

**Town of Eau Pleine
Wind Energy Systems Licensing Ordinance**

Enacted by the Town Board of the Town of Eau Pleine as follows:

ORDINANCE NUMBER: 2024-1

Section 1. Title.

This Ordinance may be cited as the Town of Eau Pleine’s Wind Energy Systems Ordinance. The Town of Eau Pleine, Marathon County, State of Wisconsin ordains as follows:

Section 2. Findings, Purpose, and Authority.

2-1 Findings.

Wind Energy Systems (“WES”), while an increasingly important part of a renewable energy portfolio, can have certain adverse impacts. In this regard, the Town finds that the report issued by the National Research Council entitled "Impacts of Wind-Energy Projects," May 2007 ("2007 NRC Report"), addresses several important public health and safety issues relative to wind energy facilities 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. The Town also finds the Public Service Commission of Wisconsin's delay of the Wind Siting Council's 2019 report of special concern. The Wind Siting Council is expected to meet every five years. These concerns are regarding the expectations of more recent studies possibly having been conducted in this five-year period that may bring to light more definitive conclusions regarding the health and safety of our community. Reference is made to the reference sheet attached hereto as Exhibit A. With these concerns in mind, the Town Board of the Town of Eau Pleine finds and declares that:

2-1.1 The Wisconsin State Constitution legally obligates government officials to protect the health, safety, and well-being of their community.

2-1.2 Shortsighted planning has often resulted in the creation of problem industries that adversely affect public health and quality of life, compromise aesthetics, and degrade community character. Industrial WES are not exempt from those problems, and careful siting and protection are of paramount importance. This Ordinance will contribute to this effort.

2-1.3 Regulation of the siting and installation of wind turbines is necessary for protection of the health, safety, and well-being of neighboring property owners,

the general public, the local economy, local ecosystems, and regional military facilities.

2-1.4 The findings set forth in this section are cumulative and interactive, and they shall be liberally interpreted in conjunction with one another.

2-1.5 Industrial WES have increased significantly in number and can potentially be sited without sufficient regard to their impact on the health, welfare, and safety of residents, especially in small, rural communities.

2-1.6 While wind energy is a semi-renewable energy resource of electricity generation, and under some circumstances it may reduce the use of nonrenewable energy sources, the possible benefits must be balanced against potential negative impacts to local citizens, local economy, local ecosystems, and regional military facilities.

2-1.7 WES represent significant potential negative aesthetic and environmental impacts because of their enormous size, lighting, and shadow flicker effects.

2-1.8 WES are industrial by their nature and are not compatible with pastoral communities due to their disruption of views and skylines, especially in rural communities (like this) without many high, unnatural structures.

2-1.9 This community has many scenic viewsheds, and some of these would be negatively impacted by industrial WES.

2-1.10 This community is surrounded by other communities that share our agricultural and rural residential character.

2-1.11 Construction of WES can create traffic problems and damage local roads.

2-1.12 Portions of land within our community are designated as State-regulated wetlands.

2-1.13 This community's geology includes erodible soils and high-water tables. This community's geology may be incompatible with certain industrial development. Risks include aquifer and well water contamination via soil overburden infilling on shallow bedrock.

2-1.14 If not properly regulated, installation of WES in areas with similar geology have the potential to create numerous additional drainage paths which might allow contaminated ground water to directly enter into the aquifer below. For instance, construction of miles of wide gravel access roads increases the number of drainage paths for the contaminated water to contaminate drinking water for our and other nearby communities.

2-1.15 Installation of WES can create drainage problems through erosion and lack of sediment control of facilities and access road sites and harm farmlands through construction methods utilized.

2-1.16 Independent experts have concluded that industrial wind energy turbines can adversely affect meteorology up to fifteen (15) miles away. The resulting changes like lower humidity levels can result in reduced regional agriculture yields.

2-1.17 WES may be a significant source of noise and vibration for the community. These can have negative health impacts on nearby residents, particularly in quiet rural areas. These can also negatively affect the quiet enjoyment of the area, properties, and quality of life of residents. According to various medical experts and the World Health Organization, the infrasound component of such noise can be the most problematic.

2-1.18 The WES's noise and vibration may also negatively affect wildlife. Some noise and vibration impact on wildlife relate to predator-prey behaviors, mating opportunity, and other behaviors that can adversely impact wildlife populations and diversity.

2-1.19 Our community boasts many species of birds and is a habitat for many species of wildlife, both year-round and seasonal.

2-1.20 Independent experts (e.g., ornithologists) have concluded that Industrial Wind Turbines/ ("IWTs") kill large quantities of birds. Especially troublesome are the raptors that are destroyed.

2-1.21 Independent experts (e.g., chiropterologists) have concluded that bats killed by IWTs can result in an appreciable reduction in regional agricultural yields. Estimates have been done for every U.S. County, and these experts have projected that this could adversely affect our local economy by more than 1.2 million dollars a year.

2-1.22 WES can cause danger to humans, animals and ecosystems, resulting from ice throw, turbine collapse, oil contamination, and annoyance.

2-1.23 In certain circumstances, WES can cause electromagnetic interference with various types of communications, including cell phones, radios, and televisions.

2-1.24 Independent experts have concluded that IWTs can have other adverse health effects on wildlife, livestock, and domestic animals.

2-1.25 WES without proper setbacks, can adversely affect property values, which can cause economic hardship to property owners. Reductions in property values could reduce our community's tax base, resulting in a tax rate increase on all community property owners.

2-1.26 Review of professional and legal literature demonstrates there can be serious legal and economic downsides for landowners entering into complicated and one-sided lease/easement contracts written by WES developers not available for public review and discussion.

2-1.27 WES have the potential to adversely interfere with orderly development of our community, including single-family residences and small subdivisions, by making such development unappealing.

2-1.28 The community and its citizens desire to maintain the pastoral, rural nature of this region. WES conflict with the culture and character of this community.

2-1.29 WES need to be regulated for proper removal when no longer in operation.

2-1.30 Due to the unusually broad array of potentially problematic findings, and the lack of scientifically proven net benefits, the Precautionary Principle dictates that our community be particularly conservative and cautionary in its regulation of industrial wind energy and its granting of a license.

2-1.31 In formulation of this Ordinance, many studies have been reviewed and taken into consideration. Other energy ordinances through the U.S. have been analyzed. Experiences of other communities with industrial wind energy have been studied by Members of the Town Board.

2-2 Purpose.

The purpose of this Ordinance is to require the owner of a proposed WES to be located in the Town of Eau Pleine to obtain a license from the Town prior to beginning construction activities in order to protect public health and safety, to minimize or prevent potential adverse off-site impacts from on-site and off-site operations, and to promote the general welfare of the people and communities within the Town of Eau Pleine.

2-3 Authority.

This Ordinance is adopted under the powers granted to the Town of Eau Pleine by Wis. Stat. §§ 60.10, 60.22(3), and 61.34, its authority under§ 66.0401 and§ 66.0403, and other authority under the statutes, and its adoption of village powers under§ 60.10(2) (c). Any amendment, repeal or recreation of the statutes relating to this Ordinance made after the effective date of this Ordinance is incorporated into this Ordinance by reference on the effective date of the amendment, repeal, or recreation.

2-4 Application for Local Approval.

Wisconsin Courts have recognized that the evaluation of an application for local approval of a WES requires a case-by-case approach. The Town must receive information about the specifics of a particular proposed WES and then decide whether a restriction is warranted. Town ordinances may not arbitrarily set a one size fits all scheme of requirements for any WES.

Section 3. Definitions.

As used in this Ordinance, the following terms shall have the meanings indicated. Words not defined in this Ordinance shall be given their ordinary and common meaning.

Accessory building: A building that is located on the WES property.

Accessory Equipment: Any equipment serving or being used in conjunction with a Large Wind Energy System ("LWES"). The term includes utility or transmission equipment, power supplies, generators, batteries, equipment buildings, and storage sheds, shelters, or similar structures.

Administrative Approval: The Town of Eau Pleine has the right to review applications and the right to approve or disapprove applications submitted by the WES.

Blade Glint: The intermittent reflection of the sun off the surface of the blades of one or more wind turbines.

Board: This refers to the Town Board for the Town of Eau Pleine, Marathon County, State of Wisconsin.

Conservation Area: Such areas include natural areas protected by law, such as wetlands that meet the definition in the Clean Water Act 33 USC Sec.1251 et seq.; shoreland areas; water bodies; riparian buffers; populations of endangered or threatened species or habitat for such species; archaeological sites, cemeteries, and burial grounds; important historic sites; other significant natural features and scenic viewsheds; and existing trails or corridors that connect the tract to neighboring areas.

dBA: A-weighted decibels, abbreviated dBA (or dBa or dB(a)], is an expression of the relative loudness of sounds in air as perceived by the human ear. With A-weighting, the decibel levels of low frequencies are reduced compared to the middle and high frequencies (A-weighted energy equivalent sound level). Unless specified otherwise, in this Ordinance dBA means LAeq (energy equivalent sound level).

Electrical Transmission Tower: An electrical transmission structure used to support high-voltage overhead power lines. The term shall not include any utility pole.

FAA: The Federal Aviation Administration or successor agency.

Infrasound: Low frequency sounds that are not ordinarily hearable by humans. All sounds are energy waves, so humans can be affected by infrasound despite not being aware of its presence. The World Health Organization has concluded that health effects due to low frequency components in noise are estimated to be more severe than for community noise in general.

kW: Kilowatt

LWES (Large Wind Energy System): A LWES has a total installed nameplate capacity of 300 kilowatts or greater and consists of individual wind turbines that have an installed nameplate capacity of more than 100 kilowatts.

Maintenance: The cleaning, painting, repair, or replacement of defective parts (including plumbing, electrical, or mechanical work that might require a building permit) in a manner that does not alter the basic design or composition of a structure, such as a wind turbine.

Meteorological Measuring Device: An instrument, such as an anemometer, that measures wind speed. This is often on a tower, typically located at hub-height of the anticipated turbines.

Modification or Modify: Any change, addition, removal, swap-out, exchange, and the like that does not qualify as "Repairs and/or Maintenance" as defined herein is a Modification. Also included is any change, addition, swap-out, exchange, and the like that requires or results in changes and/or upgrades to the structural integrity of a turbine.

Necessary: What is technologically required for the equipment to function as designed by the manufacturer. Anything less will restrict or inhibit the provision of service as intended and described in the Application. Necessary does not mean what may be desired or preferred technically.

Ordinary Maintenance: Actions that ensure that the WES is kept in good operating condition. Ordinary Maintenance includes inspections, testing and modifications that maintain functional capacity and structural integrity. Ordinary Maintenance does not include Modifications.

Owner: means (A) a person with a direct ownership interest in a wind energy system, regardless of whether the person was involved in acquiring the necessary rights, permits and approvals or otherwise planning for the construction and operation of a wind energy system; or (B) at the time a wind energy system is being developed, a person who is acting as a wind energy system developer by acquiring the necessary rights, permits and approvals for or by planning for the construction and operation of a wind energy system, regardless of whether the person will own or operate the wind energy system.

Person: An individual, trustee, executor, receiver, other fiduciary, corporation, firm, partnership, association, organization, club, etc., acting as an entity.

Repair: The replacement of existing work with the same kind of material used in the existing work, not including additional work that would change the structural safety of the structure or that would affect or change required existing facilities, a vital element of an elevator, plumbing, gas piping, wiring, or heating installations, or that would be in violation of a provision of law or this Ordinance. The term "Repair" or "Repairs" shall not apply to any change in construction.

Shadow Flicker: The visual effect that results when the blades of an operating wind energy turbine pass between direct and indirect light from the sun and an

observer and cast an observable, moving shadow on a person or property in the vicinity.

State: The State of Wisconsin

SWES (Small Wind Energy System): A SWES has a total installed nameplate capacity of 300 kilowatts or less and consists of individual wind turbines that have an installed nameplate capacity of not more than 100 kilowatts. Such a facility is used primarily for on-site consumption, is an accessory use, and consists of no more than one wind turbine and any associated tower, control and/or conversion electronics.

Temporary: Something intended to exist or does exist for fewer than 180 days, except for an anemometer or other meteorological measuring device that is used to test the wind conditions, which are considered temporary when it exists for two years or less.

Utility Pole: A structure owned and/or operated by a public utility, municipality, electric membership corporation, or rural electric cooperative that is designed specifically for and used to carry lines, cables, or wires for telephone, cable television, or electricity, or to provide lighting.

WES (Wind Energy System[s]): An electricity-generating facility whose primary purpose is to supply electricity. This consists of one or more wind turbines and other accessory structures and buildings, including substations, meteorological towers, electrical infrastructure, transmission lines, and other appurtenant structures and/or facilities.

Wind Energy: Wind turbines convert the kinetic energy of moving air (wind) into mechanical power. Note that the term "wind energy" is more technically correct than saying "wind power".

Wind Farm: A marketing term for a LWES.

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

Wind Turbine: A wind energy conversion system that converts wind energy into electricity through the use of a wind turbine generator. Such a system might include a nacelle, rotor, tower, pad transformer, and other appurtenant structures and/or facilities.

Wind Turbine Height: The distance measured from the lowest adjacent grade to the highest point of the structure, including any attachments, such as a lightning protection device or a turbine rotor or tip of the turbine blade when it reaches its highest elevation.

Section 4. Wind Energy Systems License Required.

4-1 License Requirement.

Except as provided in Section 4-6(a), a Person is prohibited from commencing construction activities on a WES or operation of a WES in the Town without first obtaining a license from the Town Board ("WES license"). The requirements for applying for a WES license is provided in Section 5.

4-2 License Term.

An initial license term may be approved for a maximum of 15 years. A license renewal may be for a term of up to 10 years.

4-3 License Amendment.

If the Town has issued a WES license, the operator may request an amendment to that license during the license term, using the same process as applies to an original license application.

4-4 License Transfer.

A WES license may be assigned or transferred in the manner set forth in Section 9-1.2 hereof.

4-5 License Revocation.

A WES license may be suspended or revoked under the procedures in Section 9-2.4(E).

4-6 License Exclusion.

- A. Temporary towers may be erected to use a meteorological measuring device to test the wind conditions on the proposed LWES site. Such towers do not require approval of a WES License. However, each such temporary pole or tower shall comply with the dimensional requirements stipulated by the Town Board. A copy of an FAA determination report as a result of filing the FAA Form 7460-1, "Notice of Proposed Construction or Alteration of an Object that may Affect the Navigable Airspace," shall be submitted prior to submission of any building permits for such a temporary tower. The temporary pole or tower may be any approved height, but it must be set back from all property lines, vacant or occupied dwelling units, rights-of-way, and access easements by a distance that is greater than 1.5 times its height. The temporary pole or tower may not have any signs; may not be illuminated (except as required by the FAA or

Department of Defense); and must be completely removed within two (2) years of the date that it is erected unless the Town Board grants a single one (1) year extension.

- B. An Applicant for a WES that qualifies as a SWES may submit a short form application with a reduced fee, in the discretion of the Town Board. If the Board grants such a request, it shall specify the application requirements and fee for such SWES.

Section 5. Requirement for Applying for a Wind Energy Systems License or Renewal of an Approval.

5-1 Pre-Application Consultation Process.

The applicant shall consult with the Town prior to submitting its application. This pre-application consultation is most productive as a series of discussions rather than one meeting. Topics that may be discussed during the pre-application process include, among others, the provisions of this Ordinance and the following:

- A. The application requirements.
- B. Application formats, such as paper versus electronic, Adobe Acrobat (*.pdf) versus Geographical Information System (GIS) data files.
- C. Anticipated review timelines and important milestones.
- D. When and how permits/approvals from state and/or federal regulatory agencies should be shared with the Town.
- E. Filing procedures of the Town for handling confidential information.
- F. Fees associated with the review of a wind energy system application.
Wis. Admin. Code § PSC 128.32(5)

5-2 Pre-application Notice.

At least 90 days before an applicant files an application with the Town to construct a wind energy system, the applicant must provide written notice of the planned wind energy system to all of the following:

- A. Landowners within one mile of a planned wind turbine host property.
- B. The political subdivision(s) within which the wind energy system may be located (wind energy system refers to all wind energy facilities, e.g., turbines, collector lines, substation).

- C. Emergency first responders and air ambulance service providers serving the political subdivision(s).
- D. The Wisconsin Department of Transportation.
- E. The Public Service Commission of Wisconsin.
- F. The Department of Natural Resources, Office of Energy.
- G. The Wisconsin Department of Agriculture, Trade, and Consumer Protection.
- H. The Office of the Deputy Undersecretary of the U.S. Department of Defense.

The notice must include the following:

- A. A complete description of the proposed wind energy system including the number and size of the planned wind turbines.
- B. A map showing the planned location of all wind energy system facilities.
- C. Owner contact information.
- D. A list of potential permits or approvals the owner anticipates may be necessary for construction of the wind energy system.
- E. Whether the owner will request a joint application review process under Wis. Admin. Code § PSC 128.30(7) and each political subdivision that may participate in the joint review process.

5-3 Other State Regulatory Reviews.

In addition to meeting the requirements of the Town, as specified in the application filing requirements below in Section 6 of this Ordinance, the applicant may need to consult and/or acquire permits/approvals from the Wisconsin Department of Natural Resource (DNR), Wisconsin Department of Transportation (WisDOT), Federal Aviation Administration (FAA), U.S. Fish and Wildlife Service (USFWS), and U.S. Army Corps of Engineers (USACOE). Communication and approvals from other regulatory agencies may need to be shared with the Town.

5-4 WisDOT Permits and Review.

WisDOT oversize and overweight permits will be required for transporting large wind turbine components to turbine construction sites. In addition, a review by the WisDOT Bureau of Aeronautics for high structure permits may also be required.

5-5 DNR Permits and Review.

The DNR permits required for the project can be identified during the pre-application process. DNR regulates construction site erosion control and storm water management plans, wetland and waterway permits, and incidental take permits for endangered or threatened species. The type of permits and approvals depends on the location of the project and ancillary facilities being proposed. DNR may require field studies related to wetlands, waterways, or threatened or endangered species.

5-6 Application for a License.

The applicant shall submit an application for a Wind Energy System that contains all required documentation and information required under Section 6 to the Town Clerk. The Town will determine the reasonably necessary number of paper and electronic copies of the application that should be filed by the applicant (PSC 128.30(4)). Each copy of the application shall include all worksheets, maps, and other attachments included in the application (PSC 128.30(4)). The complete application must be made available to the public at a local library and at the Town's business office or some other publicly accessible location (PSC 128.30(6)(a)). The applicant should submit sufficient copies for the Town to conduct its review as well as the copies needed for public review of the application. The Town will determine the appropriate formats for the application copies.

On the same day an application for a wind energy system is filed, the applicant shall also, under Wis. Stat. § 66.0401 (4) (a) 3., use commercially reasonable methods to provide written notice of the filing of the application to property owners and residents located within one mile of the proposed location of any wind energy system facility. The notification shall include all of the following:

- A. A complete description of the wind energy system, including the number and size of the wind turbines.
- B. A map showing the locations of all proposed wind energy system facilities.
- C. The proposed timeline for construction and operation of the wind energy system.
- D. Locations where the application is available for public review.
- E. Owner contact information.

5-7 Application for Renewal of a License.

The owner/operator of a WES shall make a written request to the Town Clerk for a renewal of the license no later than October 1 of the year in which the license will expire.

5-8 Preliminary Review. Preliminary Hearing, Proposed Decision.

- A. **Preliminary Review.** The review for completeness will start the day after the applicant notifies the Town Clerk in writing that all application materials have been submitted. At that point, the Town Clerk shall forward an application or a request for renewal to the Town Board for initial review, and the Town Board will initiate a 45-day completeness review period. The applicant will be notified if an application is deemed complete by the end of the 45-day period and, if it is not, what the applicant must do in order to make it complete.
- B. **Additional Information.** If the application is found to be incomplete, the Town shall send the applicant a letter identifying the deficiencies and may request that the applicant submit additional information. The applicant may then submit revised or supplement application materials as requested by the Town for a new 45-day application completeness review. There is no time limit for an applicant to submit the revised or supplemental materials in order to remedy identified deficiencies. If the Town makes no completeness determination in writing within the defined review period, the application is deemed complete.
- C. **Proposed Decision.** Upon completion of its review of the application and a review of any report from retained experts, the Town Board shall issue a proposed decision on whether to grant a WES license, with or without conditions, or to deny the application or request.

5-9 Decision by the Town Board.

- A. **Notice and Hearing, Proposed Decision.** Upon the issuance of a proposed decision under Section 5-8(c), the Town Clerk shall place the preliminary decision of the Town Board on the Town's posting sites and make it available for public inspection at the Town Hall. The Town Board shall set a date for a public hearing on the preliminary decision and, for an application for a WES license, give Class II public notice and post the notice in the designated posting places at least 15 days prior to the date scheduled for the hearing, and mail the notice to all neighboring landowners. At the public hearing, the Town Board shall take public comment on the proposed decision.
- B. **Town Board Final Decision.** Following the receipt of public comments at the public hearing and any submitted written

comments, the Town Board may make a final decision whether to grant a WES license or to renew a license or set a date for a subsequent Town Board meeting during which the Town Board will make a final decision.

C. Basis of Proposed and Final Decisions. The Town Board shall base its proposed and final decisions on a review of the application, any available retained experts' reports, public comments and information provided at the public hearing, and other relevant information at the discretion of the Town Board, including but not limited to, the following:

1. Conflict with safety and safety-related codes and requirements.
2. The use or construction of a WES that is contrary to an already-stated purpose of a specific zoning or land use designation.
3. The operation of an LWES would be a net economic liability to the community.
4. The operation of an LWES would create unacceptable health risks to the public.
5. The placement and operation of an LWES that would create unacceptable risks to wildlife and/or regional ecosystems.
6. The placement and location of a WES would result in a conflict with, or compromise, or significantly change, the nature or character of the surrounding area.
7. The operation of an LWES would create unacceptable interference with any type of civilian or military radar systems.
8. Conflicts, as determined by the Town Board, with the military's unrestricted ability to use the Restricted Air Space, including no flight hazards and/or use limitations. In addition, the Planning Board will consider whether construction or operation of the proposed WES would encroach upon or would otherwise have a significant adverse impact on the mission, training, or operations of any military installation or branch of military in the State, and possibly result in a detriment to continued military presence in the State.
9. Conflicts with any provisions of this Ordinance.

- D. **Application Approval.** In the case of an application for a WES license, the Town Board shall grant the license if it determines that the operation of the WES will be consistent with the standards and the purposes of this Ordinance.

- E. **Renewal.** In the case of a request for renewal of a license, the Town Board shall grant the request for renewal if it finds that there have been no material violations of the Ordinance or the license which have not been appropriately remedied, the operator has not received multiple or recurring citations or orders for violations of the WES license or this Ordinance.

- F. **Denial.** If the Town Board denies an application for a WES license or denies a request for renewal of a license, the Town Board shall notify the Applicant in writing.

Section 6. Wind Energy Systems License Application Requirements.

A complete application must contain the following information or a showing must be made as to why the information is not applicable. The application filing requirements for a WES can be found at Exhibit B to this Ordinance. The application's organization must follow the major format and numbering system of these filing requirements. Questions about the applicability of specific information requirements should be discussed with the Town during pre-application consultations. Throughout the license process, the applicant shall promptly notify the Town Board in writing of any changes to the information contained in the license application. Changes that do not materially alter the initial site plan may be administratively accepted.

6-1 Project Overview.

6-1.1 Project Owners. The applicant shall identify the owners of the proposed project including their names, addresses, and percentage of ownership. If different, the applicant shall identify the operators of the proposed project including names and addresses.

6-1.2 Project Description. The applicant shall describe all features of the proposed project including the size and location of the project area, the number and the capacities of the proposed wind turbines, the lifespan of the facility, operation and maintenance (O&M) building, collector circuits, the number of participating property owners, and the facilities necessary to connect the project to the transmission system.

6-1.3 Application Maps. The applicant shall provide maps that use the best and most recent data available. Maps must clearly portray the project in a format and scale that is unambiguous and easy to understand. Labels and symbology used on the maps must be clearly visible. The scale of the maps and

number required to show all relevant data will be discussed during pre-application consultations. Maps should show all pertinent aspects of temporary and permanent features discussed in the application:

A. Aerial photographs not more than three years old.

B. Project data:

1. Project area (at a minimum all properties within 0.5 mile of any proposed wind energy system facility)
2. Proposed wind turbine sites
3. Proposed turbine pads
4. Proposed construction footprints at turbine sites
5. Properties with project easements or other forms of land rights
6. Proposed underground collector circuits
7. Proposed overhead collector circuits
8. Proposed electric lines and structures
9. Proposed access roads
10. Local roads/culverts that would be altered or modified
11. Proposed construction crane paths
12. Proposed interconnection facilities, new substation, and/or expansion of an existing substation
13. Proposed operation and maintenance building, if applicable
14. Proposed construction laydown areas
15. Meteorological towers
16. Any other structure required for the operation of the proposed wind energy system

C. Environmental data:

1. Rivers, lakes, and other waterways

2. Wetlands (identified by the Wisconsin Wetland Inventory and/or field delineations)
3. Soils
4. Topography
5. Floodplains
6. Depth to bedrock

D. Parcel data:

1. Private properties
2. Public properties (symbolized differently than private properties)
3. Tribal or other types of properties
4. Political subdivisions

E. Land use:

1. Land cover
2. Zoning
3. Sensitive sites (e.g. daycare centers, schools, hospitals, cemeteries, etc.)
4. Confined animal dairy operations
5. Airports, airstrips, heliports (public and private) within and near the project area (see Section 3.3 of this document)
6. Roads
7. Recreation areas, trails

F. Utility data:

1. Existing transmission
2. Distribution, telephone, or cable lines that would be affected by the proposed project

3. Other existing utilities necessary to understand the proposed project (natural gas lines, railroads, etc.)

6-1.4 Wind Turbine Description. The applicant shall provide a technical description of the proposed wind turbine model(s) chosen or being considered including, but not limited to the following:

- A. Dimensions (total height, hub height, blade length, rotor swept area, etc.)
- B. Turbine capacities
- C. Cut-in and Cut-out speeds
- D. Fixed or variable speed – include rpm
- E. Rated wind speed
- F. Look and finish of wind turbines
- G. Turbine foundation dimensions, depth, and types
- H. Transformer type, location, and physical size of transformer pad at each turbine site
- I. Turbine coolant or heating systems

6-1.5 Overhead Collector Circuits.

- A. If overhead collector circuits are part of the proposed project, the applicant shall explain the reason for not constructing the circuits underground.
- B. The applicant shall provide an inspection schedule for the overhead collector circuits when construction is completed.

6-1.6 Substation/Interconnection Facilities. If the proposed wind energy system includes a new substation/interconnection facility or modifications to an existing substation, the applicant shall provide the following information:

- A. Location and dimensions of any new proposed substation, interconnection facility, or addition to an existing substation.
- B. The location of any electric lines entering and leaving the substation/facility, including turning structures, guy wires, and describe impacts to adjacent landowners.
- C. The location of any access roads.

D. Any equipment noise or facility lighting that might be perceptible to adjacent property owners.

E. Proposed look and landscaping surrounding facility.

6-1.7 Other Proposed Facilities. The applicant shall describe the location and layout for any other facility needed such as:

A. Parking lots

B. Sheds or storage buildings

C. Supplies of water, sewers, or septic systems

6-1.8 Proposed Turbine Lighting.

A. The applicant shall submit documentation from the Federal Aviation Administration (FAA) regarding the proposed wind energy system.

B. The applicant shall describe the FAA-approved lighting that would be used for the proposed wind energy system, including the substation, O&M building, and any other proposed facilities.

C. The applicant shall identify any proposed use of shielding or control systems approved by the FAA to reduce visibility of lighting to individuals on the ground.

6-1.9 Safety and security.

A. The applicant shall identify the wind energy system safety measures that would be used to prevent access and make the turbines not readily climbable by unauthorized individuals.

B. The applicant shall provide samples of warning signs that would be located at the base of each wind turbine and at every intersection of a wind turbine access road and a public road.

C. The applicant shall identify any safety features that would be used on any other proposed feature of the project.

6-1.10 Brownfields (as defined in Wis. Stat. § 560.13(a)(a)). The applicant shall identify the location and describe any facilities that would be constructed on brownfields. The applicant shall also describe the type of brownfield and if there are any construction or operation limitations for the project because of the properties' brownfield status.

6-1.11 Proof of Insurance. No more than 15 days after the grant of the license and before construction is initiated, the applicant shall submit proof of general liability insurance relating to claims for property damage or bodily injury in

effect during construction, operation, and decommissioning of the proposed facility and shall include the host property owner[s] as additional insured persons on the policy pursuant to PSC 128.18(3)(c).

6-1.12 Notices. The applicant shall submit representative copies of all notices and who the notices were/would be issued to, including the following:

- A. Pre-application notice issued 90 days prior to submitting the application in compliance with PSC 128.105(1)(a)
- B. Public notice of application filing to political subdivision that meets PSC 128.30(5)
- C. Notice of complaint process in compliance with PSC 128.42(1)
- D. Notification regarding noise criteria in compliance with PSC 128.14(6)(a), if such notification will be or is anticipated to be used
- E. Notification regarding shadow flicker rules in compliance with PSC 128.15(5)(a), if such notification will be or is anticipated to be used
- F. Prior to the initial operation of the facility, notification of noise criteria and shadow flicker rules to non-participating residence or occupied community building owners within 0.5 mile of a constructed wind turbine in compliance with PSC 128.14(6)(b) and PSC 128.15(5)(b)

6-1.13 Siting Criteria. The applicant shall:

- A. Identify the siting criteria used to design the proposed project.
 - 1. SWES shall comply with the minimum setback distances shown in Table 2 to PSC 128.61(3)(a), which are:

Setback Description	Setback Distance*
Occupied Community Buildings	1.0 times the maximum blade tip height
Participating Residences	None
Nonparticipating Residences	1.0 times the maximum blade tip height
Participating Property Lines	None
Nonparticipating Property Lines	1.0 times the maximum blade tip height
Public Road Right-of-Way	None
Overhead Communication and Electric Transmission or Distribution Lines - Not including utility service lines to individual houses or outbuildings	1.0 times the maximum blade tip height

Overhead Utility Service Lines - Lines to individual houses or outbuildings	None
---	------

* Wind turbine setback distances shall be determined as a straight line from the vertical centerline of the wind turbine tower to the nearest point on the permanent foundation of a building or residence or to the nearest point on the property line or feature, as applicable. The owner of a nonparticipating residence or occupied community building may waive the applicable wind turbine setback distances of this section for those structures to a minimum setback distance of 1.1 times the maximum blade tip height. The owner of a nonparticipating property may waive the applicable wind turbine setback distance in this section from a nonparticipating property line.

2. LWES shall comply with the minimum setback distances shown in Table 1 in PSC 128.13(1)(a), which are:

Setback Description	Setback Distance*
Occupied Community Buildings	The lesser of 1,250 feet or 3.1 times the maximum blade tip height
Participating Residences	1.1 times the maximum blade tip height
Nonparticipating Residences	The lesser of 1,250 feet or 3.1 times the maximum blade tip height
Participating Property Lines	None
Nonparticipating Property Lines	1.1 times the maximum blade tip height
Public Road Right-of-Way	1.1 times the maximum blade tip height
Overhead Communication and Electric Transmission or Distribution Lines - Not including utility service lines to individual houses or outbuildings	1.1 times the maximum blade tip height
Overhead Utility Service Lines - Lines to individual houses or outbuildings	None

* Wind turbine setback distances shall be determined as a straight line from the vertical centerline of the wind turbine tower to the nearest point on the permanent foundation of a building or residence or to the nearest point on the property line or feature, as applicable.

The owner of a nonparticipating residence or occupied community building may waive the applicable wind turbine setback distances of this section for those structures to a minimum setback distance of 1.1 times the maximum blade tip height. The owner of a nonparticipating property may waive the applicable wind turbine setback distance in this section from a nonparticipating property line.

- B. Specify whether the siting criteria used meets or exceeds those specified by PSC 128.13(1)(a), Table 1.
- C. Identify if any additional siting criteria or greater setbacks than those specified in PSC 128.13(1)(a), Table 1, were used to design the proposed project.
- D. Describe the reasons for and the effects of any additional siting standards.
- E. Discuss how wind turbines were located so as to minimize any individual hardships.
- F. Identify any nonparticipating landowners or community building owners which agreed to a setback waiver as described in PSC 128.13(1)(d).

6-1.14 State, Federal, and Local Permits, Approvals, and Correspondence. The applicant shall:

- A. Provide a list of all state, federal, and county permits/approvals required to construct and operate the proposed wind energy system.
- B. Provide copies of the permits/approvals or their current status including, but not limited to:
 - 1. DNR wetland and waterway permits
 - 2. DNR Construction Site Erosion Control and Storm Water Discharge Permit
 - 3. DNR-approved endangered resource review
 - 4. If applicable, WisDOT high structure permits
 - 5. FAA aeronautical study determinations
- C. Provide copies of all official correspondence between the applicant and all regulatory entities.
- D. State and Federal Recommendations. The applicant shall:

1. Provide any non-binding recommendations from state or federal agencies regarding constructing, operating, or decommissioning the proposed wind energy system.
2. Discuss the recommendations and whether they are incorporated into the proposed wind energy system construction, operation, or decommissioning.

6-1.15 Monetary Compensation. The applicant shall:

- A. Specify if nonparticipating landowners would receive monetary compensation consistent with PSC 128.33(3) and PSC 128.33(3m).
- B. Discuss the criteria for determining which non-participating landowners would receive monetary compensation.
- C. Discuss how and if the payments would be modified annually.

6-1.16 Decommissioning. The applicant shall:

- A. Provide decommissioning estimates as required by the Town for the actual and necessary cost of decommissioning.
- B. If the wind energy system is or would be more than one megawatt, provide proof of the financial ability of the applicants to fund the actual and necessary cost of decommissioning in a form and amount as required by the Town.
- C. Submit a decommissioning and site restoration plan which includes deconstruction sequence, construction details environmental impacts, and site restoration. See Section 8-8 of this Ordinance for the decommissioning process.

6-2 Project Construction Description and Impacts.

6-2.1 The applicant shall provide the anticipated construction schedule, in-service date, and any seasonal or regulatory constraints and electric system outage constraints.

6-2.2 The applicant shall describe the sequence for constructing the proposed wind energy system.

6-2.3 The applicant shall describe the construction impacts and zone of disturbance that may be associated with the construction of each type of facility.

6-2.4 If applicable, the applicant shall discuss construction methods that would be used where bedrock is close to the surface and the potential impacts.

6-2.5 The applicant shall Identify any soil conditions related to site geology, groundwater, contamination, erosion, etc. that might create circumstances requiring special methods or management during construction.

6-2.6 Construction and Delivery Vehicle Descriptions. The applicant shall:

- A. Identify roads and routes in the project area that would be used by construction equipment and to haul heavy and oversized equipment and materials.
- B. Describe the types of construction equipment and delivery vehicles that would use local roads. Diagrams and information should specify the following details:
 - 1. Gross vehicle weight (loaded and unloaded for all vehicles using local roads)
 - 2. Overall vehicle length
 - 3. Turning radius
 - 4. Minimum ground clearance
 - 5. Minimum slope tolerance

6-2.7 Roads and Infrastructure Impacts.

- A. **Local Infrastructure Impacts.** The applicant shall identify and discuss any anticipated impact of the wind energy system on local infrastructure during construction and during operation, including but not limited to roads, bridges, culverts, sewer, and electric distribution or any other lines.
- B. **Road Modifications.** The applicant shall describe and submit the following information regarding modifications to local roads necessary for the construction of the proposed wind energy system (e.g., turn radii expansion, road culvert reconstruction to withstand heavy traffic, impacts to wetlands or drainage swales due to road modifications, etc.):
 - 1. Location of road modifications.
 - 2. Complete description of modification.
 - 3. Tree clearing that would occur along roads (in road ROW and on private property).

4. Environmental issues associated with road modification.
5. Any post-construction changes to road modifications.

C. Road Impacts. The applicant shall:

1. Describe the process which would be used to determine the condition of roads pre-construction and post-construction.
2. Describe how and when road repairs would be performed on local roads and how disputes on causes of road damage would be resolved.

D. Electric Distribution and Other Lines. The applicant shall:

1. Provide the likely locations where existing electric distribution and other lines would need to be disconnected in order to allow passage of equipment and materials.
2. Describe how residents would be notified before disconnection of local power, telephone, or cable.
3. Estimate the typical duration of the outage resulting from equipment or materials delivery.

6-2.8 Access Roads. The applicant shall:

- A. Provide the width of access roads during construction and post-construction.
- B. Describe construction materials.
- C. Describe any site access control (i.e., fences or gates).

6-2.9 Crane Paths. The applicant shall:

- A. Description of width and depth of crane path preparations.
- B. Describe construction materials.
- C. Describe any site access control (i.e., fences or gates).
- D. Discuss post-construction management of crane paths and methods that would be used to recover the land.

6-2.10 Collector Circuits (overhead and underground). The applicant shall:

- A. Identify the length and location of collector circuits that would be constructed.
- B. Describe the voltage of collector circuits.
- C. Describe the configuration of collector circuits.
- D. Discuss construction methods for collector circuits (i.e., trench dimensions, burial method, collector poles, etc.).

6-2.11 Temporary Laydown Areas. The applicant shall:

- A. Identify the location, footprint, and existing land use of all temporary laydown/staging areas and any additional temporary workspace.
- B. Describe the impacts on the proposed areas.

6-2.12 Hazardous Materials. The applicant shall:

- A. Provide a list of hazardous materials to be used on-site during construction and operation of the proposed project.
- B. Discuss spill containment and cleanup measures including the Spill Prevention, Control, and Countermeasures (SPCC) and Risk Management planning.

6-2.13 Post-Construction Restoration. For each temporary impact, the applicant shall describe the revegetation and restoration efforts after the facilities are constructed, including at locations of access roads, crane paths, and laydown areas.

6-3 Community Impacts.

6-3.1 Existing Land Uses. The applicant shall:

- A. Describe existing land uses within one-half mile of all proposed wind-turbine sites.
- B. Discuss any changes to existing land uses that occurred since the pre-application notice was provided.
- C. Discuss how the construction and operation of wind turbine sites and related facilities might impact the identified existing land use.
- D. Discuss how the impacts have been minimized or would be mitigated.
- E. Describe the potential aesthetic impacts to the community and how these impacts would be mitigated.

- F. Provide representative photo simulations of the proposed project in the project area.

6-3.2 Agriculture. The applicant shall:

- A. Describe how the design of the proposed wind energy system minimizes the conversion of land from agricultural use.
- B. Describe construction methods that would be used to minimize soil compaction, topsoil mixing, and damage to drainage systems on agricultural lands.

C. Aerial Spraying or Seeding Operations. The applicant shall:

- 1. Discuss the use of aerial spraying for pest control or seeding at project area farm operations.
- 2. Discuss the impacts of the proposed wind energy system on aerial spraying or seeding operations.
- 3. Identify potential mitigation of these impacts including monetary compensation.

6-3.3 Airports and Airspace. The applicant shall:

- A. Identify the location and owner of private and public airports, airstrips, or heliports in the project area or which may be affected by the proposed project including:
 - 1. Public airports within 5 miles of the nearest turbine location.
 - 2. Private use airports/landing strips within two miles of the project area.
- B. Identify the location and owner of any heliports at a medical facility used for air ambulance service within the project area or which may be affected by the proposed project.
- C. Discuss any wind turbine setbacks used in the vicinity of airports or heliports to protect airport approaches including:
 - 1. Any turbine locations subject to height limitation zoning or land use controls due to municipally owned public use airports as specified under Wis. Stat. § 114.136.
 - 2. Any turbine locations that would be subject to a WisDOT tall structure permit under Wis. Stat. § 114.135.

6-3.4 Construction Impacts to Project Area. The applicant shall:

- A. Discuss the anticipated traffic congestion during construction that would be experienced on project area roads and how the congestion would be minimized and mitigated.
- B. Discuss the anticipated noise and lighting disturbances during construction and how the impacts would be minimized and mitigated.

6-3.5 Noise from Operating Wind Turbines. The applicant shall:

- A. Discuss how the proposed wind energy system is designed to minimize noise at nonparticipating residences or occupied community buildings to the extent practicable.
- B. Provide noise estimates that show compliance with a noise standard established by the political subdivision under PSC 128.14.
- C. Specify whether the noise criteria used to design the project will result in the following at the outside wall nearest a proposed wind turbine of nonparticipating residences or occupied community buildings under normal operating conditions:
 - 1. Noise from the proposed wind energy system would not exceed 50 dBA during daytime hours of 6 a.m. to 10 p.m.
 - 2. Noise from the proposed wind energy system would not exceed 45 dBA during the nighttime hours of 10 p.m. to 6 a.m.
- D. Provide methods for assessing pre-construction noise levels for the proposed project.
- E. Provide methods for assessing post-construction noise levels.
- F. Identify the properties of nonparticipating residences and occupied community buildings for which the applicant has secured noise waivers.

6-3.6 Shadow Flicker from Operating Wind Turbines. The applicant shall:

- A. Discuss how the proposed wind energy system is designed to minimize shadow flicker at nonparticipating residences or occupied community buildings.
- B. Provide the results of shadow flicker computer modeling that show the operation of the proposed project would not exceed shadow flicker limits established by the Town under PSC 128.15.

- C. Specify whether the shadow flicker criteria used to design the project will result in shadow flicker not exceeding 30 hours per year of shadow flicker at nonparticipating residence or occupied community buildings.
- D. Based on computer modeling, identify the properties of nonparticipating residences or occupied community buildings that would experience 20 hours or more of shadow flicker.
- E. Describe the options for mitigating shadow flicker on nonparticipating residences or occupied community buildings that would experience 20 or more hours of shadow flicker.
- F. Identify the properties of nonparticipating residences and occupied community buildings for which the applicant has secured shadow flicker waivers.

6-3.7 Signal Interference of Commercial and Personal Communications from Operating Wind Turbines. The applicant shall:

- A. Discuss how the proposed wind energy system is designed to minimize signal interference to commercial communications and personal communications to the extent practicable.
- B. Specify whether any wind turbines are proposed within existing line-of-sight communication paths used by government or military entities to provide services essential to protect public safety.
- C. Identify and discuss the types and particulars of commercial and personal communications that may be affected by the operation of the proposed wind energy system, including:
 - 1. Line-of-site analysis for potential interference with microwave communications.
 - 2. Analysis of the potential television interference within the project area and within one mile of the project boundary.
 - 3. Aviation radar installations, Doppler weather radar installations of the National Weather Service, and any broadcast television stations.
 - 4. Any other personal communications systems such as cell phone, radio, and internet (Wi-Fi).

- D. Discuss the potential options that would be available to mitigate interference of commercial and personal communications.
- E. Describe the procedure for communication complaint resolution that would be established once the wind energy system is operational and during the life of the project.

6-3.8 Stray Voltage. The applicant shall:

- A. Discuss the involvement and recommendations of the local electric distribution company regarding the testing for stray voltage prior to construction of all dairy and confined animal operations within 0.5 mile of a wind energy system.
- B. Briefly discuss the involvement of PSCW staff in determining the manner in which stray voltage testing would be conducted and on which properties.
- C. Identify the dairy or confined animal operations within 0.5 miles of any proposed wind energy system facility.
- D. Submit the testing procedures that would be used on the identified properties prior to the start of construction and post-construction when the wind energy system is fully operational.

6-3.9 Emergency Procedures. The applicant shall:

- A. Identify the first responders the applicant has worked with regarding emergency planning for the proposed wind energy system.
- B. Describe the collaborative process for developing local emergency plans between the applicant and area first responders.
- C. Provide a copy of the emergency plan (it may be filed confidentially) or its status.
- D. Provide details for any first responder annual training that would be conducted by the applicant.

6-3.10 Complaint Resolution. The applicant shall describe the procedures that would be used for complaint resolution when the wind energy system is operational and during the life of the project.

6-3.11 Shared Revenue and Community Benefits.

- A. For each political subdivision, the applicant shall provide an estimate of the shared revenue resulting from the proposed project, if applicable (Wis. Stat. ch. 79).

- B. The applicant shall describe any other benefits (e.g., employment, infrastructure improvements) the community would receive due to the operation or construction of the proposed project.

Section 7 Installation and Design.

7-1 LWES Power Collection.

The electrical connection system from the turbines to a collection point or substation shall, to the maximum extent possible, be placed underground. The power from that collection point or substation may use overhead transmission lines if approved by the Town Board.

7-2 In addition to all other design and installation requirements elsewhere in this Ordinance, the WES shall do all of the following:

- A. Be a non-obtrusive and conventional color/finish (such as light blue, off-white, or light gray that blends with the sky and the agricultural and rural residential character of the Town).
- B. Be designed to reasonably minimize the conversion of land from agricultural use. PSC 128.12(2).
- C. Not be artificially lighted, except to the extent required by the FAA or other applicable authority that regulates air safety.
- D. Not display advertising material or signage other than warnings, equipment information, or indicia of ownership on a wind turbine. An owner may not attach any flag, decorative sign, streamers, pennants, ribbons, spinners, fluttering, or revolving devices to a wind turbine. An owner may attach a safety feature or wind monitoring device to a wind turbine. PSC 128.18(1)(a).
- E. Place appropriate warning signage on or at the base of each wind turbine.
- F. Place and maintain up-to-date signs containing a 24-hour emergency contact telephone number, information identifying the owner, and sufficient information to identify the location of the sign within the WES. An owner shall post these signs at every intersection of a wind energy system access road with a public road and at each wind turbine location.

- G. Use reasonable efforts to avoid causing interference with commercial communications and personal communications to the extent practicable as described in PSC 128.16(3), including the following:
1. The LWES may not be constructed within existing line-of-sight communication paths that are used by government or military entities to provide services essential to protect public safety. PSC 128.16(1)(c). The Town may require an owner to provide information showing that wind turbines and other wind energy system facilities will be in compliance with this requirement.
 2. Commercial communications interference mitigation. The LWES shall use reasonable and commercially available technology to mitigate interference caused by a LWES with commercial communications in use when a LWES begins operation. Before implementing mitigation measures, the owner of the LWES shall consult with affected parties regarding the preferred mitigation solution for commercial communications interference problems. Except as provided in sub. 4, the owner shall mitigate commercial communications interference caused by the LWES by making the affected party's preferred reasonable mitigation solution effective until either the LWES is decommissioned or the communication is no longer in use, whichever is earlier. PSC 128.16(2)
 3. Personal communications interference mitigation. The LWES shall use reasonable and commercially available technology to mitigate interference with personal communications in use when a LWES begins operation caused by a LWES. The Town may require an owner to use reasonable and commercially available technology to mitigate interference with personal communications that were not in use when the LWES began commercial operation, if a LWES is causing the interference and the interference occurs at a location at least 0.5 mile from a wind turbine. Before implementing mitigation measures, the owner of the LWES shall consult with affected parties regarding the preferred mitigation solution for personal communications interference problems. Except as provided in sub. 4, the owner shall mitigate personal communications interference caused by the LWES by making the affected party's preferred reasonable mitigation solution effective until either the wind energy system is decommissioned or the communication is no longer in use, whichever is earlier. PSC 128.16(3)(a) and (b).

4. Mitigation protocol. The Town may, under a protocol established under PSC 128.50 (2), require the owner of a LWES to implement a new mitigation solution that becomes commercially available before the LWES is decommissioned to address interference for which mitigation is required under sub. 2 or 3 and for which the original mitigation solution implemented is only partially effective. PSC 128.16(4).
- H. Clearly mark guy wires and supports, so that the wires and supports are clearly visible to low flying aircraft, per PSC 128.18(1)(h).
 - I. In order to minimize damage to agricultural lands and soils per PSC 128.18(3)(am), have a leak containment system for oil, hydraulic fluids, and other non- solids that is certified by an expert (such as an engineer, turbine manufacturer, etc.) acceptable to the Planning Board that all such fluids will be captured before they reach the ground. The Applicant shall pay the cost(s) of the expert.
 - J. Prepare an incident response plan that ensures that local emergency responders have the necessary equipment and training to effectively handle emergencies such as oil spills, turbine fires, turbine structural damage (or collapse) of equipment, including access to heavy equipment needed for rescue of trapped personnel.
 - K. Notify the Town Board of the occurrence and nature of an LWES emergency within 24 hours of an LWES emergency.
 - L. Establish and maintain liaison with the Town Board and with fire, police, and other appropriate first responders serving the LWES to create effective emergency plans that include all of the following:
 1. A list of all the types of LWES emergencies that require notification under Par. G.
 2. Current emergency contact information for first responders and for the LWES Applicant, including names and phone numbers.
 3. Procedures for handling different types of LWES emergencies, including written procedures that provide for shutting down the LWES or a portion of the system as appropriate.
 4. Duties and responsibilities of the Applicant and of first responders in the event of an LWES emergency.

5. An emergency evacuation plan for the area within 0.5 mile of an LWES, including the location of alternate landing zones for emergency services aircraft.
- M. Review the emergency plan at least annually in collaboration with fire, police, and other appropriate first responders to update and improve the emergency plan as needed.
 - N. Distribute current copies of the emergency plan to the Town Board, fire, police, and other appropriate first responders as identified by the Town Board.
 - O. Require the Applicant to provide annual training for fire, police, and other appropriate first responders regarding responding to an LWES emergency until the LWES has been decommissioned.
 - P. As to emergency action plans and procedures, do the following:
 1. Furnish its operator, supervisors, and employees who are responsible for emergency action a copy of the current edition of the emergency procedures established under this subsection to ensure compliance with those procedures.
 2. Train the appropriate operating personnel to ensure they have knowledge of the emergency procedures and verify that the training is effective.
 3. As soon as possible after the end of an LWES emergency, review employee activities to determine whether the procedures were effectively followed.

7-3 Conditions for Approval of an Application to Construct a WES.

In addition to whether the WES satisfies all other provisions of this Ordinance, including but not limited to those provisions requiring the WES to reasonably minimize the conversion of land from agricultural use and to site wind turbines to minimize individual hardships, and whether the WES satisfies the County processing rules as a conditional use or permitted use pursuant to County Code s. 17.405.04(B) and (C), the Town hereby establishes the following as conditions for approval of an application to construct a WES:

- A. Whether an owner of a WES has consulted with and received any non-binding recommendations for constructing, operating, or decommissioning the WES from a state or federal agency, and whether the owner has incorporated such non-binding recommendations into the design of the WES.

- B. Cooperation with any study of the effects of WES coordinated by a state agency.
- C. An owner of a WES must offer an agreement that includes annual monetary compensation to the owner of a nonparticipating residence if the residence is located within 0.5 mile of a constructed wind turbine. For one turbine located within 0.5 mile of a nonparticipating residence, the initial annual monetary compensation may not exceed \$600. For two turbines located within 0.5 mile of a nonparticipating residence, the initial annual monetary compensation may not exceed \$800. For three or more turbines located within 0.5 mile of a nonparticipating residence, the initial annual monetary compensation may not exceed \$1,000. The initial annual monetary compensation under this subsection shall apply to agreements entered into in 2011. For agreements entered into in 2012 and thereafter, the initial annual amounts shall increase each year by the greater of two percent or the increase in the Consumer Price Index, as described in s. 196.374 (5) (bm) 2. b., Stats., from the previous year. An agreement offered under this subsection shall specify in writing any waiver of a requirement or right under this chapter and whether the landowner's acceptance of payment establishes the landowner's property as a participating property under this chapter.
- D. An owner of a WES must offer an agreement that includes monetary compensation to a farm operator farming on a nonparticipating property located within 0.5 mile of a constructed wind turbine if the farm operator demonstrates all of the following:
 - 1. Substantial evidence of a history, before the WES owner gives notice under PSC 128.105 (1), of using aerial spraying for pest control or disease prevention for growing potatoes, peas, snap beans, or sweet corn on all or part of a farm field located within 0.5 mile of a constructed wind turbine.
 - 2. A material reduction in potato, pea, snap bean or sweet corn production or a material increase in application costs on all or part of a farm field located within 0.5 mile of a constructed wind turbine as a result of the WES's effect on aerial spraying practices.
- E. The owner of a WES must submit to the Town Board copies of all necessary state and federal permits and approvals.

- F. The owner of a WES must file an annual report with the Town Board documenting the operation and maintenance of the wind energy system during the previous calendar year.

Section 8. Post-License Approval Requirements.

8-1 WES Certification.

Prior to operation of any approved and constructed WES, the Applicant must provide a certification that the project complies with applicable codes, industry practices and conditions of approval (where applicable).

8-2 LWES Indemnification.

The granting of the Town's LWES License shall contain an indemnification provision that shall require the Applicant to hold harmless and indemnify the real property owner for all of the following:

- A. Any violation of federal, state, or local law by the owner of the wind energy system.
- B. Any damages or bodily injury caused by the construction, operation or decommissioning of the wind energy system. PSC 128.11(2).

8-3 Fees.

Non-refundable Fees shall be as follows:

8-3.1 The initial application fee for a LWES shall be \$2,500.00 which shall reimburse the Town for reasonable expenses relating to the review and processing of an application for a wind energy system; provided, however, the fee amount could increase based on the nature and review of the application. The Town Board may waive part or all of the application fee, in its discretion, for a SWES.

8-3.2 The Town's fee or reimbursement requirement under Section 8-3.1 shall be based on the actual and necessary cost of the review of the wind energy system application and shall include the cost of services necessary to review an application that are provided by outside engineers, attorneys, planners, environmental specialists, and other consultants or experts.

8-4 Reservation of Authority to Inspect WES.

In order to verify that the holder of a license for a WES and any and all lessees, renters, and/or licensees of it, have placed and constructed such facilities in accordance with all applicable technical, safety, fire, building, and zoning codes, laws, Ordinances and regulations and other applicable requirements, the Town may inspect all facets of said license holders, renter's, lessee's or licensee's

placement, construction, and maintenance of such facilities, including all turbines, towers, buildings, and other structures constructed or located on the site.

8-4.1 WES shall not begin operation until all approvals required under this Ordinance shall have been obtained and all required certifications are provided.

8-4.2 Following the issuance of any approval required under this Ordinance, the Town Board or its designee shall have the right to enter onto the Site upon which a WES has been placed, at reasonable times, in order to inspect such WES and its compliance with this Ordinance.

8-4.3 After undertaking such inspection, the Town Board or its designated representative shall provide notice of any non-compliance with the terms of this Ordinance or the conditions of approval of any license issued hereunder and shall provide the Applicant or Applicant with a reasonable time frame to cure such violation, such time frame to be determined based upon the seriousness of the violation, its actual and/or potential impact upon public safety, and the actual and/or potential impact of the violation upon Town residents and/or local ecosystems.

8-5 WES Road Related Damage.

Consistent with PSC 128.30(2)(k), the owner of a WES shall provide a process for assessing road damage caused by its activities and, additionally, shall conduct road repairs related to such activities at its own expense. In the event of the owner's failure to maintain and repair such road damage, the Town may, but shall not be obligated to, maintain, or repair such road damage and charge the cost of such maintenance or repairs as a special charge or special assessment against the owner of the WES.

Pursuant to and without waiving any rights under Wisconsin Statute 86.02, "Injury to highway", should Town road surfaces or rights of way become damaged by any means, including, but not limited to, unloading of equipment onto Town roads or travel of equipment over Town roads, the owner of a WES, or individuals associated therewith, causing such damage shall be liable for damages up to and including treble the costs of remediation of the damaged road surface.

8-6 WES Noise Impacts.

- A. The noise generated by the operation of a WES may not exceed 50 dBA during the daytime hours and 45 dBA during the nighttime hours as measured at the outside wall of a nonparticipating residence or occupied community building that existed when the owner gave notice pursuant to PSC 128.105(1) or for which complete publicly available plans for construction were on file with the Town Board within 30 days of the date when the owner gave notice pursuant to PSC 128.105(1). Nighttime hours are the hours beginning at 10:00 p.m. and ending at 6:00 a.m. daily and daytime hours are the hours beginning at 6:00 a.m. and ending at 10:00 p.m. daily.

- B. The owner of an adjacent nonparticipating residence or adjacent occupied community building may relieve the owner of the WES of the requirement to meet any of the noise limits in this section by written contract as provided in PSC 128.14(5) and (6).
- C. For a SWES, the owner of the SWES shall comply with all other noise limitations, notification and compliance rules as prescribed by PSC 128.61(3)(b), (4) and (6), if applicable.
- D. If an owner of a WES receives a complaint regarding a violation of the noise standards contained in PSC 128.14 and the owner has not provided the Town with the results of an accurate test conducted within two years of the date of the complaint showing that the WES is in compliance with the noise standard at the location relating to the complaint, the owner shall promptly conduct a noise study to evaluate compliance with the noise standards at that location using the most current version of the noise measurement protocol as described in PSC 128.50(2).

8-7 LWES Annual Reports.

Annual reports. The owner shall file an annual report with the Town Board documenting the operation and maintenance of the wind energy system during the previous calendar year, as required by PSC 128.33(5).

8-8 Abandonment and Decommissioning.

8-8.1 The following applies to both Large and Small Wind Energy Systems, whereas Section 8-8.2 applies solely to large Wind Energy Systems.

- A. A wind energy system that that is at the end of its useful life and/or does not generate electricity for a continuous period of 360 days will be deemed abandoned and the department may send a Notice of Abandonment to the owner. Exemptions under PSC 128.60 and modifications under PSC 128.61 apply to all Small Wind Energy Systems.
- B. If, within 30 days of receipt of a Notice of Abandonment, the owner provides the department with information showing to the department's satisfaction that the wind energy system has not been abandoned, the department will withdraw the Notice.
- C. Unless the department withdraws the Notice of Abandonment, a wind energy system tower must be decommissioned as prescribed by PSC 128.19. If the owner fails to remove a wind energy system and

reclaim the site, the county may remove or cause the removal of the wind energy system and arrange for the reclamation of the site.

8-8.2 The following decommissioning process applies only to Large Wind Energy Systems:

- A. An owner of a LWES shall decommission and remove the LWES when the facility is at the end of its useful life. A LWES is presumed to be at the end of its useful life if the LWES generates no electricity for a continuous 360-day period. Exemptions under PSC 128.60 and modifications under PSC 128.61 apply to all SWESs.
- B. Upon application by the owner of the LWES, the Town shall grant an extension of the time period for returning the LWES to service by one or more additional 180-day periods if the owner demonstrates it is likely the LWES will operate again in the future and any of the following occur:
 - 1. The owner submits a plan to the Town that demonstrates an ongoing good faith effort to return the LWES to service and outlines the steps and schedule for returning the LWES to service in a reasonable period of time, including by repairing, replacing or repowering the LWES as necessary to generate electricity.
 - 2. The owner demonstrates that the LWES is part of a prototype or other demonstration project being used for ongoing research or development purposes.
 - 3. The owner demonstrates that the LWES is being used for educational purposes.
- C. The Town may deny a request for an extension under sub. B. if the LWES has not generated any electricity for a continuous period of 540 days or more and the Town finds that the owner is not capable of returning the LWES to service within a reasonable period of time.
- D. A LWES is irrebuttably presumed to be at the end of its useful life if the LWES generates no electricity for a period of 540 days and any of the following occur:
 - 1. The owner does not request an extension of the time period for returning the LWES to service under sub. B.
 - 2. The Town denies a request for an extension under sub. C. and any appeal rights have expired.

- E. When decommissioning is required, the owner of the LWES shall begin decommissioning within 360 days after the LWES has reached the end of its useful life. The owner shall complete decommissioning and removal of the LWES within 540 days after the LWES has reached the end of its useful life.

8-8.3 The following financial responsibilities apply only to Large Wind Energy Systems:

- A. An owner of a LWES with a nameplate capacity of one megawatt or larger shall provide the Town with and maintain proof of financial assurance of the owner's ability to pay the actual and necessary cost to decommission the LWES before commencing major civil construction activities such as blasting or foundation construction at the LWES site. An owner may comply with this paragraph by choosing to provide a bond, deposit, escrow account, irrevocable letter of credit, or some combination of these financial assurances, that will ensure the availability of funds necessary for decommissioning throughout the expected life of the LWES and through to completion of the decommissioning activities, consistent with PSC 128.19(3).
 - 1. An owner of a LWES shall provide the Town with three estimates of the actual and necessary cost to decommission the LWES. The cost estimates shall be prepared by third parties agreeable to the owner and the Town. The amount of financial assurance required by the Town shall not exceed the average of the three estimates.
 - 2. An owner of a LWES shall establish financial assurance that is acceptable to the Town and that places the Town in a secured position, subject to 8-8.3 A. 1. The financial assurance must provide that the secured funds may only be used for decommissioning the LWES until such time as the Town determines that the LWES has been decommissioned, as provided for in PSC 128.30(5)(b), or the Town otherwise approves the release of the funds, whichever occurs first.
 - 3. An owner of a LWES shall establish financial assurance that allows the Town to access funds for the purpose of decommissioning the LWES if the owner does not decommission the LWES when decommissioning is required, consistent with PSC 128.19(3)(c)(4).
- B. The Town may periodically request information from the owner of the LWES regarding industry costs for decommissioning the LWES. If the Town finds that the future anticipated cost to decommission the

LWES is at least ten percent more or less than the amount of financial assurance provided under this section, the Town may correspondingly increase or decrease the amount of financial assurance required but shall not adjust the financial assurance required under this paragraph more often than once in a five-year period.

- C. The Town may require an owner of a LWES to submit a substitute financial assurance of the owner's choosing if an event occurs that raises material concern regarding the viability of the existing financial assurance.
- D. Except as provided below in sub. E., if a LWES was constructed on land owned by a person or persons other than the owner of the LWES, the owner of the LWES shall ensure that the property is restored to preconstruction condition, unless otherwise provided in a contract signed by an affected landowner, considering any modifications needed to comply with DNR requirements.
- E. If a LWES was constructed on a brownfield, as defined in § 238.13(1)(a), Wis. Stats., the owner of a LWES shall restore the property to eliminate effects caused by the LWES, except for the effects of environmental remediation activities, as defined in § 238.13(1)(d), Wis. Stats.

8-8.3 Decommissioning review. An owner of a WES shall file a notice of decommissioning completion with the Town when a WES approved by the Town has been decommissioned and removed. The Town shall conduct a decommissioning review to determine whether the owner has decommissioned and removed the WES as required by PSC 128.19(1)(a) and, for LWES, whether the owner has complied with its site restoration obligations under PSC 128.19(4) when applicable. The owner of the WES shall cooperate with the Town by participating in the decommissioning review process and, for LWES, ensure the obligations under PSC 128.19(3) are met.

8-9 LWES Surety for Removal, when Decommissioned.

In accordance with the financial responsibilities referenced above in Section 8-8.3, the owner shall place with the Town an acceptable letter-of-credit, bond, or other form of security that is sufficient to cover the cost of removal at the end of each WES turbine's useful life, as detailed in the decommissioning plan. Such surety shall be at least \$200,000 for each wind turbine; provided, however, the Town Board may approve a reduced surety amount that is not less than 125% of a cost estimate that is certified by an engineer, salvage company, or other expert acceptable to the Town Board. This calculation will not take into account any estimated salvage values.

The Town shall use this surety to assure the faithful performance of the decommissioning terms and conditions of the Applicant's plan and this law. The full amount of the bond or security shall remain in full force and effect until all necessary site restoration is completed to return the site to a condition comparable to what it was prior to the WES, as determined by the Town Board. The Applicant will be responsible for assuring that any subsequent Assigns of the LWES will provide acceptable surety to the Town prior to any transfer of ownership.

8-10 WES Complaints.

The WES must provide a complaint resolution process as required by PSC 128.40 in order to address complaints by aggrieved persons, which shall include an initial response within 30 days of receipt of such complaint and a good faith effort to resolve the complaint within 45 days of receipt of such complaint. In addition, the Town shall also set up a process for filing and handling WES complaints by aggrieved person if the complaint is not resolved within 45 days. The Town may establish a monitoring committee to oversee resolution of complaints regarding LWESs, whose recommendations on reasonable resolution of complaints may include seeking reimbursement from the owner for reasonable expenses relating to review and resolution of the complaint(s) which may include cost of services provided by outside engineers, attorneys, planners, environmental specialists, and other consultants or experts.

8-11 Compliance Monitoring.

The following compliance monitoring standards apply only to Large Wind Energy Systems, where all such systems are also subject to PSC 128.36.

- A. The Town may establish a procedure to monitor compliance by the owner with any condition on an approved wind energy system or to assess when wind energy system facilities are not maintained in good repair and operating condition. The procedure may include timelines, provide for payment of reasonable fees for conducting an assessment, and provide for notification to the public.
- B. The Town may also require an owner to pay a reasonable fee for a third-party inspector to monitor and report to the political subdivision regarding the owner's compliance with permit requirements during construction. An inspector monitoring compliance under this subsection shall also report to a state permitting authority upon the state permitting authority's request.

8-12 LWES Lease Agreements.

The Applicant shall legally file the entire lease document and a record of all signed leases shall be maintained by the Town Board.

8-13 Post Construction Filing Requirements.

The following post construction filing requirements apply only to Large Wind Energy Systems.

- A. Within 90 days of the date a wind energy system commences operation, the owner shall file with the Town and the Wisconsin Public Service Commission an as-built description of the wind energy system, an accurate map of the wind energy system showing the location of all wind energy system facilities, geographic information, system information showing the location of all wind energy system facilities, and current information identifying the owner of the wind energy system.

- B. An owner shall label each wind turbine location described in its filing and shown on the map of the wind energy system with a unique identifier consistent with the information posted at the wind turbine location under PSC 128.18(1)(g).

Section 9. Miscellaneous.

9-1 Fiscal Responsibility.

9-1.1 The Town Board may, at its discretion, request the most recent annual audited financial report of the licensee prepared by a duly licensed Certified Public Accountant during the review process. If such a report does not exist, the Town Board may, in its sole discretion, require a suitable alternative to demonstrate the financial responsibility of the Applicant and its ability to comply with the requirements of this Ordinance.

9-1.2 No transfer of any LWES, or license, or the sale of more than 30 percent of the stock of such entity (not counting sale of shares on a public exchange) shall occur without written acceptance by such entity of the obligations of the licensee under this Ordinance and the terms of the license and any related Developer's Agreement. Any such transfer shall not eliminate the liability of any entity for any act occurring during its ownership or status as licensee.

9-2 Inspection, Enforcement Procedures, and Penalties.

9-2.1 Inspection. The Town Board, a retained expert, or another authorized representative of the Town, may make inspections or undertake other investigations to determine the condition of a WES in the Town to safeguard the health and safety of the public and to determine compliance with this Ordinance, upon showing proper identification and providing reasonable notice.

9-2.2 Violations. The following are violations under this Ordinance:

- A. Engaging in construction, installation, or operation of a WES without a Wind Energy Facilities License granted by the Town Board or a developer agreement or both.
- B. Failure to comply with the applicable minimum standards and other terms of this Ordinance.
- C. Making an incorrect or false statement, including in the information and documentation submitted during the licensing process or during an inspection by the Town or its duly appointed representative, or a representative of another regulatory agency.
- D. Failure to comply with any conditions of an approval or license, or any agreements entered into as a condition of approving a license.
- E. Failure to take appropriate action in response to a notice of violation or citation, or other order issued by the Town.

9-2.3 Hearings.

- A. Any person affected by a notice, order, or action under this Ordinance, or upon denial of an application for a license or license renewal, may request a hearing on the matter before the Town Board, provided such person files with the Town Clerk a written petition requesting the hearing and setting forth his or her name, address, telephone number, and a brief statement of the reason for requesting the hearing. Such petition shall be filed within 30 days of the date the notice, order, or action under sub. (4) is served or within 30 days of the date of the approval or denial of a license or an application for a renewal. Upon receipt of the petition, the Town Clerk may set a time and place for a hearing before the Town Board and, if a hearing is scheduled, shall give the petitioner and other interested parties written notice thereof.
- B. After a hearing under par. A, the Town Board, by a majority vote of the members present, shall sustain, modify, or withdraw the notice, order, or action, or grant or deny the license or license renewal, depending on its findings as to whether the provisions of this Ordinance have been complied with. The petitioner shall be notified within 10 days, in writing, of such findings.
- C. The proceedings of the hearing, including the findings and decision of the Town Board and the reasons therefore, shall be summarized in writing and entered as a matter of public record in the office of the Town Clerk. Such records shall also include a copy of every notice and order issued in connection with the case.

9-2.4 Remedies. The Town Board may take any appropriate action or proceeding against any person in violation of this Ordinance, including the following:

- A. Issue a stop work order.
- B. Issue a notice of violation and order that specifies the action to be taken to remedy a situation.
- C. Issue a citation.
- D. Refer the matter to legal counsel for consideration and commencement of legal action, including the assessment of forfeitures under sub. (6) and injunctive relief.
- E. Suspend or revoke the WES License under sub. (5) in the event there are repeated exceedances of the standards or conditions incorporated into a WES License or developer agreement.

9-2.5 License Suspension or Revocation. After giving notice and holding a hearing, the Town Board may suspend or revoke a WES license for a violation under this Ordinance.

9-2.6 Penalties.

- A. Any person or entity who violates this Ordinance may be assessed a forfeiture of not less than \$500 per violation nor more than \$5,000 per violation and/or be subject to injunctive relief. Each day a violation exists is a separate violation.
- B. Any person or entity who violates this Ordinance shall pay court costs and reasonable attorney's fees associated with a forfeiture assessed under section 9-2.6A. and for any action for injunctive relief sought by the Town. The remedies provided herein shall not be exclusive of other remedies.

9-2.7 Non-Waiver. A failure by the Town to take action on any past violation(s) shall not constitute a waiver of the Town's right to take action on any present or future violation(s).

Section 10. Severability, Interpretation, and Abrogation.

10-1 Severability.

- A. Should any section, clause, provision, standard, or portion of this Ordinance be adjudged unconstitutional or invalid, unlawful, or unenforceable by a final order of a court of competent jurisdiction, the remainder of this Ordinance shall remain in full force and effect.

- B. If any application of this Ordinance to a particular parcel of land, WES or project is adjudged unconstitutional or invalid by a final order of a court of competent jurisdiction, such judgment shall not be applicable to any other parcel of land not specifically included in said judgment, unless specifically required by the court.

10-1.2 The provisions of this Ordinance shall be liberally construed in favor of the Town and shall not be construed to limit or repeal any other power now possessed by or granted to the Town.

10-1.3 This Ordinance is not intended to repeal, annul, or interfere with any easements, covenants, deed restrictions or agreements created prior to the effective date of this Ordinance.

Section 11. Effective Date.

Following passage by the Town Board, this Ordinance shall take effect the day after the date of publication or posting as provided by Wis. Stat. § 60.80.

Section 12. Applicability.

The requirements of this Ordinance shall apply to all WESs proposed, operated, modified or constructed after the effective date of this Ordinance.

Signatures appear on the following page.

ADOPTED July 23rd 2024
TOWN OF EAU PLEINE

Mark Landwehr

Mark Landwehr, Town Board Chairperson

Kurt Schwarze

Kurt Schwarze, Supervisor

Mark Radke

Mark Radke, Supervisor

Attested to as of July 23rd 2024

Deanna Landwehr

Deanna Landwehr, Town Clerk

EXHIBIT A

References

- Alberts, Daniel, pdf "A Primer for Addressing Wind Turbine Noise", Lawrence Technological University, November 20, 2005.
- Alves-Pereira, Mariana and Branco, Nuno A.A. Castelo. "In-home Wind Turbine Noise is Conducive to Vibroacoustic Disease", Wind Turbine Noise Conference, September 20, 2007.
- Berglund B., Lindvall, T. and Schwela D. "Guidelines for Community Noise", World Health Organization 1999, pdf and available <http://www.who.int/docstore/peh/noise/guidelines2.html>
- Harry, Amanda, MD. "Wind Turbines, Noise and Health", February 2007.
- Kamperman. George and James, Richard, "Simple Guidelines for Siting Wind turbines to Prevent Health Risks", Noise- Con 2008, October 28, 2008.
- Kamperman, George and James, Richard, "The How To Guide to Criteria For Siting Wind turbines to Prevent Health Risks From Sound", July 30, 2008.'
- Leventhall, Geoff, "A Review of Published Research on Low Frequency Noise and its Effects", Department for Environment, Food and Rural Affairs, UK (2003). <http://www.defra.gov.uk/environment/noise/research/lowfrequency/pdf/lowfreqnoise.pdf>
- Miller, Lee M. and Keith, David. "Climatic Impacts of Wind Power" Joule, (2018)
- Pedersen, E., et al., "WINDFARM perception - Visual and Acoustic Impact of Wind Turbine Farms on Residents, Final Report", June 3, 2008. •
- Pedersen, Eja and Person Waye, Kerstin, "Wind Turbine Noise, Annoyance and Self-Reported Health and Well-being in Different Living Environments", Occup Environ Med, May 1, 2007, 64:480-486.
- Pedersen, Eja, "Human Response to Wind Turbine Noise -Perception, Annoyance and Moderating Factors", Goteburg University, 2007.
- Pedersen, Eja, et al., "Noise Annoyance from Wind Turbines- a Review", Swedish Environmental Protection Agency Report 5308 August 2003.
- Pedersen, Eja and Persson Waye, Kerstin, "Wind Turbines- Low Level Noise Sources Interfering with Restoration?" Environment I Research Letter Journal 3 (January- March 2008), published January 11, 2008. 39
- Pierpont, Nina, MD, PhD, "Health Effects of Wind Turbine Noise", March 2, 2006.
- Pierpont, Nina MD, PhD, "Wind Turbine Syndrome: Noise, Shadow Flicker and Health", August 1, 2006.
- Rogers, Anthony L., PhD., et al., "Wind Turbine Acoustic Noise White Paper", University of Massachusetts Renewable Energy Research Lab, June 2002, amended January 2006.
- Soysal, H., "Wind Farm Noise and Regulations in the Eastern US", 2nd International Meeting on Wind Turbine Noise, 9/2007.
- "World Health Organization Sleep Disturbance" (<http://www.who.int/docstore/peh/noise/guidelines2.>)