ARTICLE XIII
ALTERNATIVE ENERGY REGULATIONS

Section 1. PURPOSE

Middleton Township recognizes the importance of clean, sustainable and renewable energy sources. To that end, Middleton Township permits the use of these alternative energy systems, wind turbines and solar panels; under the following regulations to ensure the safety and welfare of all township residents is met.

1. Protect residential and agricultural areas from potential adverse impact of alternative energy systems;
2. Permit alternative energy systems in selected areas by on-site residential, commercial, or industrial users, subject to the terms, conditions, and provisions hereof;
3. Ensure the public health, welfare, and safety of the Township's residents in connection with alternative energy systems; and
4. Avoid potential damage to real and personal property from alternative energy systems or the failure of such structures and related operations.

Section 2. DEFINITIONS

For purposes of the regulation of use of alternative energy systems, the following definitions and phrases are used in this article and are also defined in Article XVIII.

- Accessory Structures: Structures such as sheds, storage sheds, pool houses, unattached garages, and barns.
- Alternative Energy: Energy, such as wind or solar energy that can replace or supplement fossil-fuel sources, such as coal, oil, and natural gas.
- Anemometer: An instrument that, measures the force and direction of the wind.
- Clear Fall Zone: An area surrounding a wind turbine unit into which the turbine and/or turbine components might fall due to inclement weather, poor maintenance, faulty construction methods, or any other condition causing turbine failure that shall remain unobstructed and confined within the property lines of the primary parcel where the turbine is located at, the purpose being that if the turbine should fall or otherwise become damaged, the falling structure will be confined to the primary parcel and will not fall onto dwellings, any habitable structures, and will not intrude onto a neighboring property.
- Cowling: A streamlined removable metal housing that covers the turbine's nacelle.
- Decibel: A unit of relative loudness equal to ten times the common logarithm of the ratio of two readings. For sound, the decibel scale runs from zero for the least perceptible sound to 130 for sound that causes pain.
- Nacelle: A separate streamlined metal enclosure that covers the essential mechanical components of the turbine.

- Primary Structure. For each property, the structure that one or more persons occupy the majority of time, on that property, for either business or personal reasons. Primary structures include structures such as residences, commercial buildings, hospitals, and day care facilities. Primary structures exclude structures such as hunting sheds, storage sheds, pool houses, unattached garages, and barns.
- Professional Engineer. A qualified individual who is licensed as a Professional Engineer in the State of Ohio.
- Solar Panel: A panel containing solar cells or absorbing plates that convert the sun's radiation into energy for use in providing electricity or heating to buildings or structures.
- Solar Panel Array: A single panel or group of connected panels, including an attached mounting system. A solar panel array may be installed on a building or structure, or on a free standing support system as defined in Article XIII, Section 2 of this Zoning Resolution.
- Wind Power Turbine Owner. The person or persons who owns the Wind Turbine structure.
- Wind Power Turbine Tower. The support structure to which the turbine and rotor are attached.
- Wind Power Turbine Tower Height. The distance from a rotor blade at its highest point to natural undisturbed grade level of a wind turbine tower foundation.

Section 3. PERMITS

1. A zoning permit shall be required before construction can commence on an alternative energy system.
2. As part of the permit process, for a wind turbine, the applicant shall inquire with the Wood County Planning Commission as to whether or not additional height restrictions are applicable due to the unit's location in relation to either the Wood County Airport, or any other private or public airport.
3. Applicant shall then provide the Township Zoning Inspector with the following items and or information when applying for a permit.
   A. Location of all public and private airports in relation to the location of the alternative energy system, as well as any applicable FAA restrictions that may be applicable to either wind turbines or solar panel array.
   B. An engineering report that shows:
      1. The total size and height of the unit, system or array.
      2. The total size and depth on the unit's concrete mounting pad.
      3. A list and or depiction of all safety measures that will be on the unit including anti-climb devices, grounding devices, and lightning protection.
      4. Data specifying the kilowatt size and generating capacity of the particular unit.
      5. If a turbine, the maximum decibel level of the particular unit. This information must be obtained from the manufacturer of the turbine unit.
   C. A site drawing showing the location of the unit, system or array in relation to existing structures on the property, roads and other public right of ways, and neighboring properties.
   D. For turbines, evidence of a "clear fall zone" with manufacturer's recommendation must be attached to the engineering report.
   E. A maintenance schedule as well as a dismantling plan that outlines how the unit, system, or array will be dismantled, shall be required as part of the permit.

Section 4. WIND TURBINE REGULATIONS

1. Wind turbines shall be a permitted use in all districts under the following conditions:
   A. The maximum height of any turbine shall be 125 feet. Height is defined as distance from a rotor blade at its highest point to natural undisturbed grade level of a Wind Turbine Tower.
   B. Setbacks: the following shall apply in regards to setbacks.
      1. Any turbine erected on a parcel of land will need to establish a "clear fall zone" from all neighboring property lines, as well as any habitable structures on the parcel intended for the turbine and any overhead utility lines. A turbine will need to be erected and placed in such a manner that if it were to fall, whatever direction the fall occurs would be contained solely on the property where the turbine is located at, and would not strike any structures including the primary dwelling, and any habitable structures.
      2 Clear Fall Zone shall be a minimum of turbine unit height plus 10 %.
      3. Any turbine erected shall be erected behind the required front yard setback for each district.

   C. Maintenance

      Wind turbines must be maintained in good working order. Turbines that become inoperable for more than 12 months must be repaired by the owner within thirty (30) days of issuance of zoning violation. Removal includes removal of all apparatuses, supports, and or other hardware associated with the existing turbine.

   D. Decibel Levels

      All units shall operate within a decibel range not to exceed 70 decibels. This information shall be included in the engineering report described below in Section II of this document. This information shall be obtained from the manufacturer of the turbine, and all decibel readings, if necessary, shall be taken from the nearest neighboring property. If testing of decibel readings becomes necessary, it will be done at Property owner's expense.

   E. Wiring and electrical apparatuses:

      All wires and electrical apparatuses associated with the operation of a wind turbine unit shall be located underground**.**

   F. Output

      Maximum energy output from a wind turbine or wind turbines is limited to the total electric power requirement of the site on which it is located plus 10%.

Section 5. SOLAR PANEL REGULATIONS

1. Solar Panel arrays shall be allowed in all zoning districts either to permitted principal or accessory buildings or as free-standing structures subject to the following conditions:

   A. Attached to the building. Where attached to the building, solar panel arrays shall be subject to the same regulations as the building in terms of height and setbacks. Solar panel arrays may be attached to the roof or the building wall.
      1. Flush-mounted solar panel arrays installed on a building or structure with a sloped roof surface shall not project more than twelve inches (12") above the peak of the roof to which it is attached.
      2. Solar panel arrays may be mounted on a flat roof in zoning districts B-3, B-4, M-1 and M-2.

   B. Free-standing solar panel arrays that are not attached to a building shall be permitted subject to the following regulations:
      1. Free-standing solar panel arrays shall not be permitted in the front yard.
      2. Free-standing solar panel arrays shall be set back by a minimum of fifteen feet (15') from all side lot lines and ten feet (10') from the rear lot line.
      3. Free-standing solar panel arrays shall not exceed a height of twenty feet (20').
      4. The ground surface area covered by free-standing solar panel arrays shall be included in the total permitted lot coverage calculations for the lot and not to exceed 40% of maximum available area.
      5. All power transmission lines shall be underground.

   C. Maintenance

      Solar panel arrays must be maintained in good working order. Panels that become inoperable for more than 12 months must be repaired or removed by the owner within thirty (30) days of issuance of zoning violation. Removal includes removal of all apparatuses, supports, and or other hardware associated with the solar panel array.

   D. Glare

      Solar panel arrays shall be placed and arranged such that reflected solar radiation or glare shall not create a hazard or nuisance to adjacent buildings or roadways.

   E. Output

      Maximum energy output from a solar panel array is limited to the total electric power requirement of the site on which it is located plus 10%.