

## CHAPTER 24

### LARGE WIND ENERGY SYSTEM ORDINANCE

24.01	Title.	24.10	Restoration Requirement.
24.02	Authority.	24.11	Signal Interference.
24.03	Purpose.	24.12	Violations.
24.04	Applicability.	24.13	Administration And Enforcement.
24.05	Definitions.	24.14	Penalties.
24.06	Standards.	24.145	Relationship To Other Ordinances.
24.07	General Requirements.	24.15	Severability.
24.08	Conditional Use Permit Procedure.	24.16	Moratorium.
24.09	Zoning Permit Procedure.		

**24.01 Title.** This ordinance may be referred to as the Large Wind Energy System Ordinance.

**24.02 Authority.** This ordinance is adopted pursuant to authority granted by Wis. Stat. secs. 59.69, 59.694, and 66.0401.

**24.03 Purpose.** The purpose of this ordinance is to establish regulations for large wind energy systems that comply with the requirements of Wis. Stat. sec. 66.0401.

**24.04 Applicability.** This ordinance applies to all lands within the boundaries of Manitowoc County lying outside the limits of incorporated cities and villages, but will not take effect in a town until approved by the Town Board in accordance with Wis. Stat. sec. 59.69.

**24.05 Definitions.** In this ordinance:

“Administrator” means the Manitowoc County Code Administrator appointed pursuant to sec. 8.18(2), or his or her designee.

“Board” means the Manitowoc County Board of Adjustment.

“Commission” means the Manitowoc County Planning and Park Commission.

“Department” means the Manitowoc County Planning and Park Department.

“Flicker” or “shadow flicker” means the effect that results when the shadow cast by the rotating blade of a wind energy system moves across a fixed

point.

“Karst” means an area with surface and subsurface features that have developed as the result of the dissolution of dolomite, gypsum, limestone, or other soluble rock. Characteristic features present in karst topography include caves, closed depressions, disappearing streams, exposed bedrock, sinkholes, springs, and underground drainage through conduits enlarged by dissolution.

“Landowner” means the person that owns the property on which a large wind system is located.

“Large wind energy system” means a wind energy system that includes one or more large wind systems.

“Large wind system” means a wind tower and turbine that has a nameplate capacity of more than 100 kilowatts or a total height of more than 170 feet, or both.

“Nonparticipating property” means real property on which either there is no large wind system or there is a large wind system that is in a different wind farm system than another large wind system.

“Owner” means the person that owns a large wind system, a wind farm system, or a large wind energy system.

“Participating property” means real property on which a large wind system is located and that is in the same wind farm system as another large wind system.

## CHAPTER 24

“Total height” means the vertical distance from ground level to the tip of a wind turbine blade when the tip is at its highest point.

“Wind energy system” means equipment that converts and then stores or transfers energy from the wind into usable forms of energy and includes any base, blade, foundation, generator, nacelle, rotor, tower, transformer, turbine, vane, wire, or other component used in the system.

“Wind farm system” means a wind energy system that includes more than one wind tower.

“Wind Tower” means the monopole, freestanding, or guyed structure that supports a wind turbine generator.

**24.06 Standards.** (1) Location. (a) A large wind system may only be located in areas that are zoned A3-Agriculture or PA-Prime Agricultural.

(b) A wind tower may not be located within one-quarter mile of any area that is zoned C1-Conservancy or NA-Natural Area or within one-quarter mile of any state or county forest, hunting area, lake access, natural area, or park.

(2) Set Backs. The wind tower in a large wind system and each wind tower in a wind farm system must be set back:

(a) at least 1.1 times the total height of the large wind system from the property line of a participating property.

(b) at least 1,000 feet from the property line of a nonparticipating property unless the owner of the nonparticipating property grants an easement for a lesser setback. The easement must be recorded with the Register of Deeds and may not provide for a setback that is less than 1.1 times the total height of the large wind system.

(c) at least 1.1 times the total height of the large wind system or 500 feet, whichever is greater, from any public road or power line right-of-way.

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

(4) Structure. A wind tower must be of monopole construction to the extent practicable. If monopole construction is not practicable, a wind tower must be of freestanding construction to the extent practicable. If monopole or freestanding construction is not practicable, a wind tower may be guyed.

(5) Height. The total height of a wind energy system must be 500 feet or less.

(6) Clearance. The vertical distance from ground level to the tip of a wind turbine blade when the blade is at its lowest point must be at least 75 feet.

(7) Access. A wind tower, including any climbing aids, must be secured against unauthorized access by means of a locked barrier or security fence.

(8) Electrical Wires. All electrical wires associated with a wind energy system, other than wires necessary to connect the wind turbine to its base and to overhead collection lines, must be located underground.

(9) Code Compliance. A large wind system and a large wind energy system must comply with the National Electrical Code, the National Electrical Safety Code, and all applicable state and federal codes and regulations.

(10) Lighting. A wind tower and turbine may not be artificially lighted unless such lighting is required by the Federal Aviation Administration. If lighting is required, the lighting must comply with FAA minimum requirements and, whenever possible, be at the lowest intensity allowed, avoid the use of strobe or other intermittent white lights, and use steady red lights. If more than one lighting alternative is available, the alternative that causes the least visual disturbance must be used.

(11) Equipment. Any electrical equipment associated with a wind energy system must be located under the sweep area of a blade assembly.

(12) Appearance, Color, and Finish. The exterior surface of any visible components of a wind energy system must be a nonreflective, neutral color. Wind towers and turbines in a wind farm system that are located within one mile of each other must be of

## CHAPTER 24

uniform design, including tower type, color, number of blades, and direction of blade rotation.

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

**(14) Noise.** (a) The noise generated by the operation of a large wind energy system may not exceed the ambient noise level by more than 5 dB(A) as measured at any point on property adjacent to the parcel on which the large wind energy system is located. The noise level generated by the operation of a large wind energy system will be determined during the investigation of a noise complaint by comparing the sound level measured when the wind generator blades are rotating to the sound level measured when the wind generator blades are stopped.

(b) Each wind tower must have a placard posted in plain view and easily readable by a person on the ground. The placard must provide a telephone number for law enforcement or other county officials to call for purposes of noise complaint investigation, sound level measurement, or administration of this ordinance. A person must be reachable through that telephone number at all times, and the owner must be able to promptly control the operation of the large wind energy system as necessary to permit noise complaint investigation and sound level measurement.

**(15) Flicker or Shadow Flicker.** The owner of a large wind system must take such reasonable steps as are necessary to prevent, mitigate, and eliminate shadow flicker on any occupied structure on a nonparticipating property.

**24.07 General Requirements.** (1) A permit application must be on a form approved or provided by the Administrator.

(2) The owner must provide a site plan, the information specified in sub. 8.18(3), and the following additional information:

(a) Name, corporate status, address, and telephone number of the person signing the application and certifying that the application is true and correct.

(b) Name, corporate status, address, and telephone number of the owner.

(c) Name, corporate status, address, and telephone number of the landowner.

(d) Legal description of the property and a description of a benchmark on the property, including its elevation expressed in feet and tenths of feet.

(e) Number, description, and design specifications of each large wind system and met tower, including the manufacturer, model, capacity, blade length, height, lighting, and total height of any large wind system.

(f) Blueprints or drawings that have been approved by a registered professional engineer showing a cross section, elevation, and diagram for any tower and tower foundation.

(g) Scale diagram showing proposed location of aboveground and underground electrical wiring, access routes, landscaping, and fencing.

(h) Statement describing any hazardous materials that will be used on the property and how those materials will be stored.

(i) Location of any overhead utility lines adjacent to the property.

(j) Existing buildings and structures within one-half mile of the property, including any church, hospital, public library, residence, and school.

(k) Karst features on or within one-half mile of the property as shown on a U.S. Geological Survey topographical map with a scale of 1:24,000 or on maps maintained by the Manitowoc County Soil and Water Conservation Department.

(l) Any sewer service planning area and incorporated municipal boundary within one-half mile of the property.

## CHAPTER 24

(m) Copy of a Certificate of Authority and Environmental Assessment, if applicable, from the Wisconsin Public Service Commission.

(n) Statement that each large wind system and met tower will be installed in compliance with manufacturer's specifications, along with a copy of the manufacturer's specifications.

(o) Statement that the owner will construct and operate the large wind system, met tower, or wind farm system in compliance with all applicable local, state, and federal codes, laws, orders, regulations, and rules.

(p) Statement signed by the landowner acknowledging that the landowner is financially responsible if the owner fails to reclaim the site as required by sec. 24.10(4) and that any removal and reclamation costs incurred by the county will become a lien on the property and may be collected from the landowner in the same manner as property taxes.

(q) Written statement from the town board for each township in which a large wind energy system is located stating that the township has held a public meeting with surrounding property owners and providing the town board's recommendation.

**(3) Conditional Use Permit.** A conditional use permit is required for a wind farm system and for each large wind system that is not included in a conditional use permit issued for a wind farm system.

**(4) Zoning Permit.** A zoning permit is required for the installation of a large wind system, including each large wind system in a wind farm system.

**(5) Expiration.** A permit issued pursuant to this ordinance expires if the wind energy system is not installed and functioning within 2 years from the date the permit is issued, but the Administrator may extend the permit in response to a written request made prior to its expiration if the Administrator determines that the request is reasonable under the circumstances.

**(6) Fees.** (a) The application for a conditional use permit for a large wind system that is not included in a wind farm system must be accompanied by the fee required for a conditional

use permit. The application for a conditional use permit for a wind farm system must be accompanied by the fee required for a conditional use permit, plus a \$100 processing fee for each large wind system included in the wind farm system.

(b) The application for a zoning permit for each large wind system, including each large wind system in a wind farm system must be accompanied by the fee required for a zoning permit for a principal use.

(c) The owner must provide a site plan and pay the fee for a site plan review.

**(7) Financial Assurance.** (a) Proof of financial assurance is a condition precedent to the issuance of any conditional use or zoning permit under this ordinance.

(b) The owner must provide a performance bond, completion bond, or other financial assurance of at least \$20,000 for each large wind system to guarantee the performance of the restoration requirement set forth in sec. 24.10.

**24.08 Conditional Use Permit Procedure. (1)** A person may submit an application to the Administrator for a conditional use permit for a large wind system or a wind farm system. The application must be on a form approved by the Administrator and must be accompanied by 10 copies of a scaled drawing, other descriptive information sufficient to enable the Board to determine whether the requirements of this ordinance will be satisfied, and such other information as may be specified on the application form. The Administrator will review the application materials for completeness and may request that the applicant provide additional information. When the Administrator determines that the application is complete, the Administrator will forward it to the Board.

**(2)** The Board will conduct a hearing on the application after a class 2 hearing notice is published in the official newspaper of Manitowoc County. The hearing will be held within 60 days after the Board receives the completed application.

**(3)** The Board will grant a conditional use permit if it determines that the requirements of this ordinance are met and that granting the permit will not unreasonably interfere with the orderly land use

## CHAPTER 24

and development plans of the county. The Board may include conditions in the permit if those conditions preserve or protect the public health and safety; do not significantly increase the cost of the system or significantly decrease its efficiency; or allow for an alternative system of comparable cost and efficiency. The Board may consider the following factors when setting conditions:

- (a) Proposed ingress and egress.
- (b) Proximity to transmission lines to link the system to the electric power grid.
- (c) Number of wind turbines and their location.
- (d) Nature of land use on adjacent and nearby properties.
- (e) Location of other wind energy systems in the surrounding area.
- (f) Surrounding topography.
- (g) Proximity to residential structures, residential zoning districts, or areas identified for future residential use.
- (h) Design characteristics that may reduce or eliminate visual obtrusiveness.
- (i) Possible adverse effects on migratory birds, raptors, and other animals and wildlife.
- (j) Possible adverse effects of stray voltage, interference with broadcast signals, shadow effect, and noise.
- (k) Impact on the orderly development, property values, and esthetic conditions within the county.
- (l) Effect on public roads.
- (m) Recommendation of the Town Board for each township in which a large wind energy system is located.
- (n) Any other factors that are relevant to the proposed system.

(4) The Board may waive or reduce the burden on the applicant of one or more of the factors in sub.

(3) if it concludes that the purpose of this ordinance is met. The installation and continued operation of the large wind system or wind farm system are contingent upon compliance with any conditions that are set by the Board.

(5) The Board's decision, the reason for its decision, and any conditions will be recorded in the Board's minutes. The Administrator will issue a conditional use permit or inform the applicant the conditional use permit has been denied.

(6) The Board's decision may be appealed to the Circuit Court.

**24.09 Zoning Permit Procedure.** (1) A person may submit an application to the Administrator for a zoning permit for a wind tower. The application must be on a form approved or provided by the Administrator and must include the name, address, and telephone number of the person designated by the owner as the contact for operational issues and the investigation of any complaints. The application must also be accompanied by two copies of a drawing that shows the proposed location and distance of the tower from the property lines of the parcel on which it is located; any residence, business, or public building on an adjacent parcel; the right-of-way of any public road that is within 600 feet; and such other information as may be specified on the application form.

(2) The Administrator should issue a permit or deny the application within one month of the date on which the application is complete.

(3) The Administrator will issue a zoning permit for a tower in a large wind system or a wind farm system if the application materials show that the proposed tower location meets the requirements of this ordinance and of the conditional use permit issued by the Board.

(4) If the application is approved, the Administrator will return one copy of the drawing with the zoning permit and retain the other copy with the application.

(5) If the application is rejected, the Administrator will notify the applicant in writing and provide a written statement of the reason why the application was rejected.

## CHAPTER 24

(6) The zoning permit must be conspicuously posted on the premises and visible to the public at all times until construction or installation of the tower is complete.

**24.10 Abandonment and Restoration.** (1) A large wind system, met tower, or wind farm system that is out of service for a continuous 12-month period will be deemed to have been abandoned and the Administrator may issue a Notice of Abandonment to the owner. If, within 30 days of receipt of a Notice of Abandonment, the owner provides the Administrator with written information showing that the large wind system, met tower, or wind farm system has not been abandoned, the Administrator will withdraw the Notice.

(2) An owner may provide the Administrator with a written Notice of Termination of Operations if the operation of a large wind system, met tower, or wind farm system is terminated.

(3) A large wind system, met tower, or wind farm system must be removed within 3 months of receipt of Notice of Abandonment unless the Administrator withdraws the Notice or within 6 months of providing Notice of Termination of Operations. The owner must:

(a) remove all wind turbines, aboveground improvements, and outdoor storage;

(b) remove all foundations, pads, and underground electrical wires and reclaim the site to a depth of 4 feet below the surface of the ground; and

(c) remove all hazardous material from the property and dispose of the hazardous material in accordance with federal and state law.

(4) If the owner fails to remove a large wind system, met tower, or wind farm system and reclaim the site, the county may remove or cause the removal of the large wind system, met tower, or wind farm system and the reclamation of the site. The county may recover the cost of removal and reclamation from any financial assurance provided by the owner pursuant to sec. 24.07(7)(b). Any removal or reclamation cost incurred by the county that is not recovered from the owner will become a lien on the property where the removal or reclamation takes

place and may be collected from the landowner in the same manner as property taxes.

**24.11 Signal Interference.** (1) The owner of a large wind energy system, met tower, or wind farm system must take reasonable steps to prevent and eliminate any interference with the transmission and reception of electromagnetic communications, such as microwave, radio, telephone, or television signals.

(2) A large wind energy system or met tower may not be located within an emergency communication corridor, which is defined as the area within 500 feet of a line connecting a specified pair of communication towers. Each of the following pairs of communication towers, whose locations are described using Manitowoc County coordinates, delineate a protected emergency communication corridor:

(a) Cato (X-180750; Y-309973) and Kiel (X-133284; Y-236071);

(b) Manitowoc (X-233381; Y-299218) and Cato (X-180750; Y-309973);

(c) Manitowoc (X-233381; Y-299218) and Mishicot (X-244031; Y-355404);

(d) Maribel (X-194925; Y-368319) and Cato (X-180750; Y-309973);

(e) Maribel (X-194925; Y-368319) and Manitowoc (X-233381; Y-299218); and

(f) Maribel (X-194925; Y-368319) and Mishicot (X-244031; Y-355404).

(3) A large wind energy system or met tower may not be located within one mile of any communication tower location identified in sub. (2).

**24.12 Violations.** It is unlawful for any person to construct, install, maintain, modify, or operate a large wind system, met tower, or wind farm system that is not in compliance with this ordinance or with any condition contained in a conditional use or zoning permit issued pursuant to this ordinance.

**24.13 Administration and Enforcement.** (1) This ordinance shall be administered by the Administrator.

## CHAPTER 24

(2) The Administrator may enter any property for which a conditional use or zoning permit has been issued under this ordinance to conduct an inspection to determine whether the conditions stated in the permit have been met. The Sheriff or the Sheriff's designee may enter any property for which a zoning permit has been issued under this ordinance to conduct an inspection to determine whether there is any violation of sec. 24.06(14).

(3) The Administrator may issue orders to abate any violation of this ordinance. The Sheriff or the Sheriff's designee may issue an order to abate a violation of sec. 24.06(14).

(4) The Administrator may issue a citation for any violation of this ordinance. The Sheriff or the Sheriff's designee may issue a citation for any violation of sec. 24.06(14).

(5) The Administrator may refer any violation of this ordinance to the Corporation Counsel for enforcement. The Sheriff may refer a violation of sec. 24.06(14) to Corporation Counsel for legal action.

(6) Nothing in this section shall be construed to prevent the county from using any other lawful means to enforce this ordinance.

**24.14 Penalties.** (1) Any person who fails to comply with any provision of this ordinance or of a conditional use permit or a zoning permit issued pursuant to this ordinance shall, upon conviction thereof, forfeit at least \$500 but not more than \$1,000 for each offense. A separate offense shall be deemed committed on each day during which a violation occurs or continues. Any person who is in default of payment of a forfeiture or costs may be imprisoned in the county jail until the forfeiture or costs are paid, except that the period of imprisonment may not exceed 30 days.

(2) The failure of any employee, official, or officer of the County to perform any official duty imposed by this code will not subject the employee, official, or officer to the penalty imposed for violation of this code unless a penalty is specifically provided.

**24.145 Relationship to Other Ordinances.** This ordinance does not abrogate, annul, impair,

interfere with, or repeal any existing ordinance.

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

**24.16 Moratorium.** (1) A moratorium on the receipt of applications and the granting of permits for large wind energy systems and small wind energy systems is hereby enacted. The purpose of the moratorium is to allow the creation of an Advisory Committee to make recommendations to the Planning and Park Commission on amendments to this ordinance and to allow the Planning and Park Commission to conduct hearings and make recommendations to the County Board regarding amendments to this ordinance. The moratorium shall be in effect for a period of 12 months from the date this ordinance is passed by the County Board and approved by the County Executive or until the County Board adopts and the County Executive approves amendments to this ordinance or rescinds this moratorium, or both.

(2) The moratorium on the receipt of applications and the granting of permits for small wind energy systems contained in sub. (1) is repealed effective January 1, 2006. The moratorium on the receipt of applications and the granting of permits for large wind energy systems contained in sub. (1) will continue in effect until May 17, 2006 or until the County Board adopts and the County Executive approves amendments to this ordinance or rescinds this moratorium.

(3) The moratorium on the receipt of applications and the granting of permits for large wind energy systems contained in sub. (1) is repealed effective May 1, 2006.

### HISTORY

9/21/2004: Chapter 24 created by Ord. No. 2004/2005-77 effective September 29, 2004.

5/17/2005: Sec. 24.16 created by Ord. No. 2005/2006-38 effective May 17, 2005.

12/20/2005: Sec. 24.16 amended by Ord. No. 2005/2006-140 effective January 1, 2006.

4/12/2006: Title, Table of Contents, secs. 24.01-24.03 and secs. 24.05-24.07 amended; sec. 24.08

## CHAPTER 24

renumbered as sec. 24.10 and amended; sec. 24.09 renumbered as sec. 24.08 and amended; sec. 24.10 renumbered as sec. 24.09 and amended; secs. 24.11-24.14 amended; and secs. 24.145 and 24.16(3) created by Ord. No. 2005/2006-192 effective May 1, 2006

2/13/2007: Sec. 24.11 amended by Ord. No. 2006/2007-123 effective February 21, 2007.

9/18/2007: Sec. 24.06(14) amended by Ord. No. 2007/2008-64 and sec. 24.11(3) created by Ord. No. 2007/2008-65 effective September 25, 2007.