

## WIND ENERGY CONVERSION SYSTEMS

### A. Purpose

Grant Township promotes the effective and efficient use of Wind Energy Conversion Systems with the minimum regulations on the siting, design, and installation of conversion systems so that the public health, safety, and welfare of neighboring property owners or occupants will not be jeopardized. In no case shall the provision of this ordinance guarantee the wind rights or establish access to the wind.

### B. Definitions

1. Wind Energy Conversion System (WECS) shall mean any device such as a wind charger, windmill, or wind turbine that converts wind energy to a form of usable energy.
  - a. Agricultural WECS shall mean any WECS that is accessory to a permitted farm or agricultural operation, and is designed and built to serve the needs of the farm or agricultural operation.
  - b. Private WECS shall mean any WECS that is accessory to a principal non-farm, non-agricultural use located on the same lot, and is designed and built to serve the needs of the principal use.
  - c. Commercial WECS shall mean any WECS that is designed and built to provide electricity to the electric utility's power grid.
2. Manual and Automatic Controls give protection to power grids and limit rotation of a WECS blades to below the designed limits of the conversion system.
3. An Authorized Factory Representative shall mean an individual with technical training of a WECS who has received factory installation instructions and is certified in writing by the manufacturer of the WECS.
4. A Professional Engineer shall mean any licensed engineer registered in the State of Michigan.
5. A Utility Scale wind farm shall mean all wind farms that produce greater than 50 kilowatts of energy.
6. Facility Abandonment shall mean out of production for a period of time not less than one (1) year.

### C. Approval Required

Except where noted in this Section, it shall be unlawful to construct, erect, install, alter, or locate any WECS project within Grant Township unless a conditional use permit has been obtained pursuant to this Ordinance.

1. Application for conditional use permit required by this Ordinance shall contain the following:
  - a. Existing property lines and property lines extending one hundred feet from the exterior boundaries, including the names of adjacent property owners and current use for those properties.
  - b. Existing public and private roads showing widths of the roads and any associated easements.
  - c. Location and size of any abandoned wells and sewage treatment systems.
  - d. Existing buildings and any impervious surfaces.
  - e. A contour map showing topography at two(2) foot intervals. A contour map of surrounding properties may also be required.
  - f. Existing vegetation (list type and percent of coverage: i.e. cropland/plowed fields, grassland, wooded areas, etc.)
  - g. Waterways, watercourses, lakes and public water wetlands.
  - h. Any delineated wetland boundaries.
  - i. A copy of the current FEMA FIRM map that shows the subject property. And the one hundred year flood elevation and any regulated flood protection elevation, if available.
  - j. Floodway, flood fringe and/or general flood plain district boundary, if applicable and not provided on the copy of the current FEMA FIRM map.
  - k. Mapped soil according to the Grant Township survey.
  - l. Surface water drainage patterns.
  - m. The location of any subsurface drainage tiles.
3. Site Plan of Proposed Conditions:
  - a. Location and spacing of WECS.

- b. Location of access roads.
  - c. Planned location of underground or overhead electric lines connecting the WECS to a building, substation or other electric load.
  - d. New electrical equipment other than at the existing building or substation that is to be the connection point for the WECS.
  - e. Sketch elevation of the premises accurately depicting proposed WECS system and its relationship to structure on adjacent land.
  - f. Weed/grass control - applicant must present an acceptable weed/grass control plan for property inside and outside fenced area for entire property. The Operating Company during the operation of the WECS must maintain the fence and adhere to the weed/grass control plan. If the operating company does not adhere to the plan within 15 days after notification, there can be a fine of \$500 per month.
4. Manufacturer's specifications and recommended installation methods for all major equipment.
  5. The number of WECS to be installed.
  6. A description of the method of connecting the WECS to a building or substation.
  7. At the time of applying for the special use application, a written demonstration shall be provided that the applicant is in the queue to acquire an interconnect agreement. Then pre-operation of the project, a copy of an interconnect agreement with the appropriate electric utility, or a written explanation outlining why an interconnection agreement is not necessary should be provided to the township.

#### D. General Standards

The following standards shall apply to all private and commercial wind energy conversion systems in Grant Township:

##### 1. Design Safety Certification

The safety of the design of all private and commercial WECS towers shall be certified by a Professional Engineer registered in the State of Michigan. The standard for certification shall be included with the permit application.

##### 2. Controls and Brakes

All private and commercial WECS projects shall be equipped with manual and automatic controls to limit rotation of blades to a speed below the designed limits of the WECS. The Professional Engineer must certify that the rotor and over-speed control design and fabrication conform to applicable design standards.

No changes or alterations from certified design shall be permitted unless accompanied by a Professional Engineer's statement of certification.

### 3. Electrical Components

All electrical compartments, storage facilities, wire conduit, and interconnections with utility companies will conform to national and local electrical codes.

### 4. Compliance with Township Ordinances

All private and commercial WECS projects shall be in compliance with all Grant zoning ordinance requirements and other applicable ordinances.

### 5. Setbacks

All private and commercial WECS projects must be setback from property lines at a distance equal to or greater than one hundred fifty percent (150%) of the height of the structure, measured from the base of the structure to the highest reach of its blade.

### 6. Height

Private WECS projects shall conform to the maximum height standards of the zoning district. Commercial WECS projects shall be exempt from the height requirements of this Ordinance, subject to the provisions of Conditional Uses, and compliance with FAA regulations.

### 7. Installation Certification

The Professional Engineer shall certify that the construction and installation of the private or commercial WECS project meets or exceeds the manufacturer's construction and installation standards.

### 8. Climb Prevention

All private and commercial WECS project towers or poles must be unclimbable by design or protected by anti-climbing devices such as:

- a. Fences with locking portals at least six (6) feet high;

- b. Anti-climbing devices twelve (12) feet from base of pole; or
- c. Anchor points for guy wires supporting tower shall be enclosed by a six (6) foot high fence or shall be located within the confines of a yard that is completely fenced.
- d. Knox boxes and keys shall be provided at locked entrances for emergency personnel access.

#### 9. Interference

It shall be the responsibility of the person in charge of the private or commercial WECS to submit acceptable documentation as part of the conditional use permit to determine if the WECS project would in any way cause interference with microwave transmissions, residential television reception, or radio reception.

#### 10. Fire Risk

All private and commercial WECS projects must adhere to all applicable electrical codes and standards, must remove fuel sources, such as vegetation, from the immediate vicinity of electrical gear and connections, and must utilize twistable cables on turbines.

#### 11. Waste

All solid wastes, whether generated from supplies, equipment parts, packaging, operation, or maintenance of the WECS, including old parts and equipment, shall be removed from the site immediately and disposed of in an appropriate manner. All hazardous waste generated by the operation and maintenance of the WECS, including but not limited to lubricating materials, shall be removed from the site immediately and disposed of in a manner consistent with all local, state, and federal rules and regulations.

#### 12. Noise Levels

The noise level measured at the property line of the property on which the private or commercial WECS project has been installed shall not exceed fifty-five (55) decibels.

#### 13. Liability Insurance

The owner or operator of the private or commercial WECS project shall maintain a current insurance policy with a bond rating acceptable to the

Township to cover installation and operation of the WECS project. The amount of the policy shall be established as a condition of conditional use permit approval. For a private WECS projects accessory to a principal residence, proof of homeowner's insurance with specific coverage for the WECS shall satisfy this requirement.

#### E. Additional Standards for Commercial WECS Projects

The following additional standards shall apply to all commercial wind energy conversion systems in Grant Township:

##### 1. Color

Towers and blades shall be painted any neutral color that is acceptable to Grant Township or otherwise required by law.

##### 2. Compliance with FAA

It shall be the responsibility of the person in charge of the commercial WECS project to complete the proper FAA applications and obtain the proper permits for the WECS project. It shall also be the responsibility of the person in charge of the commercial WECS project to obtain a determination of no significant impact to air navigation from the FAA.

##### 3. Warnings

A visible warning sign of "High Voltage" may be required to be placed at the base of all commercial WECS projects. The sign must have at a minimum six-inch letters with 3/4-inch stroke. Such signs shall be located a maximum of three hundred (300) feet apart and at all points of site ingress and egress. The sign at the entrance to the facility shall include a 24 hour emergency contact number.

##### 4. Annual Inspection

Every commercial WECS project must be inspected annually by an Authorized Factory Representative or Professional Engineer to certify that it is in good working condition and not a hazard to the public. Such records shall be submitted to Grant Township and considered a part of the continuing conditional use permit.

##### 5. Compliance with additional Regulations

It shall be the responsibility of the person in charge of the commercial WECS project to contact the FCC and FAA regarding additional permits

necessary or any other applicable Federal or State regulations for the installation, prior to the Grant Township granting a conditional use permit.

## 6. Migratory Birds

The Township may require an avian study conducted by a qualified professional to determine any potential impacts the commercial WECS project may present to migratory birds. The study as part of the conditional use permit must provide assurances that the WECS project does not negatively affect the path of migratory birds.

## 7. Decommissioning Plan and Escrow

The commercial WECS project must contain a Decommissioning Plan to ensure it is properly decommissioned upon the end of the project life or facility abandonment.

Decommissioning shall include: removal of all structures (including transmission equipment and fencing) and debris to a depth of four (4) feet, restoration of the soil, and restoration of vegetation within six (6) months of the end of project life or facility abandonment.

The decommissioning plan shall state how the facility will be decommissioned, the Professional Engineer's estimated cost of decommissioning, the financial resources to be used to accomplish decommissioning, and the escrow agent with which the resources shall be deposited. The decommissioning plan shall also include an agreement between the applicant and the Township that:

- a. The financial resources for decommissioning shall be in the form of a surety bond, or shall be deposited in an escrow account with an escrow agent acceptable to Grant Township.
- b. The Township shall have access to the escrow account funds for the expressed purpose of completing decommissioning if decommissioning is not completed by the applicant within six (6) months of the end of project life or facility abandonment.
- c. The Township is granted the right of entry onto the site, pursuant to reasonable notice, to effect or complete decommissioning.
- d. The Township is granted the right to seek injunctive relief to effect or complete decommissioning, as well as the Township's right to seek reimbursement from applicant or applicant successor for decommissioning costs in excess of the amount deposited in escrow and to file a lien against any real estate owned by applicant or applicant's successor, or in

which they have an interest, for the amount of the excess, and to take all steps allowed by law to enforce said lien. Financial provisions shall not be so onerous as to make wind power projects unfeasible.

8. This ordinance shall take effect thirty days after publication of the notice of adoption.