ARTICLE XXIII – SMALL WIND ENERGY SYSTEMS[85]

Section 1. Purpose and Intent

The purpose of this article is to regulate the placement, construction and modification of small wind energy systems while promoting the safe, effective and efficient use of small wind energy systems and *not unreasonably interfering with the development of independent renewable energy sources.*

Section 2. Definitions

Hybrid system: An energy system that uses more than one technology to produce energy or work (for example, a wind-solar system).
Small Wind Energy System: A wind energy conversion system consisting of a single wind turbine, a tower and associated control or conversion electronics, which will be used primarily to reduce on-site consumption of utility power.
System Height: With regard to a small wind energy system, the tower height plus the blade length.
Tower: With regard to the small wind energy system, the structure on which the small wind energy system is mounted.
Tower Height: With regard to the small wind energy system, the height above grade of the fixed portion of the tower, excluding the wind turbine itself.
Turbine: The parts of the small wind energy system including the blades, generator and tail.

Section 3. Permitted Zones:

A-1 Agricultural, M-1 Industrial, M-2 Industrial

Section 4. Applicability

The requirement set forth shall govern the siting of small wind energy systems used to generate electricity or perform work, which may be connected to the utility grid pursuant to Virginia's net metering laws (Section 56-594, Code of Virginia), serve as an independent source of energy or serve as a hybrid system.

Section 5. Siting Requirements

The requirements for siting and construction of all small wind energy systems shall include the following:

1. Small wind energy towers shall maintain a galvanized finish or silver, gray, off-white or white finish to reduce visual obtrusiveness. A photo simulation shall be required.

2. Small wind energy systems shall not be artificially lighted unless required by the FAA or appropriate authority.

3. Small wind energy systems shall not have any flags, signs, writing or advertising.

4. Small wind energy systems shall not exceed forty five (45) decibels during normal operation, as measured at the closest non-participating property line. That level, however, may be exceeded during short term events such as severe windstorms.

5. The applicant shall provide evidence that the proposed height of the small wind energy system meets current code and industry standards for structural stability to include increased loading for high wind weather events, ice storms, etc.

6. The applicant shall provide evidence that the provider of electric utility energy service to the site has been informed of the applicant's intent to install an interconnected customer-owned electricity generator, unless the applicant intends and so states on the application, that the system will not be connected to the electric grid. This action shall not construe approval for net metering by the electric utility.

7. The applicant shall provide information demonstrating that the system will be used primarily to reduce on-site consumption of utility electricity.

8. The wind energy tower height shall not exceed a maximum height of sixty five (65) feet on a parcel of less than five (5) acres or a maximum height of eighty (80) feet on a parcel of five (5) acres or more.

9. The minimum distance between the ground and any protruding blades utilized on a small wind energy system shall be fifteen (15) feet as measured at the lowest point on the blades. The supporting wind energy tower shall also be enclosed with a six (6) foot tall fence or the base of the wind energy tower shall not be climbable for a distance of twelve (12) feet.

10. The applicant shall provide proof of adequate liability insurance for a small wind energy system. Whether or not the applicant is participating in the net metering program, the applicant shall meet the insurance coverage requirements set forth in 20 VA 50315-60.

11. The small wind energy system generators and alternators shall be constructed so as to prevent the emission of radio and television signals and shall comply with the provisions of Section 47 of the Federal Code of Regulations, Part 15 and subsequent revisions governing said emissions.

12. On-site power or transmission lines to the maximum extent possible shall be placed underground.

13. The small wind energy system shall be sited to reduce the possibility of shadow flicker.

14. Small wind energy systems shall **not** be permitted in overlay Historic Districts or within five hundred (500) feet of such districts, only with a special exception permit and after finding that it will have minimal or no visual impact on the Historic District.

Section 6. Compliance with Federal and State Regulation:

1. **Compliance with the Uniform Statewide Building Code:** Building permit applications for the small wind energy system shall be accompanied by standard drawings of the wind turbine structure, including the wind energy tower, base and footings. An engineering analysis of the wind energy tower showing compliance with the Uniform Statewide Building Code and certified by a licensed professional engineer shall also be submitted.

2. **Compliance with FAA regulations:** Wind energy systems shall comply with applicable FAA regulations, including any necessary approvals for installations close to airports.

3. **Compliance with the National Electric Code:** Building permit applications for small wind energy systems 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 Electric Code.

4. **Compliance with regulations governing energy net metering:** Small wind energy systems connected to the utility grid shall comply with the Virginia Administrative Code 20 VAC 5-315: Regulations Governing Energy Net Metering.

5. **Compliance with American National Standards Institute (ANSI).**

Section 7. Removal of Defective or Abandoned Wind Energy Systems:

Any wind energy system found to be unsafe by the Building Official shall be immediately repaired by the owner to meet federal, state and local safety standards or it shall be immediately stabilized and removed within ninety (90) days. Any abandoned wind energy system shall be removed within ninety (90) days.

Section 8. Setbacks

In addition to the requirements established above, the small wind energy system shall be set back a distance of at least three hundred (300) feet from adjacent property lines, one thousand (1,000) feet from occupied buildings of non-participating property owners and 500 feet from occupied dwellings of participating property owners. In the case of more than one requirement for the setback, the more stringent shall govern. If sound levels of the wind are exceeded at the prescribed setbacks, then the setbacks shall be increased to meet the decibel levels indicated, or the small wind energy system shall meet all of the setback requirements for primary structures for the zoning district in which the small wind energy system is located in addition to the requirements set forth

above. Additionally, no small wind energy system guy wire anchors may extend closer than two hundred (200) feet to the property line.

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