

**MONONA COUNTY ORDINANCE NO. 35**

**ZONING ORDINANCE**

**SECTION 19A**

**SMALL WIND ENERGY CONVERSION SYSTEMS**

The intent of the regulations of this Ordinance is to balance the need for clean, renewable energy resources with the need to protect the public health, safety and welfare. The regulations of this Ordinance are found to be necessary to ensure that small wind energy conversion systems are appropriately designed, sited and installed. Small wind energy conversion systems include only those systems having a rated capacity of no more than one hundred kilowatts (100kW). The regulations of the Ordinance have no applicability to larger wind energy conversion systems having a rated capacity of greater than one hundred kilowatts (100kW).

**A. Accessory Use.** A Small Wind Energy Conversion System (SWECS) shall be allowed only as an accessory use to a permitted principal use. The Monona County Zoning Administrator may grant a permit to allow a SWECS in any zoning district where this accessory use is permitted, Agricultural District (AG), General Commercial District (CG), and Highway Service Commercial District (CHS). No such permit may be granted unless the SWECS is in compliance with all regulations of this Ordinance.

**B. Definitions.** For use in this Ordinance, the following definitions shall be controlling:

1. Fall zone – means the area contained within the boundaries of a circle, the center of which is the base of the tower, and the radius of which is the total system height. The fall zone encompasses the area within which a system may collapse in the event of a structural failure.
2. Guyed tower – means a tower that is supported, in whole or in part, by guy wires and ground anchors.
3. Kilowatt (kW) – is equal to 1,000 Watts.
4. Lattice tower – means a self supporting tower with three or four sides, open, steel framed structure used to support equipment.
5. Monopole tower – means a tower consisting of a single pole, constructed without guy wires and ground anchors.
6. Small Wind Energy Conversion Systems or SWECS – means a wind energy conversions system that has a rated capacity of up to one hundred (100) kilowatts and that is incidental and subordinate to a permitted use on the same parcel. A system is considered a SWECS only if it supplies electrical power solely for onsite use, except that when a parcel on which the system is installed also receives electrical power supplied by a utility company, excess electrical power generated an not presently needed for on site use may be used by the utility company in accordance with Section 199, Chapter 15.11(5) of the Iowa Administrative Code.
7. Total system height – means the height above grade of the system, including the generating unit and the highest vertical extension of any blades or rotors.
8. Tower – means the vertical component of a WECS that elevates the wind turbine generator and attached blades and rotors above the ground.
9. Tower height – means the height of the fixed portion of the tower, measured from the ground to the top of the tower, excluding the wind turban generator and attached blades or rotors.
10. Wind energy conversion system or WECS - means a wind turban electrical generating facility comprised of an aggregation of parts, including the base, tower, generator, rotor, blades, supports, guy wires, and accessory equipment such as power lines, transformers and battery banks, in such configuration as necessary to convert the kinetic energy of wind into electrical energy. The energy may be used on-site or distributed into the electrical grid.
11. Wind Turbine Generator – means the component of a wind energy conversion system that transforms mechanical energy from the wind into electrical energy.
12. Watt (W) – is the International System of Units’ standard unit of power, the equivalent of one joule per second.

**C. Permit Required.** It shall be unlawful to construct, erect, install, alter or locate any SWECS within Monona County, unless a zoning permit has been obtained from the Monona County Zoning Administrator. In granting such permit, the Monona County Zoning Administrator may impose conditions on the use in addition to the regulations of this Ordinance. The permit may be revoked by the Zoning Administrator any time the approved system does not comply with the regulations of this Ordinance and the conditions imposed at the time the permit was granted. The owner/operator of the SWECS must also obtain any other permits required by other federal, state and local agencies or departments prior to issuing a Conditional Use permit.

**D. Permit Application Information.** An application for a zoning permit for a SWECS shall be made on forms provided by the County. Along with the application, the applicant shall submit the following information:

1. **Site Plan.** One (1) complete copy of a site plan shall be submitted. The site plan shall be based on a certified instrument survey by a surveyor licensed in the State of Iowa. A Plat of Survey is required to establish property lines and/or setbacks. The site plan shall include the following:
  - a. Location of the SWECS on the site and total height of the system, including blades, rotor diameter, and ground clearance.
  - b. The area of the base of each tower and depths.
  - c. Utility lines, telephone lines and any other lines, both above and below ground, within a radius of two thousand (2,000) feet from the tower base.
  - d. Details as how the power will be delivered to the grid, including the route and size of poles and towers to be used.
  - e. Property lot lines, land uses and the location and dimensions of all existing structures and uses on and off site within a radius of two thousand (2,000) feet from the tower base.
  - f. Standard drawings and dimensional representations of the wind turbine structure, including the tower, base and footings.
  - g. A line drawing of the electrical components in sufficient detail to allow for a determination that the manner of the installation conforms to the National Electrical Code.
  - h. Design data for the system indicating the basis of design, including manufacturer's dimensional drawings and installation and operation instructions.

**E. Installation.** Installation shall be done by a qualified professional and according to manufacturer's recommendations.

**F. Location.**

1. No more than one (1) SWECS shall be installed on any lot or parcel.
2. No part of a SWECS shall be located within or over drainage, utility or other established easements, or on or over any property lines.
3. A SWECS shall be located entirely in the rear yard in permitted districts.
4. A SWECS shall not be located in any required setback.
5. A SWECS shall be located in compliance with all Federal Aviation Administration (FAA) regulations, guidelines and standards, as amended from time to time.
6. A SWECS shall not be installed within twenty (20) feet laterally from any overhead electric power line (excluding secondary electric service lines or service drops).
7. A SWECS shall not be installed within ten (10) feet laterally from any underground electric distribution line.

**G. Bulk Regulations.**

1. **Setbacks.** The minimum distance between any SWECS and any property line shall be a distance that is equivalent to one hundred ten percent (110%) of the total system height.
2. **Minimum Lot Size.** The minimum net lot size for a SWECS shall meet the current zoning ordinance lot size, exclusive of right-of-way.
3. **Maximum Tower Height.** The maximum tower height of a SWECS shall be one hundred forty (140) feet.
4. **Clearance of Blade.** No portion of any SWECS blade shall extend within thirty (30) feet of the ground. No portion of any SWECS blade shall extend over parking areas, driveways or sidewalks. No portion of any SWECS blade shall extend within twenty (20) feet of the nearest tree or structure.

**H. Automatic over Speed Controls.** Every SWECS shall be equipped with manual (electronic or mechanical) and automatic over speed controls to limit the blade rotation speed within the design limits of the specific system.

**I. Restriction on Use of Electricity Generated.** A SWECS shall be used exclusively to supply electrical power for on-site use, except that excess electrical power generated by the SWECS and not presently need for on-site use may be used by the utility company in accordance with Section 199, Chapter 15.11(5) of the Iowa Administrative Code.

**J. Fall-Zone Clearance.** No existing or proposed dwelling unit or principal structure shall be located closer than a distance equal to the total system height from the base of the tower of any SWECS. Other accessory structures may be located no closer to the base of the tower than seventy-five percent (75%) of the total system height.

**K. Tower Configuration.** Any SWECS under fifty (50) feet in total system height may have a monopole, guyed, or lattice design for the tower. All SWECS towers with a total system height of more than fifty (50) feet shall only be allowed a monopole design for the tower.

**L. Security.**

1. **Lighting.** No light shall be installed on the tower, unless required to meet FAA regulations.
2. **Signage.** One sign, limited to four (4) square feet, shall be posted at the base of the tower. The sign shall include a notice of no trespassing, a warning of high voltage, and the phone number of the owner/operator to call in case of emergency.

3. **Climbing Apparatus.** All climbing apparatus shall be located at least eight (8) feet above the ground, and the tower must be designed to prevent climbing within the first eight (8) feet.
4. **Fencing.** To limit access to the tower, a six (6) feet high fence with locked gate shall be placed around the SWECS.
5. **Electrical Box.** All electrical boxes shall have tamper proof locks installed.

**M. Maintenance.** Structures and facilities shall be well maintained in an operational condition that poses no potential safety hazard.

**N. Inspections.** Inspection records shall be kept by the SWECS owner/operator and kept on file in the Monona County Zoning Administrator's office.

1. At least once every thirty-six (36) months the SWECS shall be inspected by an expert who is regularly involved in the maintenance, inspection and/or erection of SWECS. At a minimum, this inspection shall be conducted in accordance with the provisions of this Ordinance and in accordance with the applicable state and federal regulations. This is considered a major inspection.
2. In addition to the regularly scheduled major inspection set forth above, a minor inspection, at a minimum, will be conducted if the SWECS or its appurtenances are noted at any time to be visibly damaged. Additionally, a major inspection should be conducted if the visible damage to the SWECS is significant or when, after conducting a minor inspection, significant questions remain about the structural integrity of the SWECS.

**O. Electromagnetic Interference.** Every SWECS shall be designed and constructed so as not to cause radio and television interference. If it is determined that the SWECS is causing electromagnetic interference, the operator shall take the necessary corrective action to eliminate this interference, including relocation or removal of the facilities, subject to the approval of the appropriate County authority. The conditional use permit may be revoked if electromagnetic interference from the SWECS becomes evident.

**P. Removal.** If the SWECS remains nonfunctional or inoperative for a continuous period of one (1) year, the system shall be deemed discontinued and abandoned and shall constitute a public nuisance. The owner/operator shall remove the abandoned system at their sole expense. Removal of the system includes the entire structure, including foundations and transmission equipment from the property. Nonfunctioning or lack of operation may be proven by reports from the interconnected utility. If removal of towers and appurtenant facilities is required, the Zoning Administrator shall notify the owner/operator.

**Q. Right of Entrance.** By requesting approval of a zoning permit for the installation and operation of a SWECS, the owner/operator grants permission to the County to enter upon the property to remove the SWECS for reasons of safety or abandonment, pursuant to the conditions and terms set forth in the permit and in this Ordinance. Removal shall be at the sole expense of the owner/operator.

**R. Effective Date.** This Ordinance shall be in full force and effect from and after its final passage, approval, and publication as provided by law.

PASSED AND APPROVED this 14<sup>th</sup> day of December, 2010.

/s/Stanley Skow

Stanley Skow, Chairman

Monona County Board of Supervisors

ATTEST: /s/Brooke Kuhlmann

Brooke Kuhlmann, Monona County Auditor

#### AUTHENTICATION

Pursuant to Section 331.302(8) of the Code of Iowa, the undersigned Auditor of Monona County, Iowa, hereby certifies that Ordinance No. 35 was published once in the Onawa Democrat and Mapleton Press newspapers on the 8<sup>th</sup> and 9<sup>th</sup> day of December, 2010.

/s/Brooke Kuhlmann

Monona County Auditor

**STATE OF IOWA        )**

**)SS:**

**MONONA COUNTY)**

On this 14<sup>th</sup> day of December, 2010, the aforementioned Stanley Skow, Chairman, Monona County Board of Supervisors and Brooke Kuhlmann, Monona County Auditor, subscribed and sworn to be the same and signed in their official capacity as stated above in my presence.

/s/LeAnn M. McClure\_\_\_\_\_

Notary Public