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Kelly L. Spees, Recorder, Jefferson County Iowa

# Jefferson County Ordinance Establishing the Regulation of Commercial Wind Energy Systems in Jefferson County

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## Recorder's Cover Sheet

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**Return Document To:** Jefferson County Auditor, 51 E. Briggs Ave., Fairfield, IA 52556

**Between:**

**Jefferson County, Iowa**
**51 E. Briggs Ave.**
**Fairfield, Iowa 52556**

# CHAPTER 5-40 ORDINANCE ESTABLISHING THE REGULATION OF COMMERCIAL WIND ENERGY SYSTEMS IN JEFFERSON COUNTY

BE IT ENACTED BY THE JEFFERSON COUNTY BOARD OF SUPERVISORS THAT:

I. Amendment: The Jefferson County Code of Ordinances is amended by adding Ordinance Number 5-40 which states:

## SECTION I

### Purpose

It is the purpose of this regulation to promote the safe, effective, and efficient development and use of commercial wind energy conversion systems within Jefferson County by regulating and requiring approval for the siting, design, construction, operation, and decommissioning of wind energy conversion systems to protect the public, health, safety, and general welfare of the County's residents and businesses and protect the productivity of County farmland.

### Applicability

It shall be unlawful to construct, erect, install, alter or locate any wind energy conversion system or existing wind energy conversion system within incorporated Jefferson County without receiving prior approval from the Board of Supervisors and paying the application fee as outlined in this Ordinance.

## SECTION II

### Definitions

The following are defined for the specific use of this section.

1. **Aggregate Project** shall mean projects that are developed and operated in a coordinated fashion, but which have multiple entities separately owning one or more of the individual WECS 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 part of the aggregated project.
2. **Applicant** is the person or entity filing an application under this Ordinance.
3. **Commercial WECS (C-WECS)** shall mean a large-scale wind energy conversion system of equal to or greater than 100 KW in total name plate generating capacity.
4. **Fall Zone** shall mean the area defined as the furthest distance from the tower base, in which a guyed tower will collapse in the event of a structural failure. This area is less than the total height of the structure.
5. **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.
6. **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 do not include towers and equipment used by airports or other applications to monitor weather conditions.
7. **Non-Participating Landowner** is any landowner not under agreement with the Facility Owner or Facility Operator.

8. **Occupied Building** is a residence, school, hospital, church, public library, or other building used for public gathering, that is occupied or in use when the permit application is submitted. Occupied building also includes buildings housing livestock.
9. **Operator** is the entity responsible for the day-to-day operation and maintenance of the WECS.
10. **Owner** is the entity or entities having an equity interest in the WECS, including their respective successors and assigns. Owner does not mean the property owner from whom a lease, easement or other property right has been acquired unless said property owner has an equity interest in the WECS.
11. **Participating Landowner** is a landowner under lease or other property agreements with the Facility Owner or Operator pertaining to the WECS.
12. **Public Lands** shall mean land owned in fee title by the City of Fairfield, Jefferson County, State or Federal agencies. Public lands shall also include conservation lands specifically for conservation purposes, including but not limited to Parks, Wildlife Management Areas, Wildlife Refuges and Waterfowl Production Areas. For purposes of this regulation, public conservation lands will also include lands owned in fee title by non-profit conservation organizations. Public conservation lands will also include any land enrolled in a conservation easement as defined by Iowa Code 457A.
13. **Public Road** is a full passage Right-of-Way (ROW).
14. **Rotor Diameter** shall mean the diameter of the circle described by the moving rotor blades.
15. **Shadow Flicker** is the visible flicker effect when rotating turbine blades cast shadows on the ground and nearby structures causing the repeating pattern of light and shadow.
16. **Substations** shall mean any electrical facility to convert electricity produced by wind turbines to a voltage greater than 35,000 (35,000 KV) for interconnection with high voltage transmission lines.
17. **Tower** shall mean the vertical structures that support the electrical, rotor blades, or meteorological equipment.
18. **Tower Height** shall mean the highest point, above ground level, reached by a rotor tip or any other part of the WECS.
19. **Tower Height** shall mean the total height of the WECS exclusive of the rotor blades.
20. **Transmission Line** shall mean the electrical power lines that carry voltages of at least 69,000 volts (69 KV) and are primarily used to carry electric energy over medium to long distances rather than directly interconnecting and supplying electric energy to retail customers.
21. **Turbine** is any piece of electrical generating equipment that converts the kinetic energy of blowing wind into electrical energy using airfoils, blades, or similar devices to capture the wind.
22. **Turbine Height** shall mean the highest point, above ground level, reached by a rotor tip or any other part of the WECS.
23. **Wind Energy Conservation 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.
24. **Wind Energy Facility** is an electric generating facility, whose main purpose is to supply electricity, consisting of one or more Wind Turbines and other accessory structures and buildings, including substations, meteorological towers, electrical infrastructure, transmission

lines and other appurtenant structures & facilities. For the purpose of this Ordinance, the term does not apply to roof-mounted or building integrated roof mounting systems.
25. **Wind Power** is the conversion of wind energy into another form of energy.

## SECTION III
## Requirements

1. **Application.**
**a. General requirements.** Before any construction activities related to a C-WECS project can begin in Jefferson County, an application must be submitted along with a $1000.00 fee per application plus a cost per proposed turbine to be set by the Board of Supervisors per resolution, and approval must be received by the Jefferson County Board of Supervisors.

Applications for any expansion shall be based on the total rated capacity, including existing facilities but excluding like-kind replacements. Any physical modification to an existing and permitted Wind Energy Facility that materially alters the size and/or type of Wind Turbines or other Equipment is considered a construction activity and requires an application, fee and approval from the Board under this Ordinance. Like-kind replacements that do not materially alter the size and/or type of wind turbines or other equipment shall not be deemed construction activities.

The following requirements and information shall be met and supplied to the Board of Supervisors for approval:
1. The name of the applicant.
2. The name of the owner and proposed Permit Holder.
3. The legal description and address of the project.
4. 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.
5. Site layout, including the location of property lines, wind turbines, electrical grid, and all related accessory structures. This site layout shall include distances and be drawn to scale.
6. County Engineer's certification.
7. Documentation of land ownership or legal control of the property.
8. The latitude and longitude of individual wind turbines.
9. A USGS topographical map, or map with similar data, of the property and surrounding area, including any other Wind Energy Conversion System, within ten (10) rotor distances of the proposed Wind Energy Conversion System.
10. Approval from any city within the county for all projects proposed within one (1) mile of that city's limits.
11. Approval from any occupied school within the county for all projects proposed within one (1) mile of that school.
12. Location of wetlands, scenic, and natural areas within one thousand three hundred and twenty feet (1,320) feet of the proposed Wind Energy Conversion System.
12. A Sound Study
13. FAA permit

14. Location of all known Communication Towers within two (2) miles of the proposed Wind Energy Conversion System.
15. Description of potential impacts on nearby Wind Energy Conversion Systems and wind resources on adjacent properties.
16. Decommissioning Plan pursuant to Section IV
17. Pre-construction Survey identifying all county, municipal, or township roads to be used for the purpose of transporting WECS, substation parts, cement, and/or equipment for construction, operation, or maintenance of the WECS and obtain applicable weight and size permits from the impacted jurisdictions prior to construction and determining existing road conditions. The survey shall include photographs and a written agreement to document the condition of the public facility.
18. An Emergency Response Plan that has been reviewed by the Director of Emergency Services that contains response procedures in the event of a fire, personal injury, or other emergency at a project. The Plan shall contain 24-hour contact information for the project.
19. Written affirmation the applicant has identified migratory flyways and nesting areas for all birds, bats, and endangered species within one (1) mile of the proposed wind turbine.
20. A report prepared by a qualified third party using the most current modeling software available establishing that no Occupied Residence will experience more than thirty (30) hours per year, or more than thirty (30) minutes per day of shadow flicker. The report must show the locations and estimated amount of shadow flicker to be experienced at all Occupied Residences because of the individual turbines in the project.

**b. Aggregated Projects**
1. Aggregated projects may jointly submit a single application and be reviewed under joint proceedings, including notices, public hearings, reviews and as appropriate approvals.
2. Permits may be issued and recorded separately.
3. Joint projects will be assessed an application fee as one project.

**c. Special Safety and Design Standards**
All towers shall adhere to the following safety and design standards:
1. Clearance of rotor blades or airfoils must maintain a minimum of twelve (12) feet of clearance between their lowest point and the ground.
2. All C-WECS shall have a sign, or signs posted on the tower, transformer and substation, warning of high voltage. Other signs shall be posted on the turbine with emergency contact information.
3. All wind turbines, which are a part of a C-WECS, shall be installed with a tubular, monopole type tower.
4. Consideration shall be given to painted aviation warnings on all towers less than 200 feet.
5. Color and Finish: All wind turbines and towers that are part of a C-WECS shall be white, grey, or another non-obtrusive color. Blades may be black in order to facilitate deicing. Finishes shall be matte or non-reflective.
6. Lighting: Lighting, including lighting intensity and frequency of strobe, shall adhere to

but not exceed requirements established by the Federal Aviation Administration (FAA) permits and regulations. Red strobe lights shall be used during nighttime illumination to reduce impacts on neighboring uses and migratory birds. Red pulsating incandescent lights should be avoided.
7. Other signage: All other signage shall comply with the sign regulations found in these regulations.
8. Feeder Lines: All communications and feeder lines, equal to or less than 34.5 KV in capacity, installed as part of a WECS shall be buried, where feasible. If it is proven that feeder lines cannot be buried, applicants must seek approval from impacted landowners and the Board of Supervisors. Feeder lines installed as part of a WECS shall not be considered an essential service.
9. 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 promptly and disposed of in accordance with all applicable local, state and federal regulations.
10. Noise: No WECS shall exceed 50 dBA at the nearest structure, as measured at the outside wall of said structure.
11. Signal Interference: The C-WECS shall not interfere with any licenses microwave communication paths, or those microwave paths planned to be used by current residents of Jefferson County or Jefferson County Emergency Management or any other county department at the time of the application. After applicant approval, a report prepared by a qualified unrelated third party will be presented to the Board of Supervisors to demonstrate that the project will not interfere as discussed in this section. The C-WECS owner shall minimize and mitigate any interference with electromagnetic communications, such as radio, telephone and television signals caused by any Wind Turbines.
12. Tall Structures Ordinance: The applicant shall be responsible for ensuring that any proposed turbine complies with Chapter 5-30, Jefferson County Airport Tall Structures Ordinance.

**2. Public Hearing**
Upon completion of the County's review of the application, the County shall schedule and make notification of a public hearing in accordance with Iowa Code Chapter 21, to be held no later than thirty days after the County has deemed the application complete.
Prior to the public hearing, the Board shall give notice to the City of Fairfield of any proposed project greater than one (1) from the city limits but less than two (2) miles.

**3. Approval by Board of Supervisors**
Within thirty (30) days of the application being deemed complete, the Board shall review it for completeness and compliance with this Ordinance. The Supervisors shall consider information contained in the application, input from county staff involved in reviewing the application requirements and the public gathered at the public hearing. If the Supervisors find that all the requirements and criteria have been met, they may approve the issuance of a C-WECS Permit to the identified Permit Holder via Resolution.

**SECTION IV**

**1. Reporting, Discontinuation and Decommissioning**:

**a. Ongoing Reporting Requirements**
The WECS permit holder is required to present an annual report of energy production for each wind turbine to the Board of Supervisors. The date this annual report is due shall be determined via resolution by the Board of Supervisors after approval of the application.

**b. Discontinuation**
A WECS shall be considered a discontinued use after one (1) year without energy production, *unless* a plan is developed and submitted to the County Engineer outlining the steps and schedule for returning the WECS to service.

**a. Decommissioning Plan**
1. Each C-WECS shall have a Decommissioning Plan outlining the anticipated means and cost of removing WECS at the end of their serviceable life or upon being discontinued use.
2. The cost estimates shall be made by a competent party, such as a Professional Engineer, a contractor capable of decommissioning or a person with suitable expertise or experience with decommissioning.
3. The plan shall also identify the financial resources that will be available to pay for decommissioning and removal of the WECS and accessory facilities.
4. The applicant shall provide a bond or other security acceptable to Jefferson County for an amount of at least 110 percent of the decommissioning cost as specified in the decommissioning estimate within 30 days of approval of the application.

**b. Removal and Disposal**
1. All WECS and accessory facilities shall be removed to ground level within ninety (90) days of the discontinuation of use.
2. All WECS shall be disposed at an approved disposal site outside of Jefferson County.

**SECTION V.**
**Siting and Design Standards**

**1. Setbacks**

All turbines and project substations shall observe the following setbacks established in Table 1. The setback shall be measured from any future Rights-of-Way if a planned change or expanded Right-of-Way is known.

**a. Waiver**
Setbacks provisions may be waived if the following conditions are met:
1. Property owners may waive the setback requirement for Property Lines and/or Occupied Buildings on the participating Landowner property and/or Non-Participating Landowner property by signing a waiver that sets forth the applicable setback provisions(s) and the proposed changes.
2. The written waiver shall notify applicable property owner(s) of the setback required by this Ordinance, describe how the Wind Energy Facility is not in compliance, and state that consent is granted for the Wind Energy Facility to waive the setback as required by this Ordinance.

3. Any such waiver shall be signed by the applicant, the Participating Landowner(s) and/or Non-participating Landowner(s) and recorded in the Recorder's Office where the property is located.

| Turbine/Meteorological Tower Setbacks | Commercial WECS | Commercial/Utility WECS | |
|---|---|---|---|
| **Property Lines** | The *greater* of 2,640 feet or three (3) times the total height. | The *greater* of 2,640 feet or three (3) times the total height. | The *greater* of:<br>The fall zone, as certified by a professional engineer, + ten (10) feet or 1.1 times the total height. |
| **Occupied Building** | The *greater* of 2,640 feet or three (3) times the total height. | The *greater* of 2,640 feet or three (3) times the total height. | The *greater* of:<br>The fall zone, as certified by a professional engineer, + ten (10) feet or 1.1 times the total Height. |
| **Road Rights-of- Way (ROW)** | The *greater* of:<br>The fall zone, as certified by a professional engineer, + ten (10) feet or one (1) time the total height. | One (1) time the total height. | The *greater* of:<br>The fall zone, as certified by a professional engineer, + ten (10) feet or one (1) time the total height. |
| **Other Rights-of-Way (ROW)** | The *greater* of:<br>The fall zone, as certified by a professional engineer, + ten (10) feet or one (1) time the total height. | The *greater* of:<br>The fall zone, as certified by a professional engineer, + ten (10) feet or one times the total height. | The *greater* of:<br>The fall zone, as certified by a professional engineer, + 10 feet or one (1) time the total height. |
| **Public Lands,** | One (1) time the total height. | One (1) time the total height. | One (1) time the total height. |
| **Other Structures** | NA | The greater of:<br>The fall zone, as certified by a professional engineer, + ten (10) feet or one (1) times the total height. | The *greater* of:<br>The fall zone, as certified by a professional engineer, + ten (10) feet or one (1) times the total height. |

| | | | |
|---|---|---|---|
| **Other Existing WECS** | | NA | To be considered based on:<br>1. Relative size of the *existing & proposed* WECS<br>2. *Alignment* of the WECS relative to the predominant winds<br>3. Topography<br>4. Extent of wake interference impacts on existing WECS<br>5. Property line setback of existing WECS<br>6. Other setbacks required<br>*Waived for internal setbacks in multiple turbine projects including aggregated projects* |
| **Airport** | | FAA Requirements | |
| **Cemetery** | The *greater* of 2,640 feet or three (3) times the total height. | The *greater* of 2,640 feet or three (3) times the total height. | The *greater* of:<br>The fall zone, as certified by a professional engineer, + ten (10) feet or 1.1 times the total height. |

## SECTION VI
## Additional Procedures

**1. Roads**. Applicants shall be responsible for restoring or paying damages as agreed to by the applicable jurisdiction sufficient to restore the road(s) and bridges to preconstruction conditions.

**2. Post-Completion Survey**. Applicants and the County Engineer will meet upon completion of the project and agree as to the necessary action needed to return roads to the existing road conditions as identified in the pre-construction survey.

**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 WECS.

**4. Required Financial Security**: Applicants shall be responsible for restoring or paying damages as identified under this section. Within 15 days of identifying the need for restoration or damages, the applicant must submit financial security in the amount of 130% of the costs of all required improvements, that has been reviewed by the County Treasurer and County Engineer, to the Board of Supervisors for approval.

**5. Costs of Prosecution**
In any action brought by the County against a permit holder issued under this Ordinance, the County shall be entitled to recover its reasonable attorney fees and court costs as may be awarded by the court or other decision-making tribunal.

## SECTION VII
## Effect and Transferability of C-WECS Permit

**1. Construction timeline**
No construction of C-WECS may begin until a C-WECS Permit has been issued by the Board of Supervisors. If construction has not begun within twenty-four (24) months of a permit being issued, the C-WECS Permit shall be revoked without further action by the Board.

**2. Transfer of C-WECS Permit**
No C-WECS Permit shall be transferred or assigned without the written approval of the Jefferson County Board of Supervisors. The Board shall determine that the proposed transferee/assignee has the financial and operational ability to assume all obligations under this ordinance. No transfer/assignment of the C-WECS permit shall be effective without corresponding transfer/assignment of the obligations and financial security required under the decommissioning plan, as approved by the Board of Supervisors.

## SECTION VIII
## Severability Clause

Should any section or provision of this Ordinance be declared by the courts to be invalid or unconstitutional, such decision shall not affect the validity of the Ordinance as a whole, or any part thereof other than the part so declared to be invalid.

## SECTION IX
## Repealer

All Ordinances or parts of Ordinances in conflict with the provisions of this Ordinance are hereby repealed.

## SECTION X
## Effective Date

This Ordinance shall be in effect after its final passage, approval and publication as provided by law.

**SECTION IX**

**Publication, Hearing, Approval, Adoption, and Filing of:**

AN ORDINANCE AMENDING JEFFERSON COUNTY CODE OF ORDINANCES, ADDING CHAPTER 5-40 THE REGULATION OF COMMERCIAL WIND ENERGY SYSTEMS IN JEFFERSON COUNTY

Public hearing notice published on August 1, 2024 and August 15, 2024 in Fairfield Ledger, The Clarion-Plainsman and July 30, 2024 and August 22, 2024 in the Ottumwa Courier.

First Reading on August 5, 2024.

Second Reading on August 26, 2024.

Third Reading on waived, 2024.

Passed by the Board of Supervisors on this 16th day of September, 2024.

Chairperson

Supervisor

Supervisor

Attest:

County Auditor

Publication of full text on October 3, 2024, in Ottumwa Courier and Fairfield Ledger, October 10, 2024 in The Clarion-Plainsman