing costs Vinalhaven is receiving electricity @ $0.055 per kWH. The cost of transmission and distribution is included in a separate delivery charge. [13]

8. BREWSTER, MA WIND FARM

The Brewster, MA Commerce Park wind farm location is relatively remote, with few residential neighbors. [14] The land is located within an industrial park, bordered by the Town Golf Course, sand and gravel operation and a highway. The closest neighbors are 1,800 feet away. The Woodland Senior Living Center is nearly 2,400 feet away from the closest turbine but does not fall within the flickering shadow created by the blades when backlit by the sun.

The Cape and Vineyard Electric Cooperative would pay $10 Million to purchase, install, and maintain the twin 1.65 MW turbines over the 20 year lease period. The Cooperative would lease the land from Brewster for $100,000 per year. The total estimated revenue and savings to the Town over a 15 year period is set at $3.6 million and includes $2.1 million in energy savings and $1.5 million in lease payments. Brewster would receive a little more than 50 percent of the power generated by the turbines. Cooperative member towns would be able to purchase a portion of the remaining electricity, except for 10% allocated to the county's Cape Light Compact. Construction is tentatively scheduled to begin in September 2011.

OFF-SHORE SITES

[13] The Martha's Vineyard Times, "*How the Wind Blows in Vinalhaven*", Janet Hefler, May 13, 2010
[14] Cape Cod Times, September 15, 2010, "*Municipal Wind Power Moving Forward*" Doug Fraser

Wind turbine generator (WTG) foundation design varies by water depth. Monopile foundations would be installed in water depths of 20 meters (65.6 feet or 10 fathoms) or less. Platform structures with three or four piles could be used in water depths greater than 20 meters and less than 45 meters (148 feet) meters. Locations in water depths greater than 45 meters would probably require the use of floating platform technology [mms].

Sites less than 30 miles from shore could use AC cable systems. More distant sites would be connected with direct current (DC) cable systems [mms].

The advantage of off-shore wind farms sites is that the sites are available. The down side is that they are approximately 50% more costly than land based. In addition, there are all sorts of maintenance, environmental, and navigational risks.

Modern wind turbines have a down time of less than 2 percent on land and less than 5 percent at sea.

1. TUCKERNUCK OFF-SHORE SITE

Nantucket has an area south of Tuckernuck Island which is in fairly shallow water. The transmission cable could be brought ashore on Nantucket. However, Dave Fredericks believes that the electric power should be transmitted directly to the mainland via underwater cables. Underwater cables cost about $1.2 million per mile to install.

As electricity production increases more cables can be laid to the mainland and Nantucket could become a significant exporter of electric power. Nantucket will have to rely on the cables as a defacto storage mechanism. Our highest elevation is less than 100 feet so that gravity storage is not an option.

It is necessary to install a 50 m (112 ft) tall meteorological (Met) wind tower on Muskegat Island for the purposes of collect wind and weather data. Wind data may be used for projects within 2 to 5 miles from the Met tower. [15] Wind speed is a function of height, topology, and ground cover. A typical tower weighs as much as 2,200 lbs.

2. BLOCK ISLAND OFF-SHORE SITE

Eight wind turbines are proposed in the ocean three miles southeast of Block Island.[16] They will rise 450 feet above the water from steel frames anchored to the ocean floor. It won the support of most of the year-round and summer residents. This will be the first off-shore wind farm in the United States. The wind farm is being planned by the New Jersey startup Deepwater Wind. It is on track to be installed in 2012 and would go online in 2013.

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[15] "*Metrological Towers and Wind Power Analysis*", Alternative Energy Solutions, Inc; John Wolar, December 2008

[16] Providence Sunday Journal, March 7, 2010

The Block Island farm is rated at 11.5 MW. The excess power will be fed to the mainland on a new cable. National Grid agreed to buy the wind energy for 24.4 cents per kWh for 20 years. The price is nearly three times what National grid pays for electricity. The higher price of wind power would be spread among all the 480,000 ratepayers in Rhode Island. Block Island customers would pay the standard rate charged by National Grid plus additional distribution fees.

At present, Block Island is not hooked up to the grid that supplies power to mainland Rhode Island. Block Islanders, instead get their electricity from diesel generators operated by a local power company. They pay prices up to four times higher than what is paid elsewhere in the state. Deepwater has two projects the eight-turbine wind farm in state waters and by 2015 or 2016 a 100-turbine utility-scale development in federal waters 15 miles off the Rhode Island shore. As of January 2010, the electricity rate was 29.79 cents per kWh compared to 14.8 cents per kWh on the mainland

3. CAPE WIND OFF-SHORE SITE

The Minerals Management Service (MMS) is in the final stages of review of a permit application to construct the Cape Wind Project which consists of 130 440-foot-tall wind turbine generators, on Horseshoe Shoals on Nantucket Sound[17].

The electric power cost to Nantucket consumers includes both delivery services (7.432 ¢ kWhr) and supply services (8.828¢ kWhr) or 16.260¢ kWhr [18]. The Power Purchase Agreement (PPA) between Cape Wind and National grid in 2013 will be 20.7 ¢ kWhr (12.5 ¢ kWhr when renewable energy credit of 6.7 ¢ kWhr and 1.5 ¢ kWhr of long-term contract are subtracted [19]. The current National Grid residential rate is 8.1¢ kWhr. This means that the cost of the residential rate will increase by 12.5¢ - 8.1¢ = 4.4 ¢ kWhr. Applied to Nantucket, this a 50% increase in supply costs or 27% increase in total costs.

DEPENDENCY ON PETROLEUM PRODUCTS

How rapidly can electric heating and electric cars come on line so as to reduce the dependency of petroleum products?

> *This is an ultimate goal which will be driven by the competitive market forces. As the cost of electricity is reduced through windfarms, electricity becomes more attractive power source. Nantucket is an ideal location for electric vehicles since the travel distances are short and the speed limits are low.*

Only 17 to 20 percent of energy in gasoline is used to move vehicles (the rest is wasted as heat), whereas 75 to 86 percent of the electricity delivered to an electric vehicle goes into motion.

[17] Advisory Council on Historic Preservation (ACHP) March 5, 2010
[18] National Grid Bill, March 11, 2010
[19] Cape Cod Times, Saturday, May 8, 2010, Patrick Cassidy

NANTUCKET POWER CONSUMPTION

At present Nantucket has two undersea electric cables bringing power from the mainland. The first cable is rated at 35 MW and the second cable at 42 MW. The National Grid maintains a back up capability of 10 MW

Nantucket used 143,688,965 kWh (26.4 MW average) of electricity in CY 2007. Assuming that the supply cost was $0.11 per kWh, the total supply cost would be $15.80 million. Assuming that the transmission cost was $0.066 per kWh, the total transmission cost would be $9.48 million. Nantucket imports approximately 10 million gallons of fuel per year. Assuming that the cost per gallon is $4.50 per gallon, the total fuel cost would be $45 million.

Nantucket monthly electric usage varies from a low of 9,680,462 kWh (13 MW average) in May to 16,653,095 kWh (23.1 MW average) in September. At 40% capacity factor, it would take twenty two (22) 1.5 MW turbines to supply 100% of the Islands electricity in May and thirty nine (39) 1.5 MW turbines in September.

As the cost of electricity becomes competitive, the attractiveness of electric automobiles and electric heating increases. The Cape has been able to keep its electric consumption constant by offsetting increased growth through conservation techniques.

SMART GRID

Intermittency problems can be mitigated by a smart balance of sources, such as a base supply from tidal power, relying on wind at night when it is often plentiful. Using solar by day and turning to a reliable source that can be turned on and off to smooth out the supply or meet peak demand.

Also helpful is interconnecting geographically dispersed sources so that they can back up on another, installing smart electric meters in homes that automatically recharge electric vehicles when demand is low and building facilities that store power for later use.

Reducing consumer demand during peak usage periods requires a smart grid that gives generators and consumers more control over electricity usage on an hour by hour basis.

Smart meters and appliances have the potential to save energy, to shave peak electricity usage, and reduce risks of blackouts. Typical smart meter designs include periodic transmission of current, phase, and frequency data from the user to the electricity distribution company. Utilities will use the data in billing calculations under time-of-day pricing, for load management research, to provide customer feedback, and/or to adjust customer appliances.[20]

PROS AND CONS OF WIND TURBINES

[20] Science, *"The Smart Electricity Grid and Scientific Research"*, Jan Beyea, Volume 328, May 21, 2010

Do costs of developing renewable energy outweigh benefits? The pros and cons of wind turbines need to be clearly developed in order to get the voters to accept land based wind turbines? The WPI Study used a sampling technique to rank the wind turbine concerns. The conclusion was that the three most difficult concerns to over come were human factors (aesthetics, public outreach), financial, and avian.

Examples of benefits

a. *The amount of fuel replaced by windfarms will determine the future bulk fuel storage facility requirements*
b. *Wind farms will greatly reduce the tanker truck traffic on the Island.*
c. *Reduction in the cost of electricity*
d. *Reduce the cost of transportation and heating*
e. *Bring new revenue sources into the Nantucket economy*
f. *Nantucket average wind speed (AWS) between 16 and 19 mph*
g. *Bluewater's offer in Delaware of stable-priced electricity — an inflation-adjusted 10 cents per kilowatt hour for the next 25 years*

Certain Problems (numbers indicate relative importance of concern by WPI)

a.	*Human Factors (aesthetics)*	*18*
b.	*Financial*	*17*
c.	*Avian (Migratory Birds)*	*16*
d.	*DPW Land Use*	*15*
e.	*Radar Interference*	*14*
f.	*Maintenance – (20 year life cycle)*	*12*
g.	*Electrical Interference and Lightning*	*12*
h.	*Transportation*	*11*
i.	*Decreased Property Values*	*11*
j.	*Flora*	*9*
k.	*Land Management*	*7*
l.	*Small Scale Turbine Purchases*	*6*
m.	*Turtles / Vibrations*	*6*
n.	*Bats*	*5*
o.	*Salt Spray - Sand blasting*	*4*
p.	*Air Traffic Interference*	*4*
q.	*Winter Issues (Icing / Electrical Failure)*	*2*
r.	*Oil Leakage from Turbine*	*1*
s.	*Marine Life*	*0*
t.	*Flashing from sun reflections*	*0*
u.	*Intermittence and variability of power output*	*0*

ACCOMPLISHED ACTIONS

1. (9/17/08) Obtained approval of the Nantucket Energy Committee Mission Statement from BOS.

2. (9/17/08) Obtained approval from BOS to seek grants which would provide further analysis of the two selected sites (Landfill / Massasoit and Waste

Water Treatment Facility), funding for feasibility studies, environmental permitting, public information forums, technical services and start-up costs.

3. (11/5/08) Kitt Johnson, Edgartown BOS appointee, presented findings on underwater turbines in Muskeget Channel.

4. (11/6/08) Edie Ray, Shorebird Biologist for Nantucket Conservation Foundation, Ken Blackshaw, author of Birding on Nantucket, and Vern Laux, Ornithologist at the Linda Loring Foundation spoke to the NEC on bird migration and other bird concerns on Nantucket

5. (11/21/08) Visited Esther's Island site visit to study vertical turbine, solar arrays, and energy efficient house.

6. (12/17/08) Four WPI students completed a 7 week study on Island sponsored by the NEC entitled "Wind Generation on Nantucket" and presented a briefing on the results to BOS.

7. (1/7/09) BOS approved grant application for Feasibility Analysis for Wind Turbines with MTC.

8. (1/21/09) Attend MA Wind Working Group (MWWG) workshop on Wed, Jan 21 @ MTC in Westborough for presentation by Ed Bodmer, an expert in financial modeling for renewable energy projects. The workshop addressed public, private and hybrid approaches to ownership, management, financing, and risk.

9. Apply to the MTC for a feasibility study by the CWC (Community Wind Collaborative) toward the installation of a ARE442 (or similar) turbine at the Nantucket High School.

10. (9/21/09) Submitted Article 5 to the Special Town Meeting to amend Article 23 of the 2007 ATM by changing the purpose of $35,000 appropriated to include costs associated with the study, permitting, design and construction of municipal renewable energy projects.

11. **(6/16/10) Awarded a Professional Services Contract to Commonwealth for $24,500 to Resource Management Corporation to provide professional services in connection with development of wind turbine project at Landfill.**

12. **(7/22/10) Sustainable Nantucket Presentation to the BOS on Draft Climate Protection Action Plan.**

13. **(9/8/10) Awarded professional services contract for $9,380 to Atlantic Design Engineers, LLC to prepare a wind turbine routing scope & cost of transportation study.**

14. **(9/8/10) Awarded a professional services contract for $24,900 to Normandeau Associates, Inc to conduct an assessment of plant & animal resources that may be affected by the wind project.**

15. **(9/8/10) Granted $390,000 by Massachusetts Clean Energy Center Technology Center for costs incurred in the performance of the Project Plan for costs associated with the design and development of the Wind Project.**

FUTURE ACTIONS

a. Invite William (Bill) Vachon of W A Vachon Associates, Manchester MA to participate in feasibility study leading to the selection of turbine size and manufacturer.

b. Continue environmental permitting process. Investigate electrical interconnections to the grid.

c. Begin public outreach with community based forum for informational purposes

   This stage also includes a "Wind 101" instructional public forum offered by MTC to answer questions from the community.

d. Execute MYC's free Standard Financial Offer Service portion of the CWC grant.

   Technical services as well as a grant of up to $150K to support project development are provided. A standing offer to purchase Renewable Energy Certificates generated by the project is also available.

e. Investigate the costs and logistics of transporting and installing turbine components on Nantucket.

f. Obtain financing

g. Select a wind turbine developer

h. Select a wind turbine vender

i. Obtain servicing contract

REFERENCES

1. Community Wind Collaborative (CWC), *Martha's Vineyard and Nantucket Wind Turbine Transportation Study*, August 20, 2009, Black & Veatch

2. General Electric Company, GE1.5-MW Wind Turbine (http://www.gepower.com/prod_serv/index.htm).

3. Massachusetts Department of Energy Resources (DOER), *Net Metering in MA*, October 2009, http://sites.google.com/site/massdgic/Home/net-metering-in-ma.

4. Massachusetts Technology Collaborative (MTC), *Community Wind Collaborative*, Draft Wind Feasibility Study, September 2009, Black & Veatch.

5. Minerals Management Service (MMS), *Cape Wind Energy Project, Final Environmental Impact Statement, Appendix F, Economic Model*, January 2009

6. Renewable Energy Research Laboratory (RERL), *Wind Power in Nantucket: Siting Considerations for a Wind Turbine*, June 16, 2008, Charles E McClelland & Mary Knipe

7. Science Magazine, *Potential for Wind-Generated Electricity in China*, September 11, 2009, pp 1378 – 1380.

8. Scientific American, *"A Path to Sustainable Energy by 2030"* November 2009, pp 58 -65, Mark Z. Jacobson and Mark A. Delucchi.

9. UMass Amherst , *"Wind Power in Nantucket: Siting Considerations for a Wind Turbine"* dated June 16, 2008

10. Worchester Polytechnic Institute (WPI), *Wind Generation on Nantucket,* December 2008; Diana Berlo, Jennifer Hunt, Amanda Martori, and Justin Skelly.

11. Wind Working Group (WWG), *Wind Energy Siting Reform Legislation*, September 2009, Kenneth Kimmel, General Counsel, MA Executive Office of Energy and Environmental Affairs.

GLOSSARY OF TERMS

a. **Advisory Council on Historic Preservation (ACHP)** is required to issue advisory to federal agencies

b. **Capacity Factor (CF)** defines the fraction of the rated power of a turbine that is actually realized over the course of a year given expected variations in wind speed.

c. **Community Wind Collaborative (CWC)** was created in 2003 as a multi-million dollar statewide initiative. CWC is dedicated to helping cities and towns tap into clean, renewable wind power. The CWC offers qualified interested communities technical assistance, wind monitoring equipment, data analysis, and competitively secured resources. Community-based initiatives in which the communities actually own local wind turbines are an excellent alternative to traditional developer-initiated approaches.

d. **Cost of Energy (COE)** is the electricity sales price, in dollars per kilowatthour (KWhr) which the owners would need to exceed a specific debt coverage ratio

e. **Discount Rate is the interest amount held out from the amount loaned. The discount rate is a true interest charge.**

f. **Massachusetts Technology Collaborative (MTC)** is an independent economic development agency chartered by the Commonwealth to serve as a catalyst for growing the state's innovation economy. MTC administers the John Adams Innovation Institute and the Renewable Energy Trust.

g. **Minerals Management Service (MMS)** a bureau of the Department of Interior

h. **National Historic Preservation Act (NHPA)**

i. **Net Metering** is a state regulation allowing customers to receive value during periods when their eligible on-site distributed generation (such as a wind turbine or solar array) generates more electricity than they use. That is, the electric meter runs backward whenever a customer's net metered facility is producing more power than is being consumed and their account gets net metering credits for net excess generation at the end of the customer's monthly billing period [3].

j. **Net Present Value (NPV) is the sum of the present values (PVs) of the individual cash flows after being adjusted by the discount rate.**

Each cash inflow/outflow is discounted back to its present value (PV). Then they are summed. Therefore NPV is the sum of all terms,

$$\frac{R_t}{(1+i)^t}$$

Where:

***t* - the time of the cash flow**
***i* - the discount rate (the rate of return that could be earned on an investment in the financial markets with similar risk.)**
R_t - the net cash flow (the amount of cash, inflow minus outflow) at time *t*.

k. **Outer Continental Shelf (OCS)**

l. **Power Purchase Agreement (PPA)** is the price at which electricity is delivered to the grid is fixed during an initial period typically about 10 years at a level set during an initial bidding period.

m. **Production Tax Credit (PTC)** Under present law, an income tax credit of 2.1 cents/kilowatt-hour is allowed for the production of electricity from utility-scale wind turbines. This incentive, the renewable energy production tax credit (PTC), was created under the Energy Policy Act of 1992. Through the American Recovery and Reinvestment Act (passed in February 2009), Congress acted to provide a three-year extension of the PTC through December 31, 2012. Additionally, wind project developers can choose to receive a 30% investment tax credit (ITC) in place of the PTC for facilities placed in service in 2009 and

2010, and also for facilities placed in service before 2013 if construction begins before the end of 2010. The ITC then qualifies to be converted to a grant from the Department of Treasury. The Treasury Department must pay the grant within 60 days of an application being submitted.

n. **Present Value (PV) is the amount of money today which will become a given amount in the future. For example, at 4% interest $100 will grow to $104 in one year; therefore the present value of $104 one year from now at 4% interest is $100.**

o. **Renewable Energy Trust (RET)** is funded through a monthly charge on electric bills. The Renewable Energy Charge is $0.50 per MWH per month or about $6 a year on average. Nantucket's total charges for 2007 were $71,213.

p. **Unexploded Ordinance (UXO)** is known to exist in and around the northern end of the Nantucket Landfill from previous US Navy operations, and might pose a safety hazard to the construction and maintenance of a wind turbine.

q. **Wind Turbine Generator (WTG)**

CONVERSION FACTORS

a. **Acre:** 1 acre = 43,560 square feet = 4,840 square yards = 1 football filed = 120 yards (including end zones) X 40 yards = 4,800 square yards

b. **Barrel:** 1 barrel of oil = 42 gallons

c. **Hours per year (hr/yr):** 24 hours X 365 days = 8,740 hr/yr (hours per year)

d. **Meter (m):** 1 meter = 3.28 feet

e. **Meters per second (m/sec):** 1 m/sec (meter per second) = 2.237 mph (miles per hour)

f. **Square Mile:** 640 acres = 1 square mile

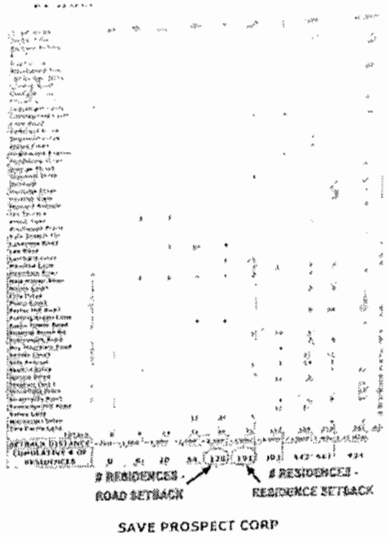
EXHIBIT CC

WIND TURBINES NOT SAFE FOR NEIGHBORHOODS!

SETBACKS

TOWER 1 - SOUTH = RED CIRCLES

TOWER 2 - NORTH = BLUE CIRCLES



SAVE PROSPECT CORP

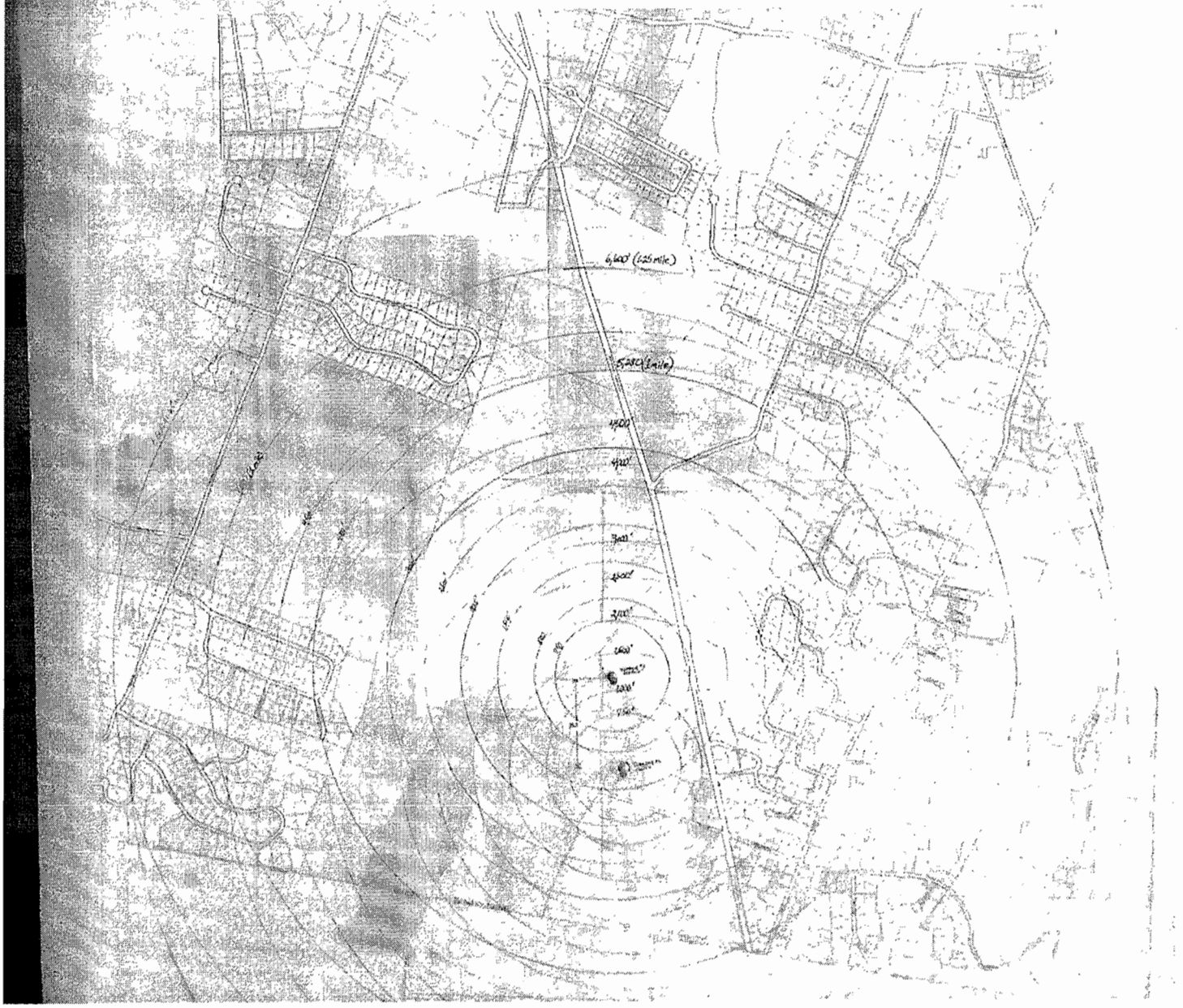


EXHIBIT DD

RA RepublicanAmerican

LOCAL

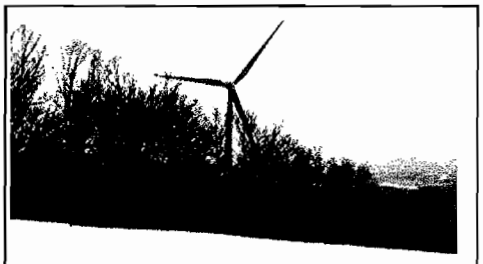
Sunday, January 2, 2011 1:10 PM EST

While Conn. towns tangle with issue, turbine provides Mass. ski resort a lift

BY ALEC JOHNSON REPUBLICAN-AMERICAN

HANCOCK, Mass. -- A ski resort in this quaint Massachusetts town has harnessed the prevailing westerly winds and changed the local scenery of the Berkshire Mountains.

Jiminy Peak Mountain Resort in 2007 built a 386 foot tall, 1.5 megawatt General Electric wind turbine to supply much of its power.



Skiers stop to look at Zephyr, Jiminy Peak's wind turbine. The resort installed the wind turbine in 2007 to reduce its energy costs to help them maintain a competitive advantage over rival resorts. Alec Johnson Republican-American

Related links

Push for turbines is hampered by ... a lack of wind

The turbine, which rises over the top of the resort from its foundation on the mountain's backside, is of a slightly smaller size but the same make of turbines proposed for Northwest Connecticut, in Prospect and Colebrook. The resort's turbine is so similar, and has been so widely marketed as successful, that principals of BNE Energy of West Hartford drop Jiminy Peak's name as an example of what wind power can do.

BNE, led by Gregory J. Zupkus of Prospect and Paul J. Corey of West Hartford, have a long way to go in their quest to build Connecticut's first commercial wind power projects. They face opposition, particularly in Prospect, where anti-turbine forces have organized. And the Connecticut Siting Council must grant its approval, a first for that body which is the ultimate authority in Connecticut on whether, and where, a commercial wind turbine gets sited.

The council has six months to make a ruling. Corey said BNE hopes to begin construction this year at both locations.

The Jiminy Peak project was a different situation: This is a private business, not a power generation company, as BNE hopes to be. BNE also has proposed projects in Massachusetts and Vermont. All seven of those are in the permitting and planning stage.

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Connecticut
· Residents Able To Erase

The proposed turbines in Connecticut — two, 492-foot tall, 1.6 megawatt turbines in Prospect and six in Colebrook — are larger than Jiminy's mountaintop turbine. The Connecticut turbines would be taller than the Statue of Liberty, which from ground to torch rises 305 feet above New York Harbor.

Still, the resort's turbine is the closest in New England, in size and scope, to what BNE proposes. And the Jiminy Peak turbine faced the same concerns: "flicker" illusions from sunlight, noise, aesthetics, worries about hurtling snow and ice from the mammoth turning blades. The response in Hancock has been mostly positive, residents there say.

They named it Zephyr

Part of Jiminy Peak's marketing blitz about its green energy effort included a public contest to name its turbine. When driving south "Zephyr," named after the Greek god of the west wind, could be missed by a driver not looking up along Route 43, because of its high elevation and back-of-the mountain location. It doesn't tower above the resort, directly on top of the 2,380-foot-high mountain. Its planners didn't want to make a statement, said James P. Van Dyke, the resort's vice president of environmental sustainability and wind power guru.

The turbine has become a fixture, and, for Hancock, a town of 750, a promise of a good future for its largest employer and taxpayer.

"They are our industry for Hancock," said Sherman L. Derby Sr., the town's first selectman. "If that industry doesn't survive, we don't survive."

Derby said residents of the former mill town incorporated in 1776 welcome Jiminy's advancements. He has heard "no complaints about the visual impact."

The permitting process was simple because Hancock has no local regulations regarding wind turbines, and the project did not meet the threshold of Massachusetts state law so it did not need state approval. Massachusetts regulates wind projects over 50 megawatts; Jiminy's turbine is 1.5 megawatts.

The local historical commission was consulted because of the turbine's proximity to the circa-1850 town hall. As the crow flies, it is just more than a mile away, but it towers over the trees, clearly visible.

"They didn't think it would affect the rural character of Hancock," Derby said.

Van Dyke, a resort employee since 1977, said the wind project followed years of Jiminy's efforts to conserve energy. "The ski resort is an energy hog," he said. With lights, lifts, snow-making equipment and a resort, before conservation Jiminy used 9 million kilowatt hours a year. That is the equivalent to the average annual electricity use of 813 homes, according to the U.S. Energy Information Administration.

In its early years of the green movement, Jiminy shaved 2.5 million kilowatt hours from consumption by updating lights, lifts and buildings. They then turned to creating their own power. Now instead of paying $500,000 annually to the electric company, their bill is $50,000, Van Dyke said.

Van Dyke said the $3.9 million project will be paid off in 7.5 years and after that will generate income for the resort, because they sell half the power Jiminy produces to the power company. That, Van Dyke said, will allow control over energy costs, enabling the resort to keep from passing high energy costs on to customers. The turbines have a 30- to 50-year design life, and after that, Van Dyke said, the mechanicals wear out. Jiminy will then repower the turbine using the same tower, he said.

'Wosh, wosh, wosh'

A mile away from the turbine at Hancock Town Hall, when the wind blows a certain way, visitors hear it: "Wosh, wosh, wosh," as Zephyr's blades spin. That, Van Dyke said, wasn't supposed to happen, and it is his greatest regret in the way Jiminy pitched the turbine to residents.

Van Dyke said General Electric and the consultants Jiminy worked with during the project said noise wouldn't be heard in the base area of the ski hill or at houses on abutting property. "We told everyone, 'You will not hear the turbines,' " VanDyke said. "They took our answers."

About a month after Zephyr's blades began spinning, the first complaints came in. "It was not what we represented and that is not the way we do business," he said.

Van Dyke said the blades buffeting the air as they pass the tower cause the sound.

Genie Daniels, the selectmen's secretary, said she cannot hear the turbine inside the building, but notices it outside. "As long as it is facing town and the air quality is right, you can hear it," she said.

Van Dyke said the noise depends on wind speed, direction and humidity. Higher

POLL

Is the mountain lion alive in Connecticut?

- Yes
- No
- Not sure

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2011 CHET Dream Big! Competition
Event Date: March 7th, 2011 Event Time: TBA - TBA

COFFEE HOUR READINGS FROM THE ARCHIVES OF THE GUNN MEMORIAL MUSEUM
Event Date: March 7th, 2011 Event Time: 10:00am - TBA

SHROVE TUESDAY PANCAKE SUPPER
Event Date: March 8th, 2011 Event Time: 4:30pm - 7:00pm

SHROVE TUESDAY HASH AND PANCAKE SUPPER

winds cause the blades to spin faster, increasing the noise, and humidity changes the way that noise is amplified.

A study by the American Wind Energy Association found that at a distance of between 750 to 1,000 feet, or about the length of two to three football fields, the turbines are "no noisier than a kitchen refrigerator." Cars passing by Town Hall easily drown out the turbine's wosh-wosh-wosh noise.

BNE has said that their proposed turbines will create slight noise, but likely will be quieter than Jiminy because their blades are longer, so turn more slowly.

"A farm sometimes makes as much noise," Derby said. "It's sporadic. It can be spinning today and you don't hear it, but if the weather conditions are right you can the next time."

Judy Leab, who lives at Ioka Valley Farm, about a mile north of town hall, agreed that she can't hear it all the time. Hot summer nights, when the windows are open and there is no other ambient sound, she said, it seems the loudest.

Three miles southeast in the village, where most Hancock residents live on a main street and a few side streets, Marjorie L. Southard, the town clerk said, "I haven't heard anyone mention they can hear it." Southard lives there and said, "I can't hear it."

At the base of Jiminy Peak and while riding a chairlift, Zephyr can't be heard over ambient noise. Located off the west side of the mountain with its base nearly a full turbine length below the summit, Zephyr cannot be seen from much of the ski area. One trail, however passes within a few hundred feet and when skiers look up they find themselves seemingly face to face with the blades. They are actually more than a football field away.

Van Dyke said a recent poll of skiers found that 23 percent of visitors to the ski area said they chose Jiminy Peak because of the turbine.

Fact or fiction?

Van Dyke said one of the hardest parts of building wind projects, other than hauling 500,000 pounds of material up the mountain, is correcting public misconceptions. One example, he says, is the fear that turbines throw ice.

At Jiminy, he said, although they don't scout for thrown ice chunks every day, one has never been found farther than 150 feet from the turbine. That is about 30 feet from the tip of a blade.

Another concern was property values.

Brian Ganey, Jiminy's director of real estate sales, said the turbine has had no negative impact on real estate values at the resort. Barb Hassan, a local real estate agent with listings in Hancock and adjacent town Lanesboro, said she hasn't heard anything about negative effect on property values. "I haven't had any prospective buyers comment on it in a negative way," she said.

Residents in Hancock haven't been entirely happy with wind power, however. A developer is building a wind farm on the other side of town, and that project has been the focus of complaints about visual impact and sound. First Selectman Derby said the difference may be the source: The turbine at Jiminy Peak helps the town's largest employer and taxpayer, while the wind farm is a power-generating venture by a developer.

Jiminy didn't build Zephyr because the resort wanted to get into the power business, Van Dyke said. The idea was first pitched by a college-aged snowmaker, Van Dyke said, and "I wasn't really interested in it."

The resort applied for small grants to fund feasibility studies, and then received a $582,000 state grant to cover some permitting and construction costs.

"We waited for the fatal flaw," Van Dyke said of those initial studies. But that never came. "We have great wind resources," VanDyke said. "We have a good location."

Since then, Jiminy created its own renewable energy consulting company, EOS Ventures, through which they now manage wind and solar energy projects in the Northeast.

Alice Ouellette wrote on Jan 2, 2011 2:21 PM:

" I love birds just as much as anyone but what would you rather have:a few bird casualties or a much larger cost to all life on the planet that the nuclear power plant alternative has to offer??? "

SUPPER
Event Date: March 8th, 2011 Event Time: 5:00pm - 6:30pm

SHROVE TUESDAY HASH AND PANCAKE SUPPER
Event Date: March 8th, 2011 Event Time: 5:00pm - 6:30pm

HASH & PANCAKE SUPPER
Event Date: March 8th, 2011 Event Time: 5:00pm - 7:00pm

ALL-YOU-CAN-EAT SHROVE TUESDAY PANCAKE SUPPER
Event Date: March 8th, 2011 Event Time: 5:30pm - TBA

SHROVE TUESDAY PANCAKE DINNER AND MARDI GRAS CELEBRATION
Event Date: March 8th, 2011 Event Time: 6:00pm - TBA

FAT TUESDAY
Event Date: March 8th, 2011 Event Time: 6:00pm - TBA

SHROVE TUESDAY PANCAKE SUPPER
Event Date: March 8th, 2011 Event Time: 6:30pm - TBA

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | [next]

Bored in Morris wrote on Jan 2, 2011 6:10 PM:

" No mention of how much energy these things consume. Yes, wind turbines need energy when they run, are stopped due to high winds and when they are stopped due to no wind. Often they require more electricity than they produce.

Wind turbines are a neat idea, but the technology isn't there quite yet.

http://www.aweo.org/windconsumption.html "

Report Abuse

---

also bored wrote on Jan 3, 2011 12:27 PM:

" Sorry to use such harsh terms, however, I'm thinking at this point, folly, or boondoggle come to mind. "

Report Abuse

POST A COMMENT

We encourage your feedback and dialog.
Please be civil and respectful.
If you're witty, to the point and quotable, your reader comments may also be included on the Around the Towns page of The Sunday Republican.

Name:
reillyman
Email:
reillyman@comcast.net
Comments:

Post Comment

EXHIBIT EE

LOCAL

Friday, February 25, 2011 12:28 AM EST

Q&A with the Gov.

THE REPUBLICAN-AMERICAN

More than 30 residents out of 400 in attendance spoke up when Gov. Dannel P. Malloy held a town hall-style meeting in Torrington. A sampling of the questions:

Stella Somers of Colebrook: "Where do you think wind turbines should be built and what do you think about alternative energy?"

Malloy: "I think we need to develop regulations." Malloy did not say whether wind turbines should be built and he mentioned fuel cells as a viable option. "We should have very specific investments in other alternatives," he said.

James Morro of Torrington: "Why are you restructuring the vocational system now and what cost savings are in it for the state?"

Malloy: "I hope to move the vocational system and management of the schools closer to where those schools are located. I am trying to make those schools more like the other schools that are within the regions they are serving.

Joe Friscia of Torrington: "Will you consider tolls and if so will you consider eliminating the state's emissions testing program and consider implementing a safety testing program?"

Malloy: "Tolls are not in this budget because the approval process would probably stretch out over four years. There was no way we would recognize any toll revenue from this for two years. Tolls shouldn't be used to make general revenue and if they are they should be safeguarded to make sure monies go toward transportation issues." Malloy did not answer the question about the emissions program.

Barbara Stango of Torrington: "Do you have any plans to review how contract awards are done and how we get our services through the state?"

Malloy: Yes. "We are very much dedicated to revising our procurement procedures. We need to be very careful how bids come in and how they are priced."

Steve Criss of Harwinton: Criss, who works for the Warner Theatre and is a member of the Torrington Arts & Culture Commission which oversee the summertime Main Street Marketplace festival in downtown Torrington, was concerned that $15 million in tourism money was not going to find its way to Northwest Connecticut. He recommended to the governor that tourism money be put into competitive grants.

Malloy: "It is," he said about money coming to Litchfield County. "My predecessor cut the tourism budget to $1. I don't think that's enough. It was so little we were kicked out of New England. I rejoined. I paid our dues. I believe there are great possibilities of tourism in this part of the state."

— Alec Johnson

More Stories About: Gov. Dannel P. Malloy

EXHIBIT FF

Save Prospect Corp.
42 Woodcrest Drive
Prospect, CT 06712
203-758-3598 * 203-232-0725 (cell)
saveprospect.com * noisyprospect@comcast.net

March 8, 2011

Governor Dannel P. Malloy
Executive Office of the Governor
State Capitol
210 Capital Avenue
Hartford, CT 06106

Re: Industrial Wind Turbines – Prospect Residential Areas

Dear Governor Malloy:

This is a time of incredible concern and anguish for the residents of Prospect. As you know, there are plans to site two 492-foot tall, 1.6 megawatt industrial wind turbines in the small town of Prospect, right in the middle of a residential area with over 200 homes within a half-mile and 924 homes within 1.25 miles of the proposed site. Residential properties are less than 750 feet from the proposed location of the turbines, well within the ice and blade throw zone called out in GE Power's own company documents, publicly available on the Internet through GE's website (http://www.gepower.com/prod_serv/products/tech_docs/en/downloads/ger4262.pdf).

Save Prospect Corp is acting on behalf of more than 300 families who are fighting for our fundamental right to peacefully enjoy our homes, at great personal expense and with heavy emotional impacts. We have been required to raise tens of thousands of dollars from middle class working families to fight an energy company that has been given hundreds of thousands of dollars of ratepayer funds by the Connecticut Clean Energy Fund in order to pursue a misguided plan to force fit industrial wind turbines on an entirely inappropriate site. If sanity and common sense prevail, approval of this site will be denied and all of the financial and emotional resources expended on this misadventure will have been wasted.

All of this could have been avoided had there been regulations to guide wind power developers on proper siting for industrial wind turbines. And now during the Siting Council hearing process we have the developers holding back critical information for the project such as safety and wind data, claiming confidentiality agreements, yet this data was obtained via taxpayer/utility ratepayer alternative energy surcharge funding through the Connecticut Clean Energy Fund. **At this time we plead for your assistance and intervention**.

Our research has shown that if the Siting Council approved this project, **it would be the most densely populated residential area in all of America within 0.6 of a mile from industrial turbines**. These setback numbers are important because they are referenced in the Academy of Sciences, National Research Council's 2007 Report: "Environmental Impact of Wind-Energy Projects". The NRC found that the adverse, life-altering impacts of sound don't lessen until just over a half mile; they recommend research of impacts out to 1.25 miles. Though there have been few such examples of placement of these turbines so close to dense neighborhoods across America, each time it has resulted in trauma for residents. **This cannot be the way your administration wants to usher in wind power in Connecticut**.

We believe that BNE Energy, Inc. misrepresented itself in the obtaining of CCEF funding. Nearly three years ago they proposed to the Connecticut Clean Energy Fund (CCEF) to construct four 2.5 megawatt wind turbines on the same small 67.5-acre residential site in the south end of Prospect. Since the original proposal, the project has mysteriously shrunk into a "two 1.6 megawatt turbine" facility (68% drop in energy production capability). The reason for the change is easily explained, but the timing is suspect. There are spacing requirements for the siting of industrial wind turbines. There are simply no manufacturers that would have permitted such a grand proposal on such a small site and no one with the most basic knowledge of the facts reasonably could have believed otherwise. Yet the funds were approved by CCEF just the same, in the form of an non-recourse loan to a company that has no prior experience in any form of energy facility construction and operation! I have attached the minutes from the November 12, 2009 CCEF Projects Board meeting that reflect what was represented and the basis for the CCEF Board's decision.

Unfortunately for utility ratepayers, the investment by CCEF has not been a wise one. Due to the lack of regulations, BNE was allowed to apply on an expedited basis to have this project approved. Yet in just three short months we have had to respond to protect our homes, and the health and quality of life for our families. Neighbors have had to invest $40,000 thus far to cover our legal and expert witness costs for the Siting Council hearings, and for mailings to counter the misrepresentations of the developer to our town's residents. **We may need $100,000** or more to protect our homes and families. We expect our government to protect us from imposition upon our freedoms to live safely within our homes. **This situation is simply unconstitutional**. That is what we are asking you to remedy.

The site chosen by BNE is a 67.5-acre parcel in a residential area. The site has four active wetland areas, is only hundreds of feet from an active public water supply the New Naugatuck Reservoir, and abuts an active U.S. Superfund Brownfield site (U.S. Cap and Jacket property). Contamination to the area bedrock of volatile organic compounds is expected to remain for 40 to 50 years until naturally mitigated. Local wells down gradient in a northeast direction are already contaminated, and require state/federally paid charcoal filtering systems. Our hydrology experts are concerned about the impacts that blasting, soil displacement from foundation construction and turbine operational vibration could all have on the bedrock, leading to additional fractures and changes to the aquifer paths to area wells.

My neighbors have done much research in the past few months. I have enclosed a copy of an informational video DVD made by SPC and FairWindCT, the group representing many residents of Colebrook. Note that this video was provided to all 187 members of the legislature and the full Energy and Technology Committee as part of the public hearing on HB 6249 held on February 3, 2011, calling for the creation of regulations. On the video is the start of a news story about the effects of wind turbines in a rural farming community in the town of Waubra, in the province of Victoria, Australia (for the full report visit: http://www.windaction.org/videos/25729). I have also enclosed a copy of a DVD detailing the effects of industrial wind turbines on residents in both Maine and Pennsylvania. The stories are informative and revealing. I encourage you and your staff to take the time to learn more as we have.

In watching the video accounts of people living in the shadows of turbines you will see hopelessness and despair. At first I did not understand fully the impact of those poor souls, but now after four months as I look into the eyes of my neighbors, I am starting to see the same hopelessness. Just last week my neighbor John, a "Recon B" Marine veteran of the Vietnam War, walked out my front door after a day of research at my dining room table and said, "you know Tim, I have not been this angry or disillusioned since coming home from Vietnam." Governor, It's time to do better for John.

I ask for an opportunity to meet with you as soon as your schedule permits so that I can share the findings of our research team. Again, I plead for your intervention. Until then please contact me with any questions you may have.

Sincerely,

Timothy C. Reilly
President

Projects Committee of the
Connecticut Clean Energy Fund Board

Thursday, November 12, 2009

A regular meeting of the **Projects Committee (the "Committee") of the Renewable Energy Investments Board hereinafter referred to as the "Connecticut Clean Energy Fund Board"** was held on November 12, 2009, at the office of the Connecticut Clean Energy Fund, 200 Corporate Place, Rocky Hill, CT.

1. **Call to Order**: Noting the presence of a quorum, Mr. Peters, Chairman of the Committee, called the meeting to order at 10:02 a.m. Committee members present: Alan Greene (by phone), Kevin Hennessy (by phone), and Jerry Peters (by phone). Absent: Robert Maddox and John Olsen.

Staff and Adjunct Staff Attending: Christin Cifaldi, Lise Dondy (by phone), Dale Hedman, Dave Ljungquist, Shelly Mondo, Rick Ross, and Matthew Stone.

2. **Approval of Meeting Minutes:**

Mr. Peters asked the Committee members to consider the minutes from the October 15, 2009 meeting.

> **Upon a motion made by Mr. Hennessy, seconded by Mr. Peters, the Committee members voted in favor of adopting the minutes from the October 15, 2009 meeting as presented (Mr. Greene abstained from the vote).**

3. **Pre-Development Loans Phase 2—BNE Wind Colebrook and BNE Wind Prospect**

Mr. Hedman stated that the Projects Committee in July 2008 approved pre-development program funding for Phase 1 of two BNE Energy Inc. wind projects as follows: 1) Wind Prospect in the amount of $102,375; and 2) Wind Colebrook in the amount of $119,625. He discussed the milestones required and achieved for the pre-development funding for both projects. Based on the progress made in Phase I, CCEF staff recommends predevelopment funding for Phase 2 of both projects.

Mr. Hedman discussed the background of the process that ultimately led to the predevelopment funding and the two-step phasing of the projects. He reviewed some of the parameters of Phase 1. Mr. Hedman mentioned that some concern was expressed with obtaining support from the two communities prior to funding, and CCEF was provided with letters of support from the Mayor of Prospect and first Selectman of Colebrook. He stated that the two projects will be the first fairly large wind projects undertaken by the CT Siting Council. Mr. Hedman noted that both projects have submitted FAA applications and approval for Wind Colebrook was granted.

Mr. Hedman explained that one of the milestones was to have one year of wind resource data. He noted that 9 to 10 months of the wind data has been provided, and the data and extrapolations indicate sufficient wind resource data to move to Phase 2. Mr. Hedman stated that both projects are dependent upon federal funding through tax credits and loan guarantees, and the developer has requested that the timing for Phase 2 be moved ahead in order to meet the deadlines associated with federal funding.

Mr. Hennessy raised questions about public relations and outreach. Mr. Hedman stated that the developer has been focusing on obtaining the data needed to move to Phase 2 and understanding the markets for the turbines. He noted that the activities for outreach and public relations will begin in the near future and before filing with the Siting Council.

Mr. Hedman reviewed the milestones proposed for Phase 2 and budgets for both sites. He stated that the wind resource data provides sufficient information to indicate that the projects should be feasible, and staff recommends funding for Phase 2.

The Committee members discussed the costs for the projects in comparison with other technologies. CCEF staff explained that costs are reasonable. CCEF staff will continue to follow this project very closely and will assist with community public relations as needed.

Upon a motion made by Mr. Greene, seconded by Mr. Hennessy, the Committee members voted unanimously in favor of adopting the following resolution regarding funding for Phase 2 for Wind Prospect and Wind Colebrook:

RESOLVED:

(1) that the Wind Prospect project and Wind Colebrook project ("Projects"), 10 MW each wind system seeking funding under the Pre-Development Program for Phase 2 of the Projects, to be located in Prospect and Colebrook, Connecticut have been determined by the Connecticut Clean Energy Fund, Board of Directors ("CCEF Board") to be consistent with and in the furtherance of the CCEF Comprehensive Plan and that a loan be approved to fund said Projects in an amount not to exceed $397,625 for Wind Prospect and $380,375 for Wind Colebrook;

(2) that if sufficient funds are available to fund the Projects, then Peter Longo, President and Executive Director of Connecticut Innovations, Inc. (CI), Lise Dondy, Vice President of CI and President of the CCEF, or any other duly authorized officer of CI, is authorized to execute and deliver for, and on behalf of the CCEF, not later than May 31, 2010, any contract or other legal instrument necessary to effectuate such grant on terms and conditions as he or she shall deem to be in the interests of the CCEF and ratepayers, in conformance with the wishes of the CCEF Board, and in conformance with Section VI of the operating procedures of the CCEF Board. The authorized officer's approval thereof is hereby authorized to be conclusively evidenced by the execution and delivery of said legal instrument; and

(3) that the proper CI officers are authorized and empowered to do all other acts and execute and deliver all other documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument.

Other business:

Ms. Dondy mentioned that information was provided about the pipeline for municipal projects which are anticipated to be funded with Regional Greenhouse Gas Initiative proceeds.

4. Adjournment:

Upon a motion made by Mr. Greene, seconded by Mr. Hennessy, the Committee members voted unanimously in favor of adjourning the November 12, 2009 meeting at 10:30 a.m.

Respectfully submitted,

_____

Jerry Peters, Chairman of the Committee