

**MACOUPIN COUNTY BOARD  
ORDINANCE No. O-2021.02**

**WIND ENERGY CONVERSION SYSTEMS SITING ORDINANCE**

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I. INTRODUCTION

A. Title

This Ordinance shall be known, cited and referred to as the Macoupin County Wind Energy Siting Ordinance.

B. Authority and Adoption

C. Findings and Purpose

Findings and Purpose. This Ordinance has been adopted for the following purposes after the Board made the following determinations and findings:

1. To assure that any development and production of wind-generated electricity in Macoupin County is safe and effective;
2. To facilitate economic opportunities for local residents;
3. To promote the supply of wind energy in support of Illinois' statutory goal of increasing energy production from renewable energy sources;
4. To adopt regulations to govern the construction, installation, operation and removal of wind energy systems to enhance the protection of the health, safety and welfare of the County's residents, property owners, business owners and the public within the County's planning and zoning jurisdiction; and

5. To adopt the general zoning regulations and add certain new regulations, such as plan review fee reimbursement regulations, to ensure that the financial costs incurred by the County in the review of new development wind energy proposals are paid by developers of such projects.

The Board of Macoupin County, Illinois find that it is in the best interests of the County residents, the property owners and the businesses of the County, as well as the general public, to enact the Code Amendments as set forth below; and

## II. DEFINITIONS

- A. "Applicant" means the entity who submits to the County, pursuant to Article V (Siting Approval Permit Application) of this Ordinance, an application for the siting and operation of any WECS or Substation. All references to Applicant in this Ordinance shall include Applicant's successors-in-interest and assigns, which includes a WECS Permittee (as defined below).
- B. "County Board" means the County Board of Macoupin County.
- C. "Feeder Line" means any power line that carries electrical power from one or more wind turbines or individual transformers associated with individual wind turbines to the point of interconnection with the electric power grid.
- D. "Financial Assurance" or "Financial Security" or "Decommission Security" means assurance from a credit worthy party, examples of which include a surety bond (e.g., performance and payment bond), trust instrument, cash escrow, or irrevocable letter of credit.
- E. "Meteorological Tower" means those towers which are erected primarily to measure wind speed and direction plus other data relevant to siting and operation of a WECS Project. For purposes of this ordinance, Meteorological Towers do not include towers and equipment used by airports, the Illinois Department of Transportation, or other similar applications or government agencies, to monitor weather conditions.
- F. "Notice to Proceed" means a written document, named as such, stating that the Applicant expresses an intent to commence construction activities on a WECS Project and identifying the date on which the construction activities are scheduled to commence.
- G. "Operator" means the person or entity responsible for the day-to-day operation and maintenance of a wind energy conversion system, including any third-party subcontractors. The Operator must be a qualified wind power professional. All

references to Operator in the Ordinance shall include Operator's successors-in-interest and assigns.

- H. "Owner" means the person or entity or entities with an equity interest in a wind energy conversion system, including their respective successors-in-interest and assigns. The Owner does not mean (i) the property owner from whom land is leased for locating a wind energy conversion system (unless the property owner has an equity interest in a wind energy conversion system); or (ii) any person holding a security interest in a wind energy conversion system solely to secure an extension of credit, or a person foreclosing on such security interest, provided that after foreclosure, such person seeks to sell a wind energy conversion system at the earliest practicable date.
- I. "Primary Structure" means, for each property, the structure that one or more persons occupy the majority of time on that property for either business or personal reasons. Primary Structure includes structures such as residences, commercial buildings, hospitals, and day care facilities. Primary Structure excludes ancillary structures such as hunting sheds, storage sheds, pool houses, unattached garages and barns.
- J. "Professional Engineer" means a qualified individual who is licensed as a professional engineer in Illinois. Where a structural engineer is required to take some action under terms of this Ordinance, a Professional Engineer may serve as the structural engineer if he or she has the appropriate structural engineering certification license in Illinois.
- K. "Property Line" means the boundary line of the area over which the entity applying for a WECS permit has legal control for the purposes of installation of a WECS. This control may be attained through fee title ownership, lease, easement, or other appropriate contractual relationship between the Applicant and landowner.
- L. "Public Conservation Lands" means land owned in fee title by County, state or federal agencies and managed specifically for conservation purposes, including but not limited to County, state and federal parks, state and federal wildlife management areas, state scientific and natural areas, and federal wildlife refuges and waterfowl protection areas. Public conservation lands do not include private lands upon which conservation easements have been sold to government agencies or non-profit conservation organizations. Public conservation lands also do not include private lands for which the owners have entered into contractual relationships with government or non-profit conservation organizations for conservation purposes.
- P. "Siting Approval Permit" means a permit approved by the County Board, after a public hearing, allowing a particular use at a specified location subject to compliance with certain specified

special conditions as may be required by the County Board.

- Q. "Substation" means the apparatus that collects and connects the electrical collection system of the WECS(s) and increases the voltage for connection with the utility's transmission lines.
- R. "Transmission Line" means those electrical power lines that carry voltages of at least 69,000 volts (69 KV) and are primarily used to carry electrical energy over medium to long distances rather than directly interconnecting and supplying electric energy to retail customers.
- S. "Wind Energy Conversion System" ("WECS") means all necessary devices that together convert wind energy into electricity, including the rotor, nacelle, generator, WECS Tower, electrical components, WECS foundation, transformer, and electrical cabling from the WECS Tower to the Substation(s).
- T. "WECS Permittee" means an Applicant who applies for and receives a Siting Approval Permit under this Ordinance for the siting and operation of any WECS or Substation. All references to a WECS Permittee in this Ordinance shall include a WECS Permittee's successors-in-interest and assigns.
- U. "WECS Project" means the collection of WECSs and Substations operations and maintenance buildings, and permanent Meteorological Towers, as specified in the Siting Approval Permit application pursuant to Article V (Siting Approval Permit Application) of this Ordinance.
- V. "WECS Tower" means the support structure to which the nacelle and rotor are attached.
- W. "WECS Tower Height" means the distance from the rotor blade at its highest point to the top surface of the WECS foundation.
- X. "WECS Building Permit" means a permit necessary for the commencement of work performed toward the construction, erection or installation of an approved WECS, Substation or operations and maintenance building in connection with a WECS Project. A WECS Building Permit may be issued by the Chair of the Macoupin County Board after a WECS Project has obtained a Siting Approval Permit from the County Board and the Chair of the Macoupin County Board determines that all conditions, if any, have been satisfied that are imposed by the Siting Approval Permit. The WECS Building Permit shall require the Applicant (WECS Permittee) to deliver a written "Notice to Proceed" for the WECS Project to the Chair of the Macoupin County Board prior to commencement of construction of the WECS Project. The term "commencement of construction", as used in this Ordinance, includes any site development work (e.g., demolition, grubbing, grading, excavation, road work, construction of Project-related structures and infrastructure improvements, etc.) regarding the WECS Project.

- Y. "Wind Turbine" means any piece of electrical generating equipment that converts the kinetic energy of moving wind into electrical energy through the use of airfoils or similar devices to capture the wind.

### III. APPLICABILITY

- A. This Ordinance governs the siting of WECS and Substations that generate electricity to be sold to wholesale or retail markets.
- B. Owners of WECS with an aggregate generating capacity of 0.5MW or less who locate the WECS(s) on their own property are not subject to this Ordinance.

### IV. PROHIBITION

- A. No WECS Project, WECS or Substation governed by Section 111(A) (Applicability) of this Ordinance shall be constructed, erected, installed, or located within the County, unless prior siting approval has been obtained for each individual WECS Project, WECS and Substation or for a group of WECS Projects and Substations under a joint siting application pursuant to this Ordinance.

### V. SITING APPROVAL PERMIT APPLICATION

- A. To obtain siting approval, the Applicant must first submit a Siting Approval Permit application to the County.
- B. The Siting Approval Permit application shall contain or be accompanied by the following information:
- 1.A WECS Project Summary, including, to the extent available:
    - (a) a general description of the project, including (i) its approximate overall name plate generating capacity, (ii) the potential equipment manufacturer(s), (iii) type(s) of WECS(s), (iv) the number of WECS, and name plate generating capacity of each WECS, (v) the maximum height of the WECS Tower(s) and maximum diameter of the WECS(s) rotor(s), (vi) the number of Substations, (vii) a project site plan, project phasing plan and project construction timeline plan, and (viii) the general location of the project; and (b) a description of the Applicant, Owner and Operator, including their respective business structures;
  2. The name(s), address(es), and phone number(s) of the Applicant(s), Owner and Operator, and all property owner(s), if known, and documentation demonstrating land ownership or legal control of the property;
  3. A site plan for the WECS Project showing the planned location of each WECS Tower, including legal descriptions

for each site, guy lines and anchor bases (if any), Primary Structure(s), parcel boundary lines (including identification of adjoining properties), setback lines, public access roads and turnout locations, Substation(s), operations and maintenance buildings, and permanent Meteorological Towers, electrical cabling from the WECS Tower to the Substation(s), ancillary equipment, third party transmission lines, the location of any wetlands, flood plain, drainage structures including surface ditches and subsurface drainage lines, underground mines, scenic and natural areas within one thousand five hundred (1,500) feet of the proposed WECS, the location of all known communications towers within two (2) miles of the proposed WECS, and the layout of all structures within the geographical boundaries of any applicable setback;

4. A permit application filed with the Federal Aviation Administration;
5. A proposed Decommissioning Plan for the WECS Project;
6. All required studies, reports, certifications, and approvals demonstrating compliance with the provisions of this Ordinance;
7. An Agricultural Impact Mitigation Agreement (AIMA) executed between the Applicant and the Illinois Department of Agriculture;
8. The topographic map shall include the WECS Project site and the surrounding area;
9. Any other information normally required by the County as part of its permitting requirements for siting buildings or other structures;
10. Waivers from the setback requirements of Article VI (Design and Installation), Subsection H (Setback) below executed by the participating land owners and/or the non-participating property owners bearing a file stamp from the County Recorder of Deeds Office confirming that the waiver was recorded against title to the affected real property.
11. Waivers from the shadow flicker mitigation requirements of Article VII (Operation), Subsection D (Shadow Flicker) below executed by the participating land owners bearing a file stamp from the County Recorder of Deeds Office confirming that the waiver was recorded against title to the affected real property.
12. Any other information requested by the County or the

County consultants that is necessary to evaluate the siting application and operation of the WECS Project and to demonstrate that the WECS Project meets each of the regulations in this Ordinance, including the Siting Approval Permit standards set forth below.

- C. The Applicant shall notify the County by delivering notice to the Macoupin County Board of any changes to the information provided in Section V(B) above that occur while the Siting Approval Permit application is pending; and
- D. The Applicant shall submit twelve (12) copies of the Siting Approval Permit application to the Macoupin County Board.

## VI. DESIGN AND INSTALLATION

### A Design Safety Certification

1. WECSs shall conform to applicable industry standards, including those of the American National Standards Institute ("ANSI"). Applicants shall submit certificates of design compliance that equipment manufacturers have obtained from Underwriters Laboratories ("UL"), Det Norske Veritas ("DNV"), Germanischer Lloyd Wind Energie ("CGL"), or an equivalent third party. All turbines shall be new equipment commercially available; no used or experimental equipment shall be used in the WECS Project without the approval of a variance by the County Board.
2. Following the granting of siting approval under this Ordinance, a structural engineer shall certify, as part of the WECS Building Permit application process, that the foundation and tower design of the WECS is within accepted professional standards, given local soil, subsurface and climate conditions.

### B. Controls and Brakes

All WECSs shall be equipped with a redundant braking system. This includes both aerodynamic overspeed controls (including variable pitch, tip, tilt, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for overspeed protection.

### C. Electrical Components

All electrical components of the WECS shall conform to applicable local, state, and national codes, and relevant national and international standards (e.g. **ANSI** and International Electrical Commission).

### D. Aesthetics and Lighting

The following items are recommended standards to mitigate visual impact:

1. Coatings and Coloring: Towers and blades shall be painted white or gray or another non-reflective, unobtrusive color.
2. Turbine Consistency: To the extent feasible, the WECS Project shall consist of turbines of similar design and size, including tower height. Further, all turbines shall rotate in the same direction. Turbines shall also be consistent in color and direction with nearby facilities.
3. Lighting: WECS Projects shall utilize minimal lighting that is compliant with the applicable FAA regulations, as amended by the FAA. To the extent that such tower lighting is available, and is approved by the FAA for a WECS Project, the Applicant shall install Aircraft Detection Lighting Systems ("ADLS") or other similar technology to reduce light pollution and visual impacts caused by the WECS Towers.
4. Intra-project Power and Communication Lines: All power lines used to collect power from individual turbines and all communication lines shall be buried underground at a depth in accordance with the Agricultural Impact Mitigation Agreement required by Section VI Paragraph N until same reach the property line or a substation adjacent to the property line.

E. Compliance with the Federal Aviation Administration (FAA)

The Applicant for the WECS shall comply with all applicable FAA requirements and shall provide documentation evidencing compliance to the Macoupin County Board.

F. Warnings

1. A reasonably visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and Substations.
2. Visible, reflective, colored objects, such as flags, plastic sleeves, reflectors, or tape shall be placed on the anchor points of guy wires and along the guy wires up to a height of fifteen (15) feet from the ground.

G. Climb Prevention

1. All WECS Towers must be unclimbable by design or protected by anti-climbing devices such as:



- a. Fences with locking portals at least six (6) feet high;  
or
- b. Anti-climbing devices twelve (12) feet vertically  
from the base of the WECS Tower.

H. Setback Requirements

1. WECS Towers shall be set back at least one thousand five hundred (1,500) feet or three (3) times the total WECS Tower Height, whichever is greater, from any Primary Structure. The distance for the above setback shall be measured from the point of the Primary Structure foundation closest to the WECS Tower to the center of the WECS Tower foundation. The owner of the Primary Structure may waive this setback requirement; but in no case shall a WECS Tower be located closer to a Primary Structure than one and one-tenth (1.10) times the WECS Tower. Each waiver of the above setback requirements shall be set forth in a written waiver executed by the participating land owner and/or the non-participating property owner and filed with the County Recorder of Deeds Office against title to the affected real property.
2. All WECS Towers shall be set back a distance of at least one and one-tenth (1.10) times the WECS Tower Height from public roads, third party utility distribution and transmission lines, and communication towers in existence as of the approval date of the WECS Tower application unless waived in writing by the affected property owners and utility. Distance shall be measured from the center of the WECS Tower foundation to the closest point on such above-ground public electric power line, third party transmission line, telephone line and center of the base of the communication tower.
3. All WECS Towers shall be set back a distance of at least one and one-tenth (1.10) times the WECS Tower Height from adjacent parcel boundary lines. The affected adjacent property owner may waive this setback requirement. Each waiver of the above setback requirement shall be set forth in a written waiver executed by the participating land owner and/or the non-participating property owner and filed with the County Recorder of Deeds Office against title to the affected real property.
4. The Applicant does not need to obtain a variance from the County upon waiver by the property owner of any of the above setback requirements. Any waiver of any of the above setback requirements shall run with the land and be recorded as part of the chain of title in the deed of the subject property.

I. Compliance with Additional Regulations

Nothing in this Ordinance is intended to preempt other applicable state and federal laws and regulations.

J. Use of Public Roads

1. An Applicant proposing to use any County, municipality, township or village road(s), for the purpose of transporting WECS or Substation parts and/or equipment for construction, operation, or maintenance of the WECS(s) or Substation(s), shall:
  - a. Identify all such public roads; and
  - b. Obtain applicable weight and size permits from relevant government agencies prior to construction.
2. To the extent an Applicant must obtain a weight or size permit from the County, municipality, township or village, the Applicant shall:
  - a. Conduct a pre-construction baseline survey to determine existing road conditions for assessing potential future damage; and
  - b. Any proposed public roads that will be used for construction purposes shall be identified and approved by the respective Road District Commissioner and the County Engineer prior to the granting of the Siting Approval Permit. Traffic for construction purposes shall be limited to these roads. All overweight and/or oversized loads to be transported on public roads may require a permit from the respective highway authority. Any road damage caused by the transport of the facility's equipment, the installation, maintenance, or removal, must be completely repaired to the satisfaction of the Road District Commissioner and the County Engineer. The Road District Commissioner and County Engineer may choose to require either remediation of road repair upon completion of the WECS Project or are authorized to collect fees for overweight and/or oversized load permits. Further, financial assurance in an amount to be fixed by the Road District Commissioner to ensure the Road District or the County that future repairs are completed to their satisfaction shall be provided. Applicant shall submit a draft form of said financial assurance with application for Siting Approval Permit.