

ARTICLE XX

VERTICAL AXIS WIND ENERGY CONVERSION SYSTEMS

2000 PURPOSE

It is the purpose of this regulation to promote the safe, effective and efficient use of wind turbine energy systems installed to reduce the on-site consumption of utility supplied electricity and/or for the resale of utility power.

2001 APPLICABILITY AND DEFINITION

A. Private Use Wind Energy Conversion Systems (WECS) – means a system consisting of not more than two (2) vertical axis wind turbines, towers and associated controls or conversion electronics for the purpose of providing electrical power to a lawful principle use. The system(s) having a rated combined capacity of fifteen (15) kilowatts (kW) or less for residential use shall be considered a private use system for the purposes of the regulations. These systems are considered accessory uses in all zoning districts.

B. Wind Turbine – the individual component of a Wind Energy Conversion System that converts kinetic energy from the wind into electrical energy, independent of the electrical conductors, electrical storage system, electrical metering, or electrical inverters. This term shall include the towers or supporting structures.

C. Zoning Code(s) – all codes, resolutions, policies and procedures and standards adopted and enforced by Carlisle Township. Prior to issuance of a permit, the following documents are required:

1. Site plan to scale
2. Engineered drawings
3. Decibel rating for unit at maximum capacity
4. Maintenance schedule to be followed as per manufacturer
5. Legal easement if necessary to meet clear fall zone

D. Fire Code(s) – all codes, ordinances, policies, and procedures, and standards adopted and enforced by Carlisle Township

E. FAA – the use of this acronym shall denote the Federal Aviation Administration, or any other applicable authority that regulates air safety within Carlisle Township

F. Private use wind energy conversion systems shall be allowed as an accessory use in all Carlisle Township Zoning Districts without the requirement of a Conditional Use Permit, provided the system meets all other requirements of this section.

2002 STANDARDS

- A. Vertical Axis Wind Turbine not to exceed thirty-five (35) feet in height measured from the highest point to the ground. Minimum distance of twelve (12) feet measured from the ground level to the first moving part necessary for safety.
- B. Clear Fall Zone is the area surrounding the wind turbine unit into which the turbine and/or its components might fall that shall remain unobstructed and confined within the property lines of the parcel where wind turbine is located. Attachment to owner's building(s) shall be permitted.
- C. Clear Fall Zone requires a minimum setback of the height of the wind turbine times 1.1 and shall be measured in a circular fashion from the center of the wind turbine components towards all property lines. If the fall zone on owner's land is not sufficient, a legal easement may be obtained from abutting property owner.
- D. Sound level of wind turbine shall not exceed sixty (60) decibels and shall be measured at the property lines of adjacent properties.

2003 INSTALLATION, AESTHETICS AND MAINTENANCE

- A. Appearance – Vertical axis wind turbines, unless subject to any applicable standards of the FAA, shall be a non-obtrusive color such as silver, or white or other neutral colors, Galvanized steel or metal is acceptable for the support structures. The painting or coating shall be kept in good repair for the life of the wind turbine. In addition, any changes to the approved color shall result in notification by Carlisle Township that the affected vertical axis wind turbine(s) shall cease operation until a color correction has been made. If the affected vertical axis wind turbine(s) is not repainted, using an appropriate color within sixty (60) days, the owner shall remove the affected vertical axis wind energy conversion system(s).
- B. Electrical Wires – All electrical wires leading from the tower to the electrical control facilities shall be located underground. This is the responsibility of the deed holder. Evidence shall be given of a signed connection agreement if applicant chooses to contract with a utility company. Approval from a state certified electrician or state of Ohio registered engineer of choice to be provided to Carlisle Township Zoning Department prior to operation of wind turbine.
- C. Maintenance – Vertical axis wind turbines shall be maintained in good repair, as recommended by the manufacturer's scheduled maintenance or industry standards, Deed holder shall comply with the maintenance schedule set by the manufacturer.
- D. Signs and Labels – The only advertising sign allowed on the wind turbine shall

be a manufacturer's label, not exceeding one (1) square foot size.

E. Compliance with FAA Regulations – All vertical axis wind turbines shall combine with applicable FAA regulations, including any necessary approvals for installations.

F. Certified Safe – Evidence shall be submitted with a Zoning permit application that the wind machine shall be constructed in accordance with accepted industry standards and certified safe.

2004 REPAIR AND REMOVAL OF WIND TURBINES

Any wind turbine found to be unsafe or non-operational by the Carlisle Township Zoning Inspector or an agent of the Township shall immediately cease operation upon notification by Carlisle Township and shall be repaired by the owner to meet manufacturer's specifications and local safety standards or be removed within sixty (60) days.

When the vertical axis wind turbine is removed from a site, all associated and ancillary equipment, batteries, devices, structures or support(s) for that system shall also be removed. For the purpose of this section, non-operation shall be deemed to include, but shall not be limited to, the rotating assembly of the vertical axis wind turbine remaining stationary so that wind resources are not being converted into electric or mechanical energy, or the vertical axis wind turbine is no longer connected to the public utility electricity distribution system.

2005 MOUNTING OF VERTICAL AXIS WIND TURBINES

Attachment of the vertical axis wind turbine, including any support or structural components, to any building or structure shall be in strict compliance with the regulations of Carlisle Township.

2006 COMPLIANCE WITH REGULATIONS

A. All systems shall comply with applicable fire, electrical, and zoning codes.

B. All standards are absolute. Once vertical axis wind turbines are permitted the owners have the option of compliance with standards or discontinuation of operations. If the operation of the vertical axis wind turbine(s) does not comply with the provisions of this article, the operator shall promptly take all measures to comply with these regulations, including but not limited to, discontinued operation of one or more wind turbines.

C. Variations to the regulations and standards of this section may not be altered. Any deviations shall require an application to the Board of Zoning Appeals (i.e. variance to area, number of units and use).

Amended 7-19-2010
2010

Effective 8-18-

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ADDENDUM TO SECTION 2001 APPLICABILITY AND DEFINITION

ITEM C. 6. Identify the anticipated shadow flicker pattern (shadow or sunlight flicker) that might be objectionable to adjacent properties).