

**FILLMORE  
COUNTY**

**WIND ENERGY  
CONVERSION  
SYSTEM  
ORDINANCE**

**ADOPTED 2007**

# Wind Energy Conversion Systems (WECS)

## Section 1 Purpose

This ordinance is established to regulate the installation and operation of Wind Energy Conversion Systems (WECS) within Fillmore County not otherwise subject to siting and oversight by the State of Minnesota under the Minnesota Power Plant Siting Act (MS Minnesota Statutes, as amended, 116C.51-116C.697.)

## Section 2 Enforcement, Violations, Remedies, and Penalties

Enforcement of the Wind Energy Conversion System Ordinance shall be done in accordance with process and procedure established in the Fillmore County Zoning Ordinance.

## Section 3 Definitions

For the purposes of this Ordinance, the following definitions shall apply:

- 1) **Aggregated Project.** Aggregated projects are those which 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 included as part of the aggregated project.
- 2) **Commercial WECS.** A WECS of equal to or greater than 100 kW in total name plate generating capacity.
- 3) **Fall Zone.** 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.
- 4) **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.
- 5) **Meteorological Tower.** For the purposes of this Wind Energy Conversation System Ordinance, meteorological towers are those towers which are erected primarily to measure wind speed and directions plus other data relevant to siting WECS. Meteorological Towers do not include towers and equipment used by airports, the Minnesota Department of Transportation, or other similar applications to monitor weather conditions.

- 6) **Micro-WECS.** Micro-WECS are WECS of 1 kW nameplate generating capacity or less and utilizing supporting towers of 40 feet or less.
- 7) **Non-Commercial WECS.** A WECS of less than 100 kW in total name plate generating capacity.
- 8) **Property line.** 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, easement, or other appropriate contractual relationship between the project developer and landowner.
- 9) **Public conservation lands.** Land owned in fee title by State or Federal agencies and managed specifically for [grassland] conservation purposes, including but not limited to State Wildlife Management Areas, State Parks, State Scientific and Natural Areas, Federal Wildlife Refuges and Waterfowl Production Areas. For the purposes of this section public conservation lands will also include lands owned in fee title by non-profit conservation organizations. Public conservation lands do not include private lands upon which conservation easements have been sold to public agencies or non-profit conservation organizations.
- 10) **Rotor diameter.** The diameter of the circle described by the moving rotor blades.
- 11) **Substations.** Any electrical facility designed to convert electricity produced by wind turbines to a voltage greater than 35,000 (35,000 KV) for interconnection with high voltage transmission lines shall be located outside of the road right of way.
- 12) **Total height.** The highest point, above ground level, reached by a rotor tip or any other part of the WECS.
- 13) **Tower.** Towers include vertical structures that support the electrical generator, rotor blades, or meteorological equipment.
- 14) **Tower height.** The total height of the WECS exclusive of the rotor blades.
- 15) **Transmission Line.** Those 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.
- 16) **WECS - Wind Energy Conversion System.** An electrical generating facility comprised of one or more wind turbines and accessory facilities, including but not limited to: power lines, transformers, substations and metrological towers, which operate by converting the kinetic energy of wind into electrical energy. The energy maybe used on-site or distributed into the electrical grid.
- 17) **Wind Turbine.** A wind turbine is 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 4 Procedures**

Land Use Permits, Conditional Use Permits and Variances shall be applied for and reviewed under the procedures established in the Fillmore County Zoning Ordinance.

The application for all WECS shall include the following information:

- 1) The names of project applicant.
- 2) The name of the project owner.
- 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 wires, interconnection points with the electrical grid, and all related accessory structures. The site layout shall include distances and be drawn to scale.
- 6) Documentation of land ownership or legal control of the property.
- 7) The latitude and longitude of individual wind turbines.
- 8) 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.
- 9) Location of wetlands, scenic, and natural areas including bluffs within 1,320 feet of the proposed WECS.
- 10) An Acoustical analysis, when determined by the Zoning Administrator.
- 11) FAA Permit Application.
- 12) Location of all known Communications Towers within 2 miles of the proposed WECS.
- 13) Decommissioning Plan.
- 14) Description of potential impacts on nearby WECS and wind resources on adjacent properties.

## **Section 5**

### **Aggregated Projects – Procedures**

Aggregated Projects may jointly submit a single application and be reviewed under joint proceedings, including notices, hearings, reviews and as appropriate approvals. Permits will be issued and recorded separately. Joint applications will be assessed fees as one project. Aggregated projects having a combined capacity equal to or greater than the threshold for State oversight as set forth in MS Statute Minnesota Statutes, as amended, 116C.691 through 116C.697 shall be regulated by the State of Minnesota.

## **Section 6**

### **District Regulations**

WECS will be permitted by Conditional Use Permit or prohibited based on the generating capacity and land use district as established in the table below:

<b>District</b>	<b>Non commercial Tower</b>	<b>Commercial Tower</b>	<b>Meteorological Tower</b>
<b>A-1</b>	<b>CUP</b>	<b>CUP</b>	<b>CUP</b>
<b>RA</b>	<b>CUP</b>	<b>Prohibited</b>	<b>Prohibited</b>
<b>R-1</b>	<b>Prohibited</b>	<b>Prohibited</b>	<b>Prohibited</b>
<b>B-1</b>	<b>CUP</b>	<b>CUP</b>	<b>CUP</b>
<b>I-1</b>	<b>CUP</b>	<b>CUP</b>	<b>CUP</b>

## **Section 7**

### **Setbacks – Wind Turbines and Meteorological Towers**

- 1) All wind turbines and meteorological towers shall be setback 1.1 times their height from all property lines and road rights of way.
- 2) The construction of all new wind turbines and meteorological towers must be at least 750 feet from a dwelling unless the dwelling owner and turbine/tower owner are the same.
- 3) All new dwellings must be setback 750 feet from any wind turbine or meteorological tower unless the dwelling owner and turbine/tower owner are the same.

## **Section 8**

### **Requirements and Standards**

- 1) Safety Design Standards:  
Engineering Certification: For all WECS, the manufacture'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.
- 2) Clearance. Rotor blades or airfoils must maintain at least 12 feet of clearance between their lowest point and the ground.
- 3) Warnings.
  - a. For all Commercial WECS, a sign or signs shall be posted on the tower, transformer and substation warning of high voltage. Signs with emergency contact information shall also be posted on the turbine or at another suitable point.
  - b. 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 8 feet above the ground. Visible fencing shall be installed around anchor points of guy wires. Consideration shall be given to painted aviation warnings on meteorological towers of less than 200 feet.
- 4) Total height. Non-Commercial WECS shall have a total height of less than 200 feet.
- 5) All wind turbines, which are part of a commercial WECS, shall be installed with a tubular, monopole type tower.
- 6) Meteorological towers may be guyed.
- 7) Color and Finish. All commercial wind turbines and meteorological towers that are part of a commercial WECS shall be white, grey or another non-obtrusive color. Blades may be black in order to facilitate deicing. Finishes shall be matt or non-reflective. Exceptions may be made by the Zoning Administrator for meteorological towers, where concerns exist relative to aerial spray applicators.
- 8) Lighting. 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 are discouraged.
- 9) Other Signage. All signage on site shall comply with Section 726 of the Fillmore County Zoning Ordinance. The manufacturer's or owner's company name and/or logo may be placed upon the nacelle, compartment containing the electrical generator of the WECS.

- 10) 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 reasonably feasible). Feeder lines installed as part of a WECS shall not be considered an essential service. This standard applies to all feeder lines subject to Fillmore County authority.
- 11) 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.
- 12) Discontinuation and Decommissioning. A WECS shall be considered a discontinued use after 1 year without energy production, unless a plan is developed and submitted to the Fillmore County Zoning Administrator outlining the steps and schedule for returning the WECS to service. All WECS and accessory facilities shall be removed four feet below ground level within 90 days of the discontinuation of use.
- 13) Each Commercial WECS shall have a Decommissioning plan outlining the anticipated means and cost of removing WECS at the end of their serviceable life or upon becoming a discontinued use. 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. The plan shall also identify the financial resources that will be available to pay for the decommissioning and removal of the WECS and accessory facilities.
- 14) Orderly Development. Upon issuance of a conditional use permit, all Commercial WECS shall notify the Environmental Quality Board Power Plant Siting Act program staff of the project location and details on the survey form specified by the Environmental Quality Board.
- 15) Noise. All WECS shall comply with Minnesota Rules 7030, as amended, governing noise.
- 16) Electrical codes and standards. All WECS and accessory equipment and facilities shall comply with the National Electrical Code and other applicable standards.
- 17) Federal Aviation Administration. All WECS shall comply with FAA standards and permits.
- 18) Interference. The applicant shall minimize or mitigate interference with electromagnetic communications, such as radio, telephone, microwaves, or television signals cause by any WECS. The applicant shall notify all communication tower operators within two miles of the proposed WECS location upon application to the county for permits. No WECS shall be constructed so as to interfere with County or Minnesota Department of Transportation microwave transmissions.
- 19) Avoidance and Mitigation of Damages to Public Infrastructure.
  - Roads. Applicants shall:
    - a. Identify all county, city 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 road authority(ies) prior to construction.
    - b. 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.