

**WIND ENERGY 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.**

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 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.
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". 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:

- (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 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; and a
- 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:
  1. the predicted impact of the proposed WESF on all residents within a one mile radius of each proposed Wind Turbine.
  2. 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.
  3. sound modeling and calculations are to be done per IEC 61400 part 11, Wind Turbine Generator Systems Acoustic Measurement Techniques.
  4. computer modeling to show noise contours in both stable and unstable atmospheric conditions. Separate studies for daytime and nighttime conditions are required.
  5. computer modeling to show noise contours accounting for likely modulation effects, i.e. blade icing noise and blade beating noise.
  6. sound studies are to include decibel levels with A and C weighting.
  7. inclusion of varying surface roughness and vegetated conditions.
  8. a description of the project's proposed noise control feature, i.e. relocation or elimination of proposed turbines.

9. 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.
1. 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; and
- 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; and a
- 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; and a
- 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, Gofland University, Sweden, 2004), and a

- 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; and a

- 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; and an
  - i) Financial security plan; See VII. Herein: and a
  - 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. 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 Magnolia Town Clerk shall date the filing of the application in the face of the application.
  5. 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.
  6. 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.
  7. 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.

8. The Town of Magnolia Board shall refer the application to a public hearing for purposes of receiving public comment.
9. 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.
10. 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.
11. 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.
12. 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.
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 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](http://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 Eenergy Project. Manitowoc County, WI supports 1000 feet from the nearest property line), and

- 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; and
- 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; and
- d. at least 2,640 feet from the nearest residence, business, school, daycare facility, church, hospital and other inhabited structures,

(Note: The WI Model Wind Ordinance Reference Guide, 10/5/2007 Draft, page 9 states, "...different setbacks for inhabited structures have been proposed, depending on whether the inhabited structure belonged to a landowner who is leasing land to the wind project. Again, this distinction has no bearing on public health and safety, and should therefore not be allowed. In other words, if

1000 feet is necessary to protect one citizen, it is necessary for all citizens, whether or not they are receiving lease payments”), (Note: The WI Model Wind Ordinance 1000 foot setback is not supported by any public health and safety documentation verified through Public Records requests), and

- e. at least 1,000 feet from all sinkholes to prevent groundwater contamination, and

(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](http://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.)

- f. one mile from emergency communications towers.
- g. at least 2640 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 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.

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 marked as Exhibit A, a copy of which is attached hereto. (Note: Exhibit A to be 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, as described in Exhibit A.

## **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; and
4. Appropriate warning signage shall be placed on each tower, all electrical equipment, and all entrances.
5. Recommendation: 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 180<sup>th</sup> 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.

**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 of \_\_\_\_\_, on this \_\_\_\_\_ day of \_\_\_\_\_,

TOWN OF MAGNOLIA

By: \_\_\_\_\_  
Chairperson

Attest:

\_\_\_\_\_  
Clerk

Published and posted this \_\_\_\_\_ day of \_\_\_\_\_,

(GMS Draft 1.1)

