

Chapter 26, Wind Energy Systems

SECTION 26.00 DESCRIPTION AND PURPOSE

- A. The purpose of this Chapter is to establish guidelines for installing and using Wind Energy System (WES) in Eureka Charter Township. The purpose of this chapter is:
1. To promote the safe, effective, and efficient use of a WES to reduce the consumption of fossil fuels in producing electricity.
 2. To preserve and protect public health, safety, welfare, and quality of life by minimizing the potential adverse impacts of a WES.
 3. To establish standards and procedures by which the siting, design, engineering, installation, operation, and maintenance of a WES shall be governed.

SECTION 26.01 DEFINITIONS

- A. Ambient Sound Level: The amount of background noise at a given location prior to the installation of a WES which may include, but not be limited to, traffic, machinery, lawnmowers, human activity, and the interaction of wind with the landscape. The ambient sound level is measured on the dB (A) weighted scale as defined by the American National Standards Institute.
- B. Anemometer: A wind speed indicator constructed at a given site including the tower, base plate, anchors, cables and hardware, wind direction vanes, booms to hold equipment, data logger, instrument wiring, and any telemetry devices that are used to monitor or transmit wind speed and wind flow or to characterize the wind resource at a given location. Typically, anemometers are used to analyze the potential for the generation of electrical energy by measuring wind speed, direction, and duration.
- C. Anemometer Tower: Means a freestanding tower, containing instrumentation such as anemometers, designed to provide present moment wind data for use by the supervisory control and data acquisition (SCADA) system which is an accessory land use to a Wind Energy System.
- D. Decibel: The unit of measure used to express the magnitude of sound pressure and sound intensity. Decibels shall be measured on the dB (A) weighted scale as defined by the American National Standards Institute.
- E. Decommissioning: The process of terminating operation and completely removing a WES and all related buildings, structures, foundations, access roads, and equipment.
- F. IEC: Means the International Electrotechnical Commission.
- G. ISO: Means the International Organization for Standardization.
- H. Large Wind Energy System(s) (LWES): A tower-mounted WES that converts wind energy into electricity. The LWES has a nameplate capacity that identifies the maximum kilowatts as exceeding

100 kilowatts and the total height of a LWES exceeds 60 feet, and is primarily used to provide on-grid electrical production.

- I. Lease Unit Boundary: A boundary around property leased for purposes of a WES including parcels adjacent to the parcel on which the WES tower or equipment is located. For purposes of setback, the lease unit boundary shall not cross road rights-of-way.
- J. Nacelle: The encasement that houses all of the generating components, gearbox, drive train, and other equipment.
- K. Net-Metering: A special metering and billing agreement between utility companies and their customers that facilitates the connection of renewable energy generating systems to the power grid.
- L. Occupied Building: A residence, school, hospital, church, public library, business, or other building used for public gatherings.
- M. Operator: The entity responsible for the day-to-day operation and maintenance of a WES.
- N. Owner: The individual or entity, including respective successors and assigns, which has an equity interest or owns the WES.
- O. Participating Parcel: A parcel of real property which is under lease or other property agreement with a utility grid wind energy system owner/operator.
- P. Rotor: An element of a WES that acts as a multi-bladed airfoil assembly, thereby extracting through rotation, kinetic energy directly from the wind.
- Q. Shadow Flicker: The moving shadow, created by the sun shining through the rotating blades of a WES.
- R. Small Wind Energy System(s) (SWES): A structure or tower-mounted SWES has a nameplate capacity that does not exceed 100 kilowatts, and the total height does not exceed 60 feet.
- S. Sound Pressure: An average rate at which sound energy is transmitted through a unit area in a specified direction. The pressure of the sound measured at a receiver.
- T. Sound Pressure Level: The sound pressure mapped to a logarithmic scale and reported in decibels (dB).
- U. Structure: Any building or other structure that is a minimum of 12 feet high at its highest point of roof and is secured to frost footings or a concrete slab.
- V. Total Height: The vertical distance measured from the ground level at the base of the tower to the uppermost vertical extension of any blade, or the maximum height reached by any part of the WES or Anemometer.
- W. Tower: A freestanding support on which a WES is mounted.
- X. Utility Grid Wind Energy System: An electricity generating facility consisting of one or more wind turbines under common ownership or operation control, and includes substations, MET Towers, cables/wires and other buildings accessory to such facility, located on private land which is under lease or other property agreement with a utility grid wind energy system owner/operator, whose

main purpose is to supply electricity to off-site customers(s). It includes substations, MET towers, cables, wires, and other buildings accessory to such facility.

- Y. Wind Energy System (WES): Any WES that converts wind energy into electricity through the use of equipment that includes any base, blade, foundation, generator, nacelle, rotor, tower, transformer, vane, wire, inverter, batteries, or other components used in the system.

SECTION 26.02 APPLICABILITY

- A. This Chapter applies to all WESs proposed to be constructed or modified after the effective date of adoption of this Ordinance.
- B. All WESs constructed prior to the adoption of this Chapter shall not be required to meet the requirements herein; however, any physical modification to an existing WES that materially alters the size, type, equipment, or location shall require approval under this Chapter.

SECTION 26.03 TEMPORARY ANEMOMETER USAGE

Anemometers shall be permitted in all zoning districts as a temporary use, subject to the following:

- A. An anemometer shall be allowed for no more than 18 months for a SWES, and no more than three years for a LWES.
- B. The construction, installation, or modification of an anemometer tower shall require zoning, building, and electrical permits and shall conform to all applicable local, state, and federal safety, construction, environmental, electrical, communications, and Federal Aviation Administration (FAA) requirements.
- C. An anemometer shall be subject to the minimum requirements for height, setback, separation, location, safety requirements, and decommissioning that correspond to the size of the WES that is proposed to be constructed on the site.
- D. Every anemometer must be approved by the Planning Commission as a special land use.

SECTION 26.04 GENERAL STANDARDS FOR ALL WESs

Following are general standards required for all WESs constructed in Eureka Charter Township.

- A. Appearance: A WES, including accessory buildings and related structures, shall be a non-reflective, non-obtrusive color (white, gray, black). The appearance of the turbine tower and any ancillary facility shall be maintained throughout the life of the WES.
- B. Siting: A Zoning Permit is required for all WES installations. All LWESs and utility grid WESs shall be subject to Special Land Use review and approval by the Eureka Charter Township Planning Commission.
- C. Permits and Approvals: If a Zoning Permit is obtained for a WES, a building permit is required for the structure and tower, and an electrical permit, along with all other required permits and approvals, are required for installation of the WES.
- D. Lighting: WES shall not be artificially lighted except to the extent required by the FAA or other

applicable authority, and FAA required lighting shall use ADLS (Aircraft Detection Lighting Systems).

- E. Advertising, Adornment, or Decoration: WES shall not be used for displaying any advertising including flags, streamers, or decorative items except for the identification of the turbine manufacturer.
- F. Noise: The sound pressure level shall not exceed 50 dB (A) L_{max} during daytime hours and 45 dB (A) L_{max} during nighttime hours measured at the property lines or the lease unit boundary, whichever is farther from the source of the noise. If the ambient sound pressure level exceeds 50 dB (A) L_{max} during daytime hours and 45 dB (A) during nighttime hours, the standard shall be ambient dB (A) plus 5 dB (A).
- G. Vibration: Vibrations shall not be produced that are humanly perceptible beyond the property lines or Lease Unit Boundary where the WES is located.
- H. Quantity: No more than one WES tower shall be installed on a primary residence. Commercial and Industrial buildings in excess of 10,000 sq. ft. may have more than one WES tower installed on the building if all setback requirements are met. The number of roof-mounted systems shall be based on manufacturer recommendations and industry and building code standards.
- I. Separation: If more than one WES is installed on a parcel, a distance equal to the height of the highest WES must be maintained between the bases of each WES, and all other setback requirements shall also be met.
- J. Electrical System: All electrical controls, control wiring, grounding wires, power lines and system components shall be placed underground within the boundary of each parcel at a depth designed to accommodate the existing land use to the maximum extent practicable.
- K. Public Utility Connection: If the WES is connected to a public utility it shall meet the requirements for interconnection and operation as set forth in the public utility's then-current service regulations meeting federal, state, and industry standard applicable to wind power generation facilities, and the connection shall be inspected by the appropriate public utility.
- L. Safety: All wind turbines shall be equipped with manual and automatic overspeed controls to limit rotation of blades to speed below the designed limits of the wind turbine. The certified registered engineer and authorized factory representative shall certify that the rotor and overspeed control design and fabrication conform to current engineering practices at the time of application. No changes or alterations from certified design shall be permitted unless accompanied by a certified registered engineer's and the authorized factory representative's statement of certification.
- M. Signage: A clearly visible warning sign regarding voltage shall be placed at the base of the WES.
- N. Structural Integrity: The structural integrity of each WES shall conform to the design standards of the International Electrical Commission, specifically IEC 61400-1, "Wind Turbine Safety and Design" and/or IEC 61-4000-2, "Small Wind Turbine Safety", IEC 61400-22, "Wind Turbine Certification" and IEC 61400-23, "Blade Structural Testing" or any similar successor standards. Engineering data concerning construction of the tower base must be submitted with an application and site plan. The base of the wind turbine must be constructed in such a manner that upon removal of said tower, the soil will be restored to its original condition to a depth of 4 feet.

- O. Signal Interference: The WES shall not interfere with communication systems such as, but not limited to, radio, telephone, television, satellite, or emergency communication systems.
- P. Decommissioning: The WES Owner(s) or Operator(s) shall complete decommissioning within one year after the end of the useful life or abandonment, whichever occurs first. Upon request of the Owner(s) or assigns of, and for good cause, the Planning Commission may grant a reasonable extension of time. The WES will presume to be at the end of its useful life if no electricity is generated for a continuous period of one year. All decommissioning expenses are the responsibility of the Owner(s) and/or Operator(s).
- Q. Responsibility: The landowner shall be jointly and severably responsible with the owner for complying with the requirements of this Chapter.

SECTION 26.05 SMALL WIND ENERGY SYSTEM REQUIREMENTS (SWES)

The following are required for the installation of a SWES designed to primarily serve the needs of a home, farm, or small business.

- A. Setbacks:
 - 1. Each Anemometer and SWES Tower shall comply with the following setback requirements.
 - a. The minimum setback for each Anemometer and SWES Tower to each existing structure, road right-of-way, property line, or utility line, except for those utility lines servicing the SWES, shall be specified in the Eureka Charter Township Zoning Ordinance or the Total height of the Tower, whichever is greater.
 - b. No Anemometer or SWES Tower shall be constructed closer to a Lease Unit Boundary than the Total Height of the Tower.
 - c. Setbacks from common property lines within a Lease Unit Boundary shall be waived.
 - 2. Exterior structures and equipment part of the SWES shall comply with accessory structure setback requirements for each zoning district.
- B. Zoning Districts: SWES are allowed in all zoning districts except Manufactured Home Park Residential Districts (MHR).
- C. Tower Height: Small WES and Anemometer installations shall have a tower height of 60 feet or less measuring from grade to the highest vertical point of the turbine blade.
- D. Electrical Capacity: Small WES shall have a rated nameplate capacity of 100 Kilowatts or less.
- E. Access:
 - 1. All ground mounted electrical and control equipment shall be labeled and secured to prevent unauthorized access.
 - 2. The tower shall be designed and installed without step bolts, a ladder, etc. to prevent access to the public for a minimum height of 8 feet above the ground.
- F. Shadow Flicker: SWES shall not be placed where shadow flicker disrupts a neighboring primary

residence.

- G. Construction Codes, Towers, and Interconnection Standards: SWES, including towers, shall obtain all required permits and comply with all applicable state and local construction, electrical, building, and zoning requirements and standards.
- H. Interconnection: An interconnected SWES shall comply with the Michigan Public Service Commission and Federal Energy Regulatory Commission standards. Off-grid systems are exempt from this requirement.

SECTION 26.06 LARGE WIND ENERGY SYSTEMS (LWES)

On-site WESs over 60 feet tall or with an electrical capacity exceeding 100 kilowatts of power shall only be approved as a special land use and must meet all of the following additional standards. For LWESs within a utility grid WES, the provisions of Section 26.07 shall also apply.

- A. Zoning Districts: LWES are allowed in the AG and RR districts only provided that they can meet all other requirement of this Ordinance. LWES are allowed only with Special Land Use approval.
- B. Special Land Use Permit: A Special Land Use Permit application shall be filed with the Zoning Administrator and approved by the Planning Commission prior to any physical activity to install a LWES. In addition to the submittal requirements for Site Plan Review and Special Land Use approval specified in this Ordinance, the following additional information shall be submitted with an application for a LWES:
 1. Documentation that sound pressure level, construction code, tower, interconnection (if applicable), and safety requirements have been reviewed and the submitted site plan is prepared to show compliance with these issues.
 2. Proof of the applicant's public liability insurance for the project.
 3. A copy of the portion of all the applicant's lease(s) with the land owner(s) granting authority to install the anemometer tower and/or utility grid WES; legal description of the property(ies), lease unit(s); and the site plan shows the boundaries of the leases as well as the boundaries of the Lease Unit Boundary.
 4. The phases or parts of construction with a construction schedule.
 5. The project area boundaries.
 6. The location, height, and dimensions of all existing and proposed structures and fencing.
 7. The location, grades, and dimensions of all temporary and permanent on-site and access roads from the nearest county or state road.
 8. All new infrastructure above ground related to the project.
 9. A copy of Manufacturers' Material Safety Data Sheet(s) which shall include the type and quantity of all materials used in the operation of all equipment including, but not limited to, all lubricants and coolants.

10. Lease unit boundaries encompassing more than one parcel must be approved by the Planning Commission.

C. Standards. In addition to the other requirements and standards of Section 26.06, the Planning Commission shall not approve a Special Land Use for a WES (or a modification to an existing WES special land use approval) unless all of the standards for a site plan contained in Section 4.05 of this Ordinance and all of the standards for a Special Land Use contained in Subsection 19.02 of this Ordinance are met, and that all of the following additional standards are also met:

1. If there are existing or proposed multiple WES within one (1) mile of one another, the WES shall not unreasonably visually dominate the skyline or horizon.
2. The presence of one or more WES shall not substantially change the aesthetic views and visual horizon of the area.
3. The WES shall not substantially decrease the fair market value of any parcels or lots located within 2 miles of the location of the WES. There is a presumption that this standard will not be met if the fair market value of any lot or parcel within 2 miles of the WES (except for the lot or parcel upon which the WES is located) would decrease in fair market value by more than 10% due to the presence of the WES.
4. The presence of one or more WES would not reasonably distract drivers and vehicles traveling on adjacent or nearby public roads, especially at night with the lights of the WES.
5. The WES will not change the essential character of the area or neighborhood where the WES would be located.
6. The WES location and use shall be reasonable.

D. Setbacks:

1. Each Anemometer and LWES Tower shall comply with all of the following setback requirements:
 - a. The minimum setback from each Anemometer and LWES Tower to any habitable structure, road right-of-way, property line, or utility line not servicing the LWES shall be at least four times the total height of the tower.
 - b. No Anemometer or LWES Tower shall be constructed closer to a Lease Unit Boundary than four times the total height of the tower.
 - c. Setbacks from common property lines within a Lease Unit Boundary shall be waived.
2. All operations and maintenance buildings, substations, and ancillary equipment shall comply with setback requirements as specified in the Eureka Township Zoning Ordinance.
3. Overhead transmission lines and power poles shall be constructed in compliance with the setback and placement requirements applicable to public utilities.

E. The applicant is responsible for any and all repair costs associated with damage to public roads as the result of the installation, maintenance, and /or decommissioning of the LWES.

- F. In approving any LWES, the Township may require a performance guarantee pursuant to Section 29.06 of this Ordinance.
- G. The maximum height of any WES shall not exceed 300 feet. The Planning Commission may modify this requirement at the request of the applicant if reasonably justified by information provided by the applicant to the Township. In addition, the Planning Commission may require that a WES be less than 300 feet tall if such lesser height is required because:
 - 1. A taller WES would have substantial negative esthetic and horizon sight line impacts;
 - 2. The topography in the area is not consistent with a taller WES;
 - 3. The taller height would make the WES more distracting to motorists on nearby or area public roads; or
 - 4. The taller height of the WES would cause the WES to dominate the air space and visual appearance of a nearby dwelling or dwellings.
- H. The turbine nacelle unit shall have an operating automatic fire detecting and suppression system.
- I. The WES shall have an operating de-icing system such as hot airflow built into the blades, ice sensors mounted on the nacelle and heating devices in the blades, anti-icing paint formulated to prevent formation of ice on blades, or similar systems to prevent icing and ice-throws.

SECTION 26.07 UTILITY GRID WIND ENERGY SYSTEMS

- A. Zoning Districts: Utility grid WESs are allowed in the AG and RR districts only, provided they meet all other requirements of this Ordinance and obtain Special Land Use approval.
- B. Special Use Permit: A Special Land Use Permit application shall be filed with the Zoning Administrator and approved by the Planning Commission prior to the construction of a utility grid WES. Since a utility-grade WES usually contains several LWESs, separate special land use applications for each LWES shall not be required; rather, one special land use application for the entire utility grid WES project (or that portion of the utility grid WES project within Eureka Charter Township) shall be required. In addition to the standards contained in this Section, the provisions of Sections 26.06C and 26.06G shall also apply to towers proposed together as a utility grid WES.
- C. Required Materials. In addition to the submittal requirements for Site Plan Review and Special Land Use approval specified in this Ordinance, the following additional information shall be submitted with an application for a utility grid WES:
 - 1. A noise modeling and analysis report with the site plan showing location of equipment identified as a source of noise that is placed, based on the analysis, so that the wind energy system will not exceed the maximum permitted sound pressure levels. The noise modeling and analysis shall conform to IEC 61400 and ISO 9613. After installation of the utility grid WES, sound pressure level measurements shall be done by a third party, qualified professional according to the procedures in the most current version of ANSI S12.18, at the owner or operator’s expense. All sound pressure levels shall be measured with a sound meter that meets or exceeds the most current version of

ANSI S1.4 specifications for a Type II sound meter. Documentation of the sound pressure level measurements shall be provided to the Zoning Administrator within 60 days of the commercial operation of the project.

2. A visual impact simulation showing the completed site as proposed on the submitted site plan. The visual impact simulation shall be from four viewable angles.
3. An Environment Analysis by a third party qualified licensed professional to identify and assess any potential impacts on the natural environment including, but not limited to wetlands and other fragile ecosystems, historical and cultural sites, and antiquities. The applicant shall take appropriate measures to minimize, eliminate or mitigate adverse impacts identified in the analysis, and shall show those measures on the site plan. The applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts.
4. An Avian and Wildlife Impact Analysis by a third-party qualified professional to identify and assess any potential impacts on wildlife and endangered species. The applicant shall take appropriate measures to minimize, eliminate or mitigate adverse impacts identified in the analysis, and shall show those measures on the site plan. The applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts. Sites requiring special scrutiny include wildlife refuges, other areas where birds are highly concentrated, bat hibernacula, wooded ridge tops that attract wildlife, sites that are frequented by federally and/or state-listed endangered species of birds and bats, significant bird migration pathways, and areas that have landscape features known to attract a large number of birds of prey. At a minimum, the analysis shall include a thorough review of existing information regarding species and potential habitats in the vicinity of the project area. Where appropriate, surveys for bats, birds of prey, and general avian use should be conducted. The analysis shall include the potential effects on species listed under the Federal Endangered Species Act and Michigan's Endangered Species Protection Law. The analysis shall indicate whether a post-construction wildlife mortality study will be conducted and, if not, the reasons why such a study does not need to be conducted.
5. A copy of a shadow flicker analysis at occupied structures to identify the location of shadow flicker that may be caused by the project and the expected durations of the flicker at these locations from sunrise to sunset over the course of a year. The site plan shall identify problem areas where shadow flicker may affect the occupants of the structures and show measures that shall be taken to eliminate or mitigate the problem.
6. A decommissioning plan that shows the restoration plan for the site after completion of the project that includes the following supporting documentation:
 - a. The anticipated life of the project.
 - b. The estimated decommissioning cost net of salvage value in current dollars.
 - c. The method of ensuring that funds will be available for decommissioning and restoration.
 - d. The anticipated manner in which the project will be decommissioned and the site restored.
7. A description of the complaint resolution process developed by the applicant to resolve

complaints from nearby residents concerning the construction or operation of the project. The process may use an independent mediator or arbitrator and shall include a time limit for acting on a complaint. The process shall not preclude the Township from acting on a complaint. During construction, the applicant shall maintain and make available to nearby residents a telephone number where a project representative can be reached during normal business hours.

D. Performance and Operational Standards. A utility grid WES shall meet all of the following performance and operational requirements:

1. A utility grid WES shall be maintained and kept in operational working order or shall be removed by the owner of the utility grid wind energy system.
2. The utility grid WES owner or operator shall provide the Township Zoning Administrator with a copy of maintenance inspection records and logs.
3. If there is a mechanical failure resulting in an abnormal sound emission, release of a pollutant, or a public safety hazard, the Zoning Administrator shall be notified of the event the next day of business following the event. The applicant shall provide the Township at the time of application an operational procedure for this event, a mitigation strategy, and appropriate emergency contact information. A written report describing the failure and the owner's response to the failure shall be submitted to the Zoning Administrator within 10 business days of the event. Sound emitted from a wind turbine generator that is the result of a mechanical failure or lack of maintenance may not be subject to the complaint resolution procedure outlined in this Section. Emergency contact information and a turbine reference number shall be placed in an appropriate location near the site of the turbine, such as at the gate for the access road, so it can be viewed without trespassing on private property.
4. The compatibility of the tower structure with the rotors and other components of the conversion systems shall be certified by a certified, registered engineer and by the authorized factory representative.
5. The utilization of roads and the road right of way for the construction of a wind energy system must meet the requirements set forth by the Road Commission for Montcalm County.
6. Through the appropriate placement of wind turbines, the applicant shall design to eliminate any interference such as, but not limited to, internet (Wi-Fi or satellite), AM or FM radio, cell phones, 911, satellite television, emergency systems, and digital television. Post-construction signal interference caused by the wind energy system shall be mitigated by the WES owner at their expense.
7. All wind turbines 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 the base of pole
8. Shadow Flicker Limits. Shadow flicker shall not be allowed on a non-participating parcel containing an occupied building or dwelling. Shadow flicker is measured at the nearest external wall or walls

of an occupied building or dwelling located on a non-participating parcel. If an occupied building or dwelling is built on an non-participating parcel after the issuance of a special land use permit for a utility grid wind energy system and the occupied building or dwelling is in compliance with the minimum required front, side, and rear yard setbacks then in effect within the zoning district in which the occupied building or dwelling is located, the owner of the wind energy system shall adhere to the above permissible shadow flicker limits.

9. Shadow Flicker Mitigation and Mitigation Plan. A shadow flicker detection/abatement system is required on each wind turbine generator. An equivalent type of system may be used, but only with prior approval by the Planning Commission. Shadow detection systems must be kept in good working order for the entire duration of the special land use. Shadow flicker mitigation measures for each receptor modeled to receive flicker shall be described in a mitigation plan and submitted with the application. Flicker mitigation measures may include but are not limited to, wind turbine siting changes, flicker detection/abatement system operations and procedures, grading, modifications to a dwelling and/or landscaping. If landscaping is used as a mitigation procedure, the planting of mature trees shall be required. The Planning Commission may require a performance guarantee, in the case of landscaping and/or other mitigation measures, to assure the long-term viability and effectiveness of the mitigation.
10. Abandonment. Any utility grid WES or part thereof that reaches its end of useful life shall be deemed to be abandoned; provided, however, that the owner or operator of the WES may apply to the Planning Commission, not less than three months prior to the expiration of said end of useful life period, for one additional extension of up to twelve months upon establishing, to the satisfaction of the Planning Commission, that the lack of production was caused by reasons beyond the control of the owner or operator. In determining whether such abandonment has occurred, the Planning Commission or Zoning Administrator may request, and the operator, system owner, or property owner shall provide written documentation accurately indicating the amount of electrical energy produced by the wind energy system during said end of life period. It shall be the obligation of the utility grid WES owner to remove the abandoned utility grid wind energy system.
 - a. To ensure that an abandoned wind energy system is removed, a performance bond or letter of credit, in an amount determined by the Township to be sufficient to cover the entire cost of removal, shall be submitted by the applicant prior to the issuance of the special land use. To assist the Planning Commission in determining the amount of the performance bond or letter of credit, the applicant may submit information regarding the estimated cost to remove a utility grid wind energy system.
 - b. The performance bond or letter of credit shall be conditioned upon the timely and faithful performance of the requirements of this ordinance and the special land use. The performance bond or letter of credit shall remain in effect for the duration of the special land use. The amount of the performance bond or letter of credit shall be adjusted at least every three years to reflect changes in the estimated cost of removal, based on the most recent inflation index for the cost of comparable services, as published by the U. S. Bureau of Labor Statistics, or

other applicable federal agency or another commonly accepted index.

- c. If the utility grid wind energy system owner fails to remove the wind energy system as required by this Section, then the Township is entitled to use the proceeds from the performance bond or letter of credit to have the utility grid wind energy system removed. Such removal by the Township shall not relieve the owner of the utility grid wind energy system from its removal obligation.
- d. A condition of the performance bond or letter of credit shall be written notification by the issuing company or institution to the Zoning Administrator when the performance bond or letter of credit is about to expire or be terminated.

E. Monitoring and Reporting

- 1. Bird and Bat Mortality Study. The Planning Commission may require a post-construction bird and bat mortality study completed by a third-party professional selected by the Planning Commission. The timing of such a study shall be specified as a condition of the special land use.
- 2. Post Construction Sound Survey. Documentation of sound pressure level measurements shall be provided to the Zoning Administrator by a third-party qualified professional selected by the Planning Commission and at the expense of the utility grid WES owner within 12 months of the commencement of the operation of the project. The post-construction study shall be performed at the same locations as the preconstruction study unless additional or alternative locations are required by the Planning Commission. The study should generally follow the procedures in the most recent versions of ANSI S12.9 Part 3 (with an observer present) and ANSI S12.18. All sound pressure levels shall be measured with instruments that meet ANSI or IEC Type 1 Precision integrating sound level meter performance specifications. In addition to measuring A-weighted sound levels, at least one monitoring location shall collect one-third octave band data down to 1 Hertz.
- 3. Complaint Resolution. The applicant shall submit procedures that it intends to implement for receiving, acting upon, and resolving complaints or allegations that the wind energy system is not in compliance with this ordinance.
 - a. Complaint resolution procedures must be presented at the time of application and must meet the approval of the Planning Commission prior to approval of a special land use. Those procedures, at a minimum, shall:
 - 1) Require the system owner to accept complaints regarding non-compliance with the ordinance from all property owners within the project boundary and up to one-mile radius of a wind turbine generator.
 - 2) Provide a telephone number and mailing address at which the operator can be contacted for purposes of submitting complaints or allegations of non-compliance.
 - 3) Require that all such complaints or allegations be submitted in writing.
 - 4) As a condition of the system owner acting on the complaint, require that a complainant

allow the wind energy system owner or designated staff, or other authorized personnel such as an engineer or acoustic professional, on the property of the complainant for further investigation and testing.

- 5) Set forth information that must be included in the complaint or allegation.
 - 6) Require that a complaint is acknowledged in writing by the wind turbine owner to both the complainant and the Zoning Administrator within five (5) business days of receipt of said complaint.
 - 7) Set forth the number of days, not to exceed thirty (30), in which the operator shall investigate and resolve any and all complaints or allegations, either by way of correction or formal denial of non-compliance.
 - 8) Require the operator to advise the Zoning Administrator in writing of the resolution of any complaint or allegation of non-compliance within thirty (30) days of its receipt of the same.
- b. Any complaint not resolved within thirty (30) days shall result in a performance review by the Planning Commission as described in subsection 10 below. Resolution or mitigation of a complaint that involves construction, landscaping, testing, or other significant alteration/operational condition that is dependent on seasonal or other conditions may exceed thirty (30) days if approved by the Planning Commission.
 - c. It shall be a violation of this ordinance to modify the approved complaint resolution procedures without the prior approval of the Planning Commission.
- F. Performance Review. The Planning Commission shall require a performance review of the special land use on a three-year basis or as otherwise required. The three-year time period commences after the first turbine of the wind energy system becomes operational. The Planning Commission shall provide the performance review and the Township shall perform, where reasonably practicable, an investigation regarding a complaint or other matter requiring a performance review. In its sole discretion, the Township may require the assistance of an independent third party due to the specialized nature of the complaint, conflicting evidence, or other condition. The reasonable cost of an independent third-party consultant shall be at the expense of the wind energy system owner. Failure to maintain compliance with all requirements of this section shall result in enforcement action which may include the termination of the special land use, or portions of the special land use. The purpose of the performance review is to evaluate the status of:
1. Compliance with the conditions set forth by the special land use, such as specific mitigation measures or operation procedures, and all other requirements of this Ordinance.
 2. Any changes in ownership or operation of the utility grid WES.
 3. A significant avian or bat mortality event that exceeds projected impacts described in the Wildlife Study as required by this Ordinance.
 4. A complaint taking longer than thirty (30) days to resolve may require a performance review

unless otherwise specified. If after the performance review and further investigation, the Planning Commission verifies that alleged ordinance violations are the result of the operation or condition of the wind energy system, the owner/operator shall eliminate the non-compliance by mitigation or other measures which may include temporary operational changes. The Planning Commission shall establish the effective date of the mitigation measure based on the nature of the mitigation.

5. As a condition of the Planning Commission conducting a performance review, the complainant shall be required to allow Township staff, the wind energy system owner or designated staff, or other authorized personnel such as an engineer or acoustic professional, on the property of the complainant for further investigation and testing.
6. Actions taken by the Planning Commission to terminate or modify the Special Land Use, portions of the Special Land Use, or the conditions of the Special Land Use shall require a public hearing and notification to the utility grid WES owner pursuant to the conditions of the original permit and in accordance with Section 21.06 of this ordinance.
7. Any other matters as determined by the Planning Commission.