

ORDINANCE NO. 29

AMENDMENT NUMBER 3

ARTICLE XXIII. NON-COMMERCIAL WIND ENERGY CONVERSION SYSTEM PERMITTED USES AND COMMERCIAL CONDITIONAL USE WIND ENERGY CONVERSION SYSTEM STANDARDS.

Section 1. PURPOSE.

The purpose of this Article is to provide a regulatory means for the construction and operation of large and small wind energy facilities in Hardin County, subject to reasonable restrictions, which will preserve the public health, safety, and welfare. Hardin County adopts these provisions to promote the effective and efficient use of the County's wind energy resource.

Findings. Hardin County finds and declares that:

1. Wind energy is an abundant, renewable and nonpolluting energy resource of the County and its conversion to electricity may reduce dependence on nonrenewable energy sources and decrease the air and water pollution that results from the use of conventional energy sources.
2. The generation of electricity from properly sited wind energy facilities, including small systems, can be cost effective and in many cases existing power distribution systems can be used to transmit electricity from wind-generating stations to utilities or other uses, or energy consumption at that location can be reduced.
3. Regulation of the siting and installation of wind energy facilities is necessary for the purpose of protecting the health, safety, and welfare of neighboring property owners and the general public.
4. Wind energy facilities represent significant potential aesthetic impacts because of their size, lighting, and shadow flicker effects, if not properly sited.
5. If not properly sited, wind energy facilities may present risks to the property values of adjoining property owners.
6. Wind energy facilities may be significant sources of noise, which, if unregulated, can negatively impact adjoining properties.
7. Without proper planning, construction of wind energy facilities can create traffic problems and damage local roads.
8. If not properly sited, wind energy facilities can interfere with various types of communications.

Section 2. DEFINITIONS.

Facility Owner shall be the entity or entities having an equity interest in the wind energy facility, including their respective successors and assigns.

Facility Operator is the entity responsible for the day-to-day operation and maintenance of the Wind Energy Facility.

Feeder Line shall mean 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 wind energy conversion system.

Dwelling Unit shall mean structures which are meant to and capable of being used for human habitation such as a house, apartment, or other place of residence.

Non-Dwelling Unit shall mean structures which are not meant to be used for human habitation such as a garage, storage shed, grain bin, animal confinement buildings, etc.

Rotor Diameter shall mean the diameter of the circle described by the moving rotor blades.

Total Height shall mean the highest point, above ground level, reached by a rotor tip or any other part of the Wind Energy Conversion System.

Tower Height shall mean the total height of the Wind Energy Conversion System exclusive of the rotor blades.

Commercial WECS (C-WECS) shall mean a wind energy conversion system of equal to or greater than 100 kW in total name plate generating capacity.

Meteorological Tower shall mean, for purposes of this regulation, a tower which is erected primarily to measure wind speed and directions plus other data relevant to siting a Wind Energy Conversion System. Meteorological towers to not include towers and equipment used by airports, the Iowa Department of Transportation, or other applications to monitor weather conditions.

Non-Commercial WECS shall mean a wind energy conversion system 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.

Wind Energy Conversion System (WECS) shall mean an electrical generating facility comprised of one or more wind turbines and accessory facilities, including but not limited to: power lines, transformers, substations, and meteorological towers that operate by converting the kinetic energy of wind into electrical energy. The energy may be used on-site or distributed into the electrical grid.

Wind Turbine shall mean any piece of electrical generating equipment that converts the kinetic energy of blowing wind into electrical energy through the use of airfoils or similar devices to capture the wind.

Section 3. "A", AGRICULTURAL DISTRICT; "R-1", SINGLE-FAMILY RESIDENTIAL; "R-2", MULTI-FAMILY RESIDENTIAL; "R-3", MOBILE HOME PARK DISTRICT; "C", COMMERCIAL DISTRICT; "M", MANUFACTURING DISTRICT.

PERMITTED USES:

Non-Commercial WECS, subject to the following standards:

1. Tower Height: Parcels smaller than one (1) acre are not recommended for the placement of WECS and must seek a Conditional Use Permit. For property sizes between one (1) acre and two (2) acres the Total Height shall be limited to eighty (80) feet. For property sizes of two (2) acres or more, there is no limitation on tower height, except as imposed by FAA regulations.
2. Setback: No part of the wind system structure, including guy wire anchors, may extend closer than ten (10) feet to the property boundaries of the installation site.

3. Noise: Non-Commercial WECS shall not exceed 60 dBA, as measured at the closest neighboring inhabited dwelling. The level, however, may be exceeded during short-term events such as utility outages and/or severe windstorms.
4. Engineer Certification: Applications for Non-Commercial WECS shall be accompanied by standard drawings of the wind turbine structure, including the tower, base, and footings. An engineering analysis of the tower showing compliance with the applicable regulations and certified by a licensed professional engineer shall also be submitted. This analysis is frequently supplied by the manufacturer.
5. Compliance with FAA Regulations: Non-Commercial WECS must comply with applicable FAA regulations, including any necessary approvals for installations close to airports.
6. Compliance with National Electric Code: Applications for Non-Commercial WECS shall be accompanied by a line drawing of the electrical components in sufficient detail to allow for a determination that the manner of installation conforms to the National Electrical Code. This information is frequently supplied by the manufacturer.
7. Utility Notification: No Non-Commercial WECS shall be installed until evidence has been given that the utility company has been informed of the customer's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

Section 4. CONDITIONAL USE PERMITS FOR NON-COMMERCIAL WECS AND C-WECS STANDARDS.

- Non-Commercial WECS may be constructed as a principal or accessory use as outlined in **Table 2**. Non-Commercial WECS that are constructed as an accessory use to a principal permitted use and meet the setback (**see Table 1**), height (**see Section 3.I.1(a)**), and power output requirements (**see definition of Non-Commercial WECS**) of this section, shall not require a Conditional Use Permit approval, and shall only require building permit approval. All Non-Commercial WECS that are constructed as a principal permitted use, or Non-Commercial WECS that do not meet the setback, height, or power output requirements of this section, shall require Conditional Use Permit approval as set forth in **Section 4, General Requirements**.
- C-WECS shall be permitted as a Conditional Use within any district where the use is listed and allowed. (**See Table 2**)
- No C-WECS, or addition of a Wind Turbine to an existing C-WECS, shall be constructed unless a Conditional Use Permit has been issued to the Facility Owner or Facility Operator approving construction of the facility under this ordinance. Permit application of the expansion shall be based on the total rated capacity, including existing facility but excluding like-kind replacements.
- Any physical modification to an existing and permitted WECS that materially alters the size and/or type of Wind Turbines or other equipment shall require a permit modification under this Ordinance. Like-kind replacements shall not require a permit modification.

1. GENERAL REQUIREMENTS

The requirements of this Ordinance shall apply to all WECS proposed after the effective date of this Ordinance. WECS for which a required permit has been properly issued prior to the effective date of this Ordinance shall not be required to meet the requirements of this Ordinance; provided, that any such pre-existing C-WECS, which does not provide energy for a continuous period of twelve (12) months, shall meet the requirements of this Ordinance prior to recommencing production of energy. Also, no modification or alteration to an

existing WECS shall be allowed without full compliance with this Ordinance. The Hardin County Zoning Director shall be responsible for creating a Conditional Use Permit Application for WECS to ensure substantial compliance with this ordinance.

General Requirements for C-WECS:

- a. **Color and Finish.** Wind Turbines shall be painted a non-reflective color. Blades may be black in order to facilitate de-icing. Finishes shall be matte or non-reflective. At C-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 C-WECS to the natural setting and existing environment. Exceptions may be made for meteorological towers, where concerns exist relative to aerial spray applicators.
- b. **Tower configuration.** All wind turbines, which are part of a C-WECS, shall be installed with a tubular, monopole type tower. Meteorological towers may be guyed.
- c. **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. Red strobe lights are preferred for night-time illumination to reduce impacts on migrating birds. Red pulsating incandescent lights should be avoided. Exceptions may be made for meteorological towers, where concerns exist relative to aerial spray applicators.
- d. **Signage.** All signage on site shall comply with Hardin County Sign Standards. The manufacturer's or owner's company name and/or logo may be placed upon the compartment containing the electrical generator, of the WECS. Wind turbines shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the C-WECS sites.
- e. **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 according to Hardin County Engineer unless set forth in other applicable requirements.
- f. **Waste Disposal.** Solid and hazardous wastes, including but not limited to crates, packaging materials, damaged or worn parts, as well as used oils and lubricants, shall be removed from the site in a time period as established by the Hardin County Health Department and disposed of in accordance with all applicable local, state, and federal regulations.
- g. **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.
- h. **Signal Interference.** The applicant shall minimize and mitigate any interference with electromagnetic communications, such as radio, telephone or television signals caused by any WECS.
- i. **Federal Aviation Administration.** All C-WECS shall comply with FAA standards and permits.
- j. **Electrical Codes and Standards.** All C-WECS and accessory equipment and facilities shall comply with the National Electrical Code and other applicable standards.
- k. **Safety.**

- I. All wiring between wind turbines and the C-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 option may be approved conditionally by the Board of Adjustment upon recommendation from the County Engineer.
- II. Wind turbines and meteorological towers shall not be climbable up to 15 feet above ground level.
- III. All access doors to wind turbines and meteorological towers and electrical equipment shall be locked when not being serviced.
- IV. Appropriate warning signage shall be placed on Wind Turbine towers, electrical equipment, and C-WECS entrances.
- V. See **tables 1 and 2** for setback requirements. These setbacks and separation requirements shall apply to all wind turbines and meteorological towers; provided that the Board of Adjustment upon request of the land owner and recommendation by the Zoning Commission, after giving notice and opportunity for objection from any entity entitled to notice under the procedures contained below herein, may reduce the standard setbacks and separation requirements if the intent of this Ordinance would be better served thereby.
- VI. For all C-WECS, the manufacturer's engineer or another qualified engineer shall certify that the turbine, foundation and tower design of the C-WECS is within accepted professional standards, given local soil and climate conditions.
- VII. 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 acknowledgement and consent form allowing construction of the turbine and guyed wires without fencing as required in this Ordinance to be presented to the Commission and Board of Adjustment.
- VIII. Landowners shall be given notice and opportunity to object to any variance request regardless of any agreement or waiver to the contrary.
 - I. **Noise.** Audible noise due to C-WECS sites operations shall not exceed sixty (60) dBA for any period of time, when measured at any dwelling, school, hospital, church, public library, long-term care facility, and early care and education facility existing on the date of approval of any conditional use permit from the property line. In the event audible noise due to C-WECS operations contains a steady tone, such as a whine, screech, or hum, the standards for audible noise set forth in subparagraph a of this subsection shall be reduced by five (5) dBA. In the event the ambient noise level (exclusive of the development in question) exceeds the applicable standard given above, the applicable standard shall be adjusted so as to equal the ambient noise level. The ambient noise level shall be expressed in terms of the highest whole number sound pressure level in dBA, which is succeeded for more than five (5) minutes per hour. Ambient noise levels shall be measured at the exterior of potentially affected existing residences, schools, hospitals, churches, public libraries, long-term care facility, and early care and education facility. Ambient noise level measurement techniques shall employ all practical means of reducing the effect of wind generated noise at the microphone. Ambient noise level

measurements may be performed when wind velocities at the proposed project site are sufficient to allow wind turbine operation, provided that the wind velocity does not exceed thirty (30) mph at the ambient noise measurement location. 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 Board of Adjustment upon recommendation by the Commission provided that the following has been accomplished:

Written consent from the affected property owners has been obtained stating that they are aware of the C-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

If the applicant wishes the waiver to apply to succeeding owners of the property, a permanent noise impact easement shall be recorded in the Office of the Hardin 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.

- m. The Facility Owner shall designate and provide as part of the application, and shall maintain at the office of the Director, the name and contact information of a local agent (local meaning a person whose residence is in Hardin County, Iowa, or a business with its primary place of business or its registered agent located in Hardin County, Iowa, as listed with the Iowa Secretary of State). The Facility Owner shall authorize the local agent to accept service of legal notice and be served legal notice and can be a first point-of-contact by the public.

2. Avoidance and Mitigation of Damages to Public Infrastructure:

a. Roads.

- a. The applicant shall identify all county, municipal, or township roads to be used for the purpose of transporting C-WECS, substation parts, cement, and/or equipment for construction, operation, maintenance, and decommissioning of the C-WECS and obtain applicable weight and size permits from the impacted jurisdictions prior to construction.
- b. At applicant's cost, the applicant shall conduct a pre-construction survey, in coordination with the appropriate jurisdictions to determine existing road conditions. The survey shall include photographs and a written agreement to document the condition of the public road. The applicant is responsible for ongoing road maintenance and dust control measures identified by the Hardin County Engineer during all phases of construction.
- c. The applicant shall be responsible for restoring or paying damages as agreed to by the applicable road authority sufficient to restore the identified road(s), bridge(s), and associated infrastructure to preconstruction conditions. Financial security in a manner approved by the County Attorney shall be submitted covering 130% of the costs of all required improvements.

- d. A separate road agreement which clearly lays out the rights and obligations of the county and applicant with respect to the construction, maintenance, and use of county roads in connection with development and removal of the C-WECS will be required prior to the start of construction and shall be made a condition to the site plan review and approval of the C-WECS permit.

b. Drainage.

- a. The applicant shall be responsible for immediate repair of damage to public drainage systems stemming from construction, operation, maintenance and decommissioning of the C-WECS. For each C-WECS permit application that includes an area with a public drainage system, the applicant shall provide and maintain a security deposit in the amount of \$50,000.00 to be held in escrow by Hardin County and to be used by Hardin County at its discretion to make repairs during the productive life of the C-WECS.
- b. To complete such repairs, the applicant shall consult with the County Engineer and if recommended by the County Engineer hire appropriate contractor(s) with the approval of the County Engineer, with said costs to be paid from the security deposit.
- c. Regarding an application that is within a drainage district, the applicant must apply for a Wind Turbine Drainage District Utility Permit and include the approved permit with their application for C-WECS.

3. Discontinuation and Decommissioning

The Facility Owner shall provide to the Director proof of energy production every three (3) months per Commercial Wind Turbine. A C-WECS shall be considered a discontinued use after twelve (12) months without energy production, unless a plan is developed and submitted to and approved by the Director within that time outlining the steps and schedule for returning the C-WECS to service within six (6) months of approval. All discontinued C-WECS and accessory facilities shall be removed to six (6) feet below ground level or to the level of the bedrock if less than six (6) feet below ground level within twelve (12) months of the discontinuation of use. Each C-WECS shall have a decommissioning plan on file as part of the permit application, outlining the anticipated means and cost of removing C-WECS at the end of their serviceable life or upon becoming a discontinued use. The cost estimates shall be made by a professional engineer licensed in the State of Iowa and approved by the County Engineer. The plan (required under Section 5.2(n) below) shall also expressly agree to provide at the County's request, no more often than annually, the financial resources available to pay for the decommissioning and removal of the C-WECS and accessory facilities which shall include cash reserves, profit/loss statement, assets and liabilities, and signed guarantees from any lender holding an interest in the C-WECS or in any assets pledged as securities by the Facility Owner or assigns. Financial security in a manner approved by the County Attorney shall be submitted covering 130% of the costs of decommissioning. The County reserves the right to verify that adequate decommissioning terms are contained in the landowner easement.

Section 5. PROCEDURES.

1. A Conditional Use Permit Application must be submitted for each individual applicable Wind Turbine with the applicable fee. This does not prohibit joint proceedings, including notices, public hearings, reviews and approvals as appropriate. The Director is hereby authorized to establish the content and form of the Conditional Use Permit Application consistent with this ordinance.
2. In addition to submittal requirements defined for Conditional Use Permit Applications, all applications for WECS shall include the following information in form and substance approved by the Director:
 - a. The name(s) and address of the project applicant.
 - b. The name of the project owner.
 - c. The legal description of the site where the development is planned.
 - d. 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.
 - e. Site layout, including location of property lines, wind turbines, electrical wires, interconnection points with the electrical grid, all related accessory structures, and all areas to be used for staging during construction or for maintenance, including distances and drawn to scale.
 - f. Engineer's certification(s) as required in these supplemental standards.
 - g. Documentation of land ownership or legal control of the property.
 - h. The latitude and longitude of individual wind turbines.
 - i. A USGS topographical map, or map with similar data, of the property and surrounding area, including any other WECS within 10 rotor diameters of the proposed WECS.
 - j. Existing Resources Inventory. This should include assets and liabilities and executory energy contracts.
 - k. An acoustical analysis.
 - l. Approved FAA Permit Application.
 - m. Location of all known communications towers/facilities within two (2) miles of the proposed WECS.
 - n. Decommissioning plan.
 - o. Description of potential impacts on all nearby WECS and other wind resources on adjacent properties.
 - p. Identification of significant migratory patterns and nesting areas for birds within two (2) miles.
 - q. Proof of liability insurance.
 - r. The Facility Owner/Facility Operator shall be responsible for obtaining and submitting to the Director, at the time the Conditional Use Permit Application is made, showing the names and last known addresses of the owners of all property **within 5,280 feet (1 mile)** of the perimeter of the total project development site containing wind energy device(s). Prior to the approval for such Conditional Use Permit, notice shall be given by the Director by ordinary mail to all adjacent property owners and owners of property within 5,280 feet (1 mile) of the proposed site(s) for which the conditional use is requested.
3. The WECS applicant is responsible in notifying the following state or federal agencies of their planned project and allowing said entities 120 days to do a preliminary review. Documentation of notification by certified mail to these agencies, and any reports from the agencies must be provided to the county 30 days prior to the Board of Adjustment first public hearing on the matter. If the

entity does not act within 120 days, the plan may be deemed approved by the entity. It is recommended that any issues be addressed prior to the public hearing.

- Army Corps of Engineers
- Bureau of Land Management
- U.S. Fish and Wildlife
- U.S. Department of Agriculture (Local FSA and NRCS)
- Environmental Protection Administration (EPA)
- Federal Communications Commission (FCC)
- National Weather Service
- Iowa Pipeline Association

4. The WECS applicant is responsible in notifying the following boards, commissions, and bodies of their planned project and allowing said entities 120 days to do a preliminary review. The WECS application must have attached to it written approval or denial from each and every board, commission, and body listed below. An incomplete application will not be considered. A completed application will contain written verification of approval or denial from each and every board, commission, and body listed below. Such approval or denial shall be on a form provided by the Director. No application will be approved without the written approval of all the below-listed boards, commissions, and bodies. In the event of a denial, by a board, commission, or body listed below the applicant and applicable body, commission, or body listed below shall make a good faith effort to resolve the reason for the denial. An aggrieved applicant can then seek relief from the Board of Adjustment.

- Hardin County Conservation Board
- Hardin County E911 Service Board
- Hardin County Emergency Management Commission
- Private and Public Hardin County Drainage District Trustees
- Hardin County Drainage Clerk
- Hardin County and local EMS Fire and Rescue
- Hardin County Engineer's Office
- Hardin County Firemen's Association
- Hardin County EMS Council
- Hardin County Solid Waste Commission
- Hardin County Board of Health
- Iowa River Trail – Hardin Commission
- Pioneer Cemetery Commission
- Iowa Falls Airport
- Eldora Airport
- Ackley Airport
- Radcliffe Airport
- South Fork Watershed Alliance

Section 6. RECORDING REQUIREMENT

The applicant shall be responsible for recording with the Hardin County Recorder’s Office, within 60 days of completed construction of each C-WECS structure, documentation sufficient to identify by longitude and latitude and depth of all structures and underground utilities comprising each C-WECS, for deed and abstracting purposes.

Section 7. FEES.

The building permit fee and conditional use permit fee per tower shall be set by the Hardin County Board of Supervisors. This fee is due upon submission of application for a WECS project. Please see attached fee schedule.

Section 8. SEVERABILITY CLAUSE.

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

Section 9. EFFECTIVE DATE.

That this ordinance shall be effective immediately upon adoption and publication as provided by law. By enactment, the previous Article XXIII of Ordinance No. 29 (Hardin County Zoning Ordinance) is hereby repealed.

TABLE 1**Setback Requirements for Non-Commercial WECS, C-WECS, and Meteorological Towers**

	Non-Commercial WECS	Commercial WECS	Meteorological Tower
Property Lines**	2 X Total Height	2 X Total Height	2 X Total Height
Dwelling Units†	Greater of Manufacturer's Recommended Safety Setback Distance or 3 X Total Height	Greater of Manufacturer's Recommended Safety Setback Distance or 3 X Total Height	Greater of Manufacturer's Recommended Safety Setback Distance or 3 X Total Height
Non-Dwelling Units†	2 X Total Height	2 X Total Height	2 X Total Height
Public Right-of-Way**	2 X Total Height	2 X Total Height	2 X Total Height
Communication or Electrical Lines	2 X Total Height	2 X Total Height	2 X Total Height
Cemeteries	2 X Total Height	2 X Total Height	2 X Total Height
Other WECS	NONE	(1.1 X Total Height of Turbine 1) + (1.1 X Total Height of Turbine 2)	NONE

*Distance may be satisfied in whole or in part through acquisition of an easement from adjacent property owner

**Including above ground utility such as railroad and power lines

† A waiver could be obtained from affected property owners to lower this setback requirement to no less than 1.1 X the Total Height

TABLE 2**Zoning District Regulations for Use of Non-Commercial WECS, C-WECS, and Meteorological Towers**

	Non-Commercial WECS	Commercial WECS	Meteorological Tower
Agricultural (A)	A	CUP	CUP
Commercial (C)	A	CUP	CUP
Conservation-Greenbelt (G)	X	X	X
Manufacturing (M)	A	CUP	CUP
Mobile Home Park (R-3)	A	X	X
Multi-Family Residential (R-2)	A	X	X
Single-Family Residential (R-1)	A	X	X
Wilderness Preserve (W)	X	X	X

CUP – Requires a Conditional Use Permit, A – Allowed, X – Not allowed