

WAPELLO COUNTY COMMERCIAL WIND ORDINANCE #XX-2023

ORDINANCE #XX-2023, AN ORDINANCE REGULATING COMMERCIAL WIND ENERGY CONVERSION SYSTEMS ON PROPERTY LOCATED IN UNINCORPORATED WAPELLO COUNTY, IOWA.

BE IT ENACTED BY THE WAPELLO COUNTY BOARD OF SUPERVISORS.

SECTION 1. PURPOSE.

Per Iowa Code § 355 Wapello County hereby establishes guidelines for siting, design & construction of Wind Energy Conversion Systems (WECS), including substations while promoting the health, safety, comfort, and general welfare of residents, facilitating economic opportunities and promoting increased energy production from renewable energy. For WECS in operation before the effective date of this ordinance, not required to meet the requirements except Section 17. Removal and Use Termination.

SECTION 2. DEFINITIONS.

- a. Aggregated Project. Aggregated projects are those which are developed and operated in coordinated fashion, but which have multiple entities separately owning one or more of the individual wind energy conversion system within the larger project. Associated infrastructure such as power lines and transformers that service the facility may be owned by a separate entity but are also included as part of the aggregated project.
- b. Blade. An element of a wind turbine which acts as a part of an airfoil assembly, thereby extracting through rotation, kinetic energy directly from the wind.
- c. Commercial Wind Energy Conversion System (C-WECS). A wind energy conversion system of equal to or greater than 100kW in total name plate generating capacity.
- d. Easement. A legal interest in land, as defined in a document recorded in the office of the Wapello County Recorder, granted by the owner to another person or entity, which allows that person(s) or entity(ies) the use of all or a portion of the owner's land, generally for a stated purpose, including, but not limited, to access or placement of utilities.
- e. Feeder Line. 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, in the case of interconnection with the high voltage transmission systems the point of interconnection shall be the substation serving the WECS.
- f. Meteorological Tower. For the purpose of this Ordinance, meteorological towers are those towers which are erected primarily to measure wind speed and directions plus other data relevant to siting WECS.
- g. Non-Commercial Wind Energy Conversion System (NC-WECS). A WECS consisting of a wind turbine, a tower, and associated control or conversion electronics, which has a rated capacity of less than 100 kW and which is intended to primarily reduce on-site consumption of utility power.
- h. Wind Energy Conversion System (WECS). A wind energy conversion system.

SECTION 3. WECS

- a. General Requirements.
 - i. Color and Finish. Wind turbines shall be painted a non-obtrusive color, such as gray, white, or off-white. Blades may be black in order to facilitate de-icing. Finishes shall be matte or non-reflective. At WECS sites, the design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening, and landscaping that will blend the WECS to the natural setting and existing environment.
 - ii. Tower Configuration. All wind turbines, which are part of a WECS, shall be installed with a tubular, monopole type tower. Meteorological towers may be guyed.
 - iii. Lighting. C-WECS sites shall not be artificially lighted, except to the extent required by the FAA or other applicable authority. Lighting, including lighting intensity and frequency of strobe, shall adhere to but not exceed requirements established by Federal Aviation Administration permits and regulations. Lighting shall use the Aircraft Detection Lighting System (ADLS) to minimize flashing lights. Techniques shall be implemented to prevent casting glare from the site.

- iv. Shadow Flicker. Said flicker shall be limited to a total of twenty (20) hours in any consecutive twelve (12) month period. The owner shall make reasonable efforts to minimize or mitigate shadow flicker to all offsite residences to the satisfaction of the Wapello County Board of Supervisors and shall provide reasonable shadow flicker mitigation for non-participating residences, or occupied community building. All mitigation shall be at the owner's expense.
- v. Signage. The manufacturers or owner's company name and/or logo may be placed upon the compartment containing the electrical generator of the WECS. No lettering, company insignia, advertising, or graphics shall be on any part of the tower, pole, turbine, hub, or blades.
- vi. Feeder Lines. All communications and feeder lines, equal to or less than 34.5 kV in capacity, installed as part of a C-WECS shall be buried except where not possible.
- vii. Ice Shedding. The owner shall ensure that ice from all turbine blades does not negatively impact any offsite property.
- viii. Waste Disposal. Solid and hazardous wastes, including but not limited to creates packaging materials, damaged or worn parts, as well as used oils and lubricants, shall be removed from the site regularly, not to exceed 30 days, and disposed of in accordance with all applicable local, state, and federal regulations.
- ix. Minimum Ground Clearance. The blade tip of any wind turbine shall, at its lowest point, have ground clearance of no less than seventy-five (75) feet.
- x. Interference. The applicant shall minimize and mitigate any interference with electromagnetic communications, such as radio, telephone, computers, communication devices, or television signals caused by any WECS. In no case shall a WECS be located within the microwave path of an emergency communication tower. The applicant shall notify all communication tower operators within five miles of the proposed WECS location upon application to the county for permits.
- xi. Federal Aviation Administration. All WECS shall comply with FAA standards and permits.
- xii. Electrical Codes and Standards. All WECS, accessory equipment, and facilities shall comply with the National Electrical Code and other applicable Standards.
- xiii. Setbacks. The following setbacks and separation requirements shall apply to all WECS and meteorological towers; provided that the Zoning Board of Adjustment may reduce the standard setbacks and separation requirements if the intent of this Ordinance would be better served thereby. All other structures shall comply with the applicable setbacks as allowed by the base zoning district.
 - 1. Inhabited Structures. Each WECS and meteorological towers shall be set back from the nearest residence, school, hospital, church, or public library, a distance no less than the greater of (a) three (3) times its total system height or (b) one thousand five hundred (1,500) feet.
 - 2. Property Lines. Setbacks from property lines shall be a minimum of 1.1 times the total system height without securing appropriate easements from adjoining property owners.
 - 3. Public Right-of-Way. Setbacks from public right-of-way, railroads, powerlines, and structures shall be a minimum of 1.1. times the total system height.
 - 4. Communication and Electrical Lines. Each WECS and meteorological tower shall be set back from the nearest above-ground public electric power line or telephone line a distance no less than 1.1 times its total system height, determined from the existing power line or telephone line.
 - 5. Incorporated Communities. Two (2) miles from corporate limit lines unless by written agreement with the affected corporate jurisdiction and approval by the Zoning Board of Adjustment or addressed in a 28E agreement specific to the facility to be recorded in the Wapello County Recorder's Office.

6. Unincorporated Communities. Two thousand six hundred forty (2,640) feet from the property line to the closest parcel with a residence.
 7. Platted Rural Sub-division. Two thousand six hundred forty (2,640) feet from the property line to the closest parcel with a residence.
 8. Substation. A minimum of fifty (50) feet from the right-of-way. Thirty (30) feet from all property lines.
 9. Other Structures. Setbacks from all other structures not specifically noted above shall be a minimum of 1.1 times the total system height.
- xiv. Noise. Audible noise due to WECS sites operations shall not exceed 55 dBA, when measured at the exterior of any occupied dwelling on the date of approval of any special use permit from the property line. All WECS shall not create a steady audible tone such as a whine, screech, hum, or vibration. Ambient noise levels shall be measured at the site property lines. Any noise monitoring or measurements, as may be required by the Zoning administrator, shall be coordinated and paid for by the owner.

In the event the noise levels resulting from the C-WECS exceed the criteria listed above, a waiver to said levels may be granted by the Zoning Board of Adjustment provided that the following has been accomplished:

- a. Written consent from the affected property owners has been obtained stating that they are aware of the WECS and the noise limitations imposed by this ordinance, and that consent is granted to allow noise levels to exceed the maximum limits otherwise allowed; and
 - b. If the applicant wishes the waiver to apply to succeeding property owners of the property, a permanent noise impact easement shall be recorded in the Office of the Wapello County Recorder which describes the burdened properties and which advises all subsequent owners of the burdened property that noise levels in excess of those permitted by this Ordinance may exist on or at the burdened property.
- xv. Safety.
1. All wiring between wind turbines and the WECS substation shall be underground. If the developer can demonstrate the need for an overhead line and the acceptance of landowners for this line, such an option may be approved conditionally by the Zoning Board of Adjustment.
 2. WECS and meteorological towers shall not be climbable up to fifteen (15) feet above ground level.
 3. All access doors to wind turbine and meteorological towers and electrical equipment shall be locked when not being serviced.
 4. Appropriate warning signage shall be placed on wind turbine towers, electrical equipment, and C-WECS entrances.
 5. For all WECS, the manufacturer's engineer or another qualified engineer shall certify that the turbine, foundation, and tower design of the WECS is within accepted professional standards, given local soil and climate conditions.
 6. For all guyed towers, visible and reflective objects, such as plastic sleeves, reflectors or tape, shall be placed on the guy wire anchor points and along the outer and innermost guy wires up to a height of eight (8) feet above the ground. Visible fencing shall be installed around anchor points of guy wires. The property owner must sign a notarized acknowledgment and consent form allowing construction of the turbine and guyed wires without fencing as required in this Ordinance to be presented to the Board of Adjustment.
 7. Exceptions to this section may be made for meteorological towers, where concerns exist relative to aerial spray applicators.

8. The facility shall provide qualified personnel and use of a WECS to conduct training sessions for emergency responders, as requested by the Wapello County Emergency Management. The owner is responsible for the cost of any incidents that occur on or at their facility.

xvi. Discontinuation and De-Commissioning.

1. All WECS and appurtenances shall be removed from the site within six (6) months of use termination notice to Wapello County by the owner of the facility or its assigns, or within three (3) months of permit revocation by Wapello County. Upon request of the owner or assigns of the facility, and for good cause, the Zoning Administrator may grant a reasonable extension of time.
2. Any WECS that does not produce energy for a continuous period of twelve (12) months shall be considered abandoned and shall be removed pursuant to its de-commissioning plan, as delineated in this ordinance.
3. Any foundation shall be removed to a minimum depth of four (4) feet below grade, or to the level of the bedrock if less than four (4) feet below grade, by the owner of the facility or its assigns. Following removal, the location of any remaining wind turbine foundation shall be identified on a map as such and recorded with the deed to the property with the Office of the Wapello County Recorder.
4. Each site shall be stabilized, graded, cleared of any debris, and restored to its original or otherwise usable condition. If the site is not used for agricultural practices following removal, all ground shall be seeded to prevent soil erosion.
5. Any access roads shall be removed, cleared, and graded by the owner of the facility or its assigns, unless the property owner wants to keep the access road. Wapello County will not be assumed to take ownership of any access road unless through official action of the Board of Supervisors.
6. Any expenses related to the de-commissioning and removal shall be the responsibility of the WECS owner, including any expenses relating to the releasing of any easements.

xvii. Avoidance and Mitigation of Damages to Infrastructure.

1. Roads. Applicants shall identify all roads to be used for the purpose of transporting C-WECS, substation parts, cement, and/or equipment for construction, operation, or maintenance of the C-WECS and obtain applicable road haul agreement and weight and size permits from the impacted road authority(ies) prior to construction.
2. Existing Road Conditions. Applicant shall conduct a pre-construction survey, in coordination with the impacted local road authority(ies) to determine existing road conditions. The survey shall include photographs and a written agreement to document the condition of the public facility. The applicant is responsible for on-going road maintenance and dust control measures identified by the Wapello County Engineer during all phases of construction.
3. Drainage System. The Applicant shall be responsible for immediate repair of damage to public drainage systems stemming from construction, operation, or maintenance of the C-WECS.
4. Required Financial Security. The applicant shall be responsible for restoring or paying damages as agreed to by the applicable road authority(ies) sufficient to restore the road(s) and bridges to preconstruction (of C-WECS) conditions. Financial security in a manner approved by Wapello County Board of Adjustment shall be submitted covering 130% of the costs of all required improvements.
5. Damage and Repairs to Property. In the event that a C-WECS causes damage to private or public property, the C-WECS owner/operator shall be responsible for paying damages to the owner of said property.
6. A C-WECS owner/operator shall maintain a current entity name, phone number, and legal address with the Wapello County Recorder at all times. Said owner/operator must also notify the Wapello County Recorder of a transferring of ownership interest.

b. Submittal Requirements.

In addition to the submittal requirements as required for all Special Exception Permit applications, all applications for WECS must submit the following information (as applicable).

- i. The names of project applicant(s)
- ii. The name of the project owner.
- iii. The legal description and address of the project.
- iv. A description of the project including: number, type, name plate generating capacity, tower height, rotor diameter, and total height of all wind turbines and means of interconnecting with the electrical grid.
- v. Site plan, including the location of roads, structures, property lines, wind turbines, electrical wires, interconnection points with the electrical grid, and all related accessory structures. The site plan shall include distances and be drawn to scale.
- vi. If required, a plan for site grading, erosion control, storm water drainage, and storm water pollution prevent plan shall be submitted to the County Engineer for review and approval prior to granting building permits.
- vii. Individual turbine height and design, including a cross-section, elevation, and diagram of how turbines will be anchored to the ground as prepared by a professional engineer licensed in the State of Iowa. One engineered set of drawings is allowed if all foundations within a single project are identical.
- viii. Engineer's certification(s) as required in these supplemental standards.
- ix. Documentation of land ownership or legal control of the property.
- x. The latitude and longitude of individual wind turbines.
- xi. A USGS topographical map, or map with similar data, of the property and surrounding area, including any other C-WECS within ten (10) rotor diameters of the Proposed C-WECS.
- xii. An acoustical analysis.
- xiii. FAA permit application.
- xiv. Location of all known communications towers/facilities within two (2) miles of the proposed WECS.
- xv. Decommissioning plan. Each C-WECS shall have a de-commissioning plan outlining the cost of removal at the end of their serviceable life or upon becoming a discontinued use. Cost estimates shall be made by a professional engineer licensed in the State of Iowa. All expenses related to the de-commissioning and removal are the sole responsibility of owners, including all costs associated with releasing any easements. The Board of Supervisors shall approve all decommissioning plans.
- xvi. Description of potential impacts on nearby WECS and wind resources on adjacent properties.
- xvii. Identification of significant migratory patterns and nesting areas for birds within two (2) miles.
- xviii. A copy of all "as-built plans" as prepared by a professional engineer licensed in the State of Iowa, including structural engineering and electrical plans for all towers following construction. Plans may be used for removal if the owner or its assignees fail to meet the requirements of this Ordinance.
- xix. No grading, filling, or construction shall begin until a building permit is issued. A separate building permit shall be required for each individual wind turbine tower and appurtenant facilities prior to construction of each wind turbine tower and appurtenant facilities to be constructed.
- xx. For C-WECS, Wapello County shall require an irrevocable letter of credit, bond, or cash escrow, held in trust in favor of Wapello County, to recover the costs associated with removal or a use terminated wind turbine tower and appurtenant facilities. The amount of the irrevocable letter of credit, bond, or cash escrow shall be set by the Board of Adjustment prior to Special Permit approval and shall remain in effect until released by Wapello County. The issuer of the irrevocable letter of credit or bond shall be suitable to Wapello County.

- xxi. For C-WECS, a certificate of insurance with a minimum of \$2,000,000 liability coverage per incidence, per occurrence, shall be required for the life of the facility. Each renewal period will require a copy of certificate of insurance be provided to Wapello County. An expired insurance certificate or an unacceptable liability coverage amount is grounds for revocation of the special permit.
- xxii. All WECS shall be started within twelve months of issuance of a Zoning Compliance Application for each turbine and completed within thirty-six months issue date. Upon request and for good cause, the Zoning administrator may grant an extension. No grading, filling, or construction shall begin until a Zoning Compliance Application has been issued. All other permits shall be applied for by the owner before the start of any work.

SECTION 4. SAVINGS CLAUSE

If any section, provision, or part of this ordinance, or of the Codes hereby enacted by reference, shall be adjudged invalid, illegal, or unconstitutional, such adjudication shall not affect the validity of the ordinance as a whole or any section, provision, or part thereof not adjudged invalid, illegal, or unconstitutional.

SECTION 5. VIOLATION AND REVOCATION.

All WECS and appurtenant facilities shall be maintained in operational condition at all times, subject to reasonable maintenance and repair outages. Operational condition includes meeting all noise requirements and other permit conditions. Should a WECS become inoperable, or should any part of the WECS or appurtenant facility be damaged or violate a permit condition, the owner/operator shall remedy the situation within three (3) months after written notice from Wapello County. Upon request of the owner or assigns, and for good cause, the Zoning Administrator may grant a reasonable extension of time.

Any facility that does not meet the requirements of this chapter shall be deemed an unlawful structure and allow the County to proceed with the removal of such facility as delineated in the approved de-commissioning plan. It shall be unlawful for any person, firm, or corporation to construct, install, or operate a wind energy conversion system that is not in compliance with this ordinance or with any special conditions contained in the special exception permit. Wind energy devices installed prior to the adoption of this ordinance are exempt. The zoning administration may enter any property for which a permit has been issued under this ordinance to conduct an inspection to determine whether the conditions stated in the permit have been met.

Any person, firm, or corporation who fails to comply with any provision of this ordinance or an approved special exception permit for any wind energy conversion system shall be deemed a county infraction and be punishable by the costs to the county of bringing the wind energy conversion system into compliance, in addition to a civil penalty of not less than \$100 but not to exceed \$750, plus court costs. Each WECS device determined to be in violation will be considered a separate infraction. Each day that a violation occurs or continues to exist constitutes a separate infraction.

For WECS and appurtenances not removed within the specified timer period, Wapello County shall hold the right to use the irrevocable letter of credit, bond, or cash escrow to cover the costs associated with removal of the WECS and appurtenances.

SECTION 6. PERMITTED LOCATIONS.

C-WECS shall obtain a special use permit from the Board of Adjustments after the recommendation of the zoning administrator.

NC-WECS shall obtain a conditional use permit from the Board of Adjustments after the recommendation of the zoning administrator. NC-WECS may be located in any A-1 Agricultural district/ Prime Farmland, C-2 Highway commercial service District, and I-2 Heavy Industrial District.

All C-WECS and NC-WECS shall meet all setbacks, height, and power output requirements that are allowed with a Zoning Application.

NC-WECS that do not meet the setback, height, or power output requirements as set forth herein require a Special Use Permit from the Zoning Board of adjustments, after a recommendation from the zoning administrator.

SECTION 7. EFFECTIVE DATE.

This ordinance shall be in effect immediately after its final passage and publication as provided by law. This ordinance shall remain in effect until such time the Zoning administrator passes a future ordinance repealing this ordinance.

1st. Reading:

2nd Reading:

3rd Reading:

Vote taken resulted as follow:

Ayes:

Nay:

Absent:

Passed and approved by the Wapello county board of supervisors on this ____ day of _____, 20__

Attest: _____
Auditor

Chairperson

Supervisor

Supervisor