SECTION 3.15 - LARGE WIND ENERGY CONVERSION SYSTEMS (LWECS)

1. STATEMENT OF FINDINGS:

Wind energy is an abundant, renewable, and nonpolluting energy resource. Wind energy’s conversion to electricity reduces dependence on nonrenewable energy resources, enhances the reliability and power quality of the power grid, reduces peak power demands, and diversifies the energy supply portfolio.

1. PURPOSE:

To protect public health and safety, L’Anse Township has included Large Wind Energy Conversion System Regulations into its Zoning Ordinance to regulate and provide guidance, approval, and denial processes for requests for installation of Large Wind Energy Conversion Systems (LWECS).

1. APPLICABILITY:

L’Anse Township Large Wind Energy Conversion System regulations apply to all unincorporated lands within the boundaries of L’Anse Township.

1. DEFINITIONS (apply only to this section):

“Applicant” means the person or persons, or entity applying for installation of a Large Wind Energy Conversion System.

“Decommissioning” means removal of a Large Wind Energy Conversion System or Met or SCADA Tower due to in-operation for a continuous period of 12 months, or the Large Wind Energy System is deemed to be unsafe or out of compliance with federal, state and/or local regulations or codes.

“Flicker” or “Shadow Flicker” means the effect that results when the shadow cast by the rotating blade of a Large Wind Energy System moves across a fixed point.

“Met or SCADA (Supervisory Control and Data Acquisition) Tower” means a tower, including any anchor, base, base plate, boom, cable, electrical or electronic equipment, guy wire, hardware, indicator, instrument, telemetry device, vane, wiring, or any other device, that is used to collect or transmit meteorological data, including wind speed and wind flow information, in order to monitor or characterize wind resources at or near an existing or proposed Large Wind Energy Conversion System.

“Owner” means the person or persons, or entity that owns or proposes to own a Large Wind Energy System or Met or SCADA Tower and the property on which the Large Wind Energy System or Met or SCADA Tower is or proposes to be located.

“Large Wind Energy Conversion System” (LWECS) means a Wind Energy System that has a capacity of more than 100 kilowatts, or a total height of 170 feet or more, or both.

“Nonparticipating Property” means real property on which either there is no Large Wind Energy System, or there is a Large Wind Energy System that is in a different Wind Farm System than another Large Wind Energy System.

“Participating Property” means real property on which a Large Wind System is located and that is in the same Wind Farm System as another Large Wind Energy System.

“Special Land Use Permit” means a permit for the installation of a Large Wind Energy System, as described in Article 13, Special Land Use Permits, of the L’Anse Township Zoning Ordinance.

“Total Height” means the vertical distance from ground level to the tip of a wind generator blade when the tip is at its highest point.

“Tower” means either the freestanding, guyed, or monopole structure that supports a wind generator or the freestanding, guyed, or monopole structure that is used as a Met or SCADA Tower.

“Wind Energy Conversion System” means equipment that converts and then stores or transfers energy from the wind into usable forms of energy and includes any base, blade, foundation, generator, rotor, tower, transformer, turbine, vane, wire, or other component used in the system.

“Wind Generator” means the mechanical and electrical conversion components mounted on or near the Tower.

“Wind Farm System” means a Large Wind Energy System that includes more than one Tower.

1. STANDARDS

The following standards shall be met before consideration by the Township of an application for a Large Wind Energy System, or a Met or SCADA Tower.

* 1. Zoning and Setbacks

A Large Wind Energy Conversion System may only be located in areas in L’Anse Township that are zoned Forest Resource or Industrial.

A Tower must be set back:

* + 1. At least 1.5 times its total height from the property line of a participating property;
		2. At least 1.5 times its total height from any public road or power line right- of-way; and
		3. At least 2,500 feet from the property line of a Nonparticipating Property, unless the owner of the Nonparticipating Property grants an easement for a lesser setback. The easement must be recorded with the Registrar of Deeds and may not provide a setback that is less than 1.5 times the total height of the Large Energy Wind System.
		4. At least 5 miles or the recommended setback of the US Fish and Wildlife Service, whichever is grater landward from the shorelines of Lake Superior and any bays.

Exceptions to the above zoning and setback requirements may be requested by the Owner during the Application Process as set forth in Section 16.6 of this *Ordinance*. Approval or denial of exceptions shall be at the sole discretion of the Township Planning Commission and Township Board.

* 1. Spacing and Density

A Large Wind Energy System shall be limited to one (1) per square mile section and spaced at least fifteen (15) times rotor diameter from one another.

* 1. Structure

A Large Wind Energy Conversion System must be a monopole construction to the extent practical. If monopole construction is not practical, a Large Wind Energy System must be of free-standing construction to the extent practical. If monopole or free-standing construction is not practical, a Large Wind Energy System must be guyed.

* 1. Height

The total height of a Large Wind Energy System must be 330 feet or less.

* 1. Noise

The noise generated by the operation of a Large Wind Energy System shall not exceed 40dB(A) at the property line closest to the Large Wind Energy Conversion System. Exceptions for neighboring property are allowed with the written consent of those property owners. Noise measurements shall be conducted consistent with ANSI S12.18 Procedures for Outdoor Measurement of Sound Pressure Level and ANSI S12.9 Part 3 (Quantities and Procedures for Description and Measurement of Environmental Sound - Part 3: Short-term Measurements with an Observer Present), using Type 1 meter, A-weighting, Fast Response.

* 1. Blade Clearance

The vertical distance from ground level to the tip of a wind generator blade when the blade is at its lowest point must be at least seventy-five (75) feet.

* 1. Access

A Large Wind Energy System, including any climbing aids, must be secured at all times against unauthorized access by means of a locked barrier or security fence.

* 1. Electrical Wires and Equipment

All electrical wires associated with a Large Wind Energy Conversion System, other than wires necessary to connect the wind turbine to its base and to overhead collection lines, must be located underground. Any electrical equipment associated with a Large Wind Energy Conversion System must be located under the sweep area of a blade assembly.

* 1. Lighting

A Large Wind Energy System may not be artificially lighted unless such lighting is required by the Federal Aviation Administration (FAA). If lighting is required, the lighting must comply with FAA minimum requirements and, whenever possible, be at the lowest intensity allowed, avoid the use of strobe or other intermittent white lights, and use steady red lights. If more than one lighting alternative is available, the alternative that causes the least visual disturbance must be used.

* 1. Appearance, Color, and Finish

The exterior surface of any visible components of a Large Wind Energy Conversion System must be a non-reflective, neutral color. Towers and turbines in a Wind Farm System that are located within one mile of each other must be of uniform design, including Tower type, color, number of blades, and direction of blade rotation.

* 1. Signs

No wind turbine, Tower, building or other structure associated with a Large Wind Energy Conversion System may be used to advertise or promote any product or service. No word or graphic representation, other than appropriate warning signs and owner or landowner identification, may be placed on a wind turbine, Tower, building, or other structure associated with a Large Wind Energy Conversion System.

A sign shall be posted near the tower or Operations and Maintenance Office building that will contain emergency contact information. Signage placed at the road access shall be used to warn visitors about the potential danger of falling ice. The minimum vertical blade tip clearance from grade shall be seventy-five (75) feet for a wind energy system employing a horizontal axis rotor.

* 1. Code Compliance

A Large Wind Energy System must comply with all applicable federal, state, and local construction and electrical codes. A Large Wind Energy Conversion System must comply with Federal Aviation Administration requirements, as well as State of Michigan Airport Zoning and Tall Structures Acts. The owner must provide written certification from a state licensed inspector showing that the Large Wind Energy System complies with all applicable codes before placing the Large Wind Energy Conversion System into operation.

LWECS' shall have built-in fire detection and suppression systems acceptable to the Township.

* 1. Signal Interference

The owner of a Large Wind Energy Conversion System must filter, ground, and shield the Tower, and take any other reasonable steps necessary to prevent, eliminate, or mitigate any interference with the transmission and reception of electromagnetic communications, such as microwave, radio, telephone, or television signals.

* 1. Utility Interconnection

A Large Wind Energy System that connects to the electric utility grid must comply with the State of Michigan Public Service Commission and the Federal Energy Regulatory Commission standards.

* 1. Environmental Impacts

A Large Wind Energy System shall comply with all applicable State and Federal laws.

* 1. Flicker or Shadow Flicker

The owner of a Large Wind Energy Conversion System must take such reasonable steps as are necessary to prevent, mitigate, and eliminate Shadow Flicker on any occupied structure on a Nonparticipating Property. Under no circumstances, shall a LWECS or testing facility produce shadow flicker, or strobe-effect, on properties without a signed release from affected Participating and Non-participating landowners. Such releases shall be recorded with the Baraga County Register of Deeds waiving these requirements.

17. Waste Removal

All solid waste whether generated from supplies, equipment, parts, packaging, or operation or maintenance of the facility, including old parts and equipment, shall be removed from the site within (30) days of the date such solid waste was generated. ALL HAZARDOUS WASTE generated by the operation and maintenance of the facility, including but not limited to lubricating materials, shall be handled in a manner consistent with all local, state and federal rules and regulations.

1. APPLICATION PROCESS:

Requests for Large Wind Energy Conversion Systems shall be submitted for review, approval, or denial in accordance with Article 13 (Special Land Uses), and in conformance with Article 14 (Site Plan Review), and Article 16 (Zoning Board of Appeals) of the Township’s Zoning Ordinance, as appropriate and applicable. Requests shall be accompanied by payment of a fee as designated in the Township’s Schedule of Fees and updated from time to time. In addition the Township’s application fee, the applicant may be required to cover legal, professional, or expert assistance costs incurred by the Township in the review, approval or denial of a request for a Large Wind Energy Conversion System.

If a Special Land Use Permit (Permit) is granted, it will expire if the Large Wind Energy System is not installed and functioning within two (2) years from the date the Permit is issued.

In addition to the information required in the aforementioned section, the applicant shall provide the following in writing:

* 1. The applicant and landowner’s name and contact information. If the applicant is a business entity, the applicant shall provide the name of the business, certificate of incorporation (if applicable), certificate of good standing, and business tax ID number.
	2. Current property description (address, tax parcel numbers, legal description, and existing use and acreage of the site).
	3. A survey map which clearly delineates the proposed location of the Large Energy Wind Conversion System, existing or planned access roads, boundaries of the parcel, adjacent property ownerships and existing residences, schools, churches, hospitals, libraries or other structures to a distance one-half mile.
	4. A survey map which clearly delineates any federal, state, county or local parks, recognized historic or heritage sites, state-identified wetlands, inland lakes or streams, or shoreland, water bodies, waterways and drainage channels. LWECS may not impede the flow of water.
	5. Number, description, design, and manufacturer’s specifications of each Large Wind energy System and Met or SCADA Tower, including the manufacturer, model, capacity, blade length, lighting, and total height of any Large Wind Energy Conversion System.
	6. Standard drawings or blueprints that have been approved by a registered professional engineer showing a cross section, elevation, and diagram for any Tower and Tower foundation, including a certification showing compliance with all applicable electrical and building codes.
	7. Data pertaining to the Tower’s safety and stability, including safety results from test facilities.
	8. Proposal for landscaping and screening.
	9. A completed environmental assessment, demonstrating compliance with applicable parts of the US Fish & Wildlife Guidelines and the State of Michigan Natural Resources and Environmental Protection Act, including but not limited to Water Resources Protection, Soil Erosion and Sedimentation Control, Inland Lakes and Streams, Shoreland Protection and Management, Great Lakes Submerged Lands and Sand Dunes Protection and Management. Site plan and other documents and drawings shall show mitigation measures to minimize potential impacts on avian and wildlife, as identified in the Avian and Wildlife Impact analysis. Turbines must include technology acceptable to the Township that minimizes the risk of harm based on critical periods for migration and active bat season (June through September), time of day (dawn to dusk), and wind speed. This may include but not limited to overall design, intermittent operation, and placement.

The applicant shall take appropriate measures to minimize, eliminate or mitigate adverse impact 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.

* 1. A project visibility map based on an elevation model, showing the impact of topography upon visibility of the project from other locations, to a radius of three

 (3) miles from the center of the project.

* 1. Statement describing any hazardous materials that will be used on the property, and how those materials will be stored.
	2. Location of any overhead utility lines adjacent to the property.
	3. Written documentation demonstrating compliance with all requirements set forth in this *Ordinance*.
	4. Written statement that the owner will construct and operate the Large Wind Energy Conversion System, Met or SCADA Tower, or Wind Farm System in compliance with all applicable local, state and federal codes, laws, orders, regulations, and rules.
	5. Written statement that the owner will install and operate the Large Wind Energy System, Met or SCADA Tower, in compliance with manufacturer’s specifications.
	6. Proof of financial assurance in form satisfactory to the Township that the applicant has the financial capacity to satisfactorily construct, install and meet all requirements set forth in this section for Large Wind Energy Conversion Systems.
	7. A copy of a noise modeling and analysis report and the site plan shall show locations of equipment identified as a source of noise which 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, ISO 9613, ANSI S12.9 part 2, and ANSI S12.9 part 3. After installation of the Utility Grid wind energy system, 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. 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**.**
	8. A detailed traffic, road modification plan to accommodate delivery of components along existing and proposed roads and return of those roads and adjacent lands to their original condition after construction.
	9. A shadow flicker analysis and report shall be completed for the project. The analysis shall include potential shadow flicker created by each proposed wind turbine in any non-participating properties. Such analysis shall be documented in a shadow flicker modeling report to be submitted as part of the Special Land Use Permit Application to the Planning Commission
	10. A decommissioning plan acceptable to the Township detailing the useful life of each type and size of turbine located in the project. Decommissioning plans shall include a description of how any surety bonds are applied to the decommissioning process. The plan shall include: (a) the anticipated life of the project, (b) the estimated decommissioning costs 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 to original condition and (e) Detailed policy and process book for the repair, replacement, and removal of malfunctioning, defective, worn, or non-compliant LWECS components.
	11. Proof of liability insurance for the LWECS without interruption until removed of at least $2,000,000 per turbine to protect the LWECS owner/operator, the Township, and the property owner.
	12. Written statement signed by the landowner acknowledging that the landowner is financially responsible if the owner fails to reclaim the site as required by Section G of this Article, and that any removal and reclamation costs incurred by the Township will become a lien on the property and may be collected from the landowner in the same manner as property taxes. In this regard, the owner must provide a performance bond, completion bond, or other financial assurance satisfactory to the Township of at least $800,000 for each Large Wind Energy

Conversion System to guarantee the performance of the removal and reclamation requirements stated in Section H of this Article. Failure to keep such financial security in full force and effect at all times while the structure exists or to otherwise fail to comply with the requirements of this Ordinance shall constitute a material and significant violation of a special use approval and will subject the current WECS owner/operator to all available remedies to the Township, including enforcement action, fines, and revocation of the special use approval.

1. ESCROW ACCOUNT

The applicant must establish an escrow account when it submits its application for a LWECS. The amount must equal an estimate of the total costs of (1) reviewing and processing the special use permit application and site plan, including publication and administrative costs and costs of the Township Attorney, Township Planner, and Township engineer; and (2) any professional studies or report prepared by the Township or on the Township’s behalf to assist with its evaluation of the application.

The Township may draw from the escrow account to reimburse any of its costs or expenses incurred in reviewing, processing, and evaluating the application. The Township may require the applicant to replenish the escrow account at any time to ensure a sufficient balance.

If the Township instructs the applicant to replenish the escrow account and the applicant fails to do so within 14 days after receiving notice, then the Township has no further obligation to process the applicant’s application until the escrow account is replenished.

Any funds in the escrow account that exceed the Township’s actual costs after the application is approved or denied (and after any and all appeals have been exhausted) will be returned to the applicant. The Township will provide an itemized statement to the applicant upon applicant’s request.

1. DECOMMISSIONING

A Large Wind Energy Conversion System or Met or SCADA Tower that is out-of-service for a continuous period of 12 months, or is deemed unsafe or out-of-compliance with applicable federal, state or local codes or regulations, the Zoning Administrator may issue a Decommissioning Notice (Notice) to the owner. If, within thirty (30) days of receipt of a Notice the owner provides the Zoning Administrator with information satisfactory to the Zoning Administrator that the Large Wind Energy Conversion System or Met or SCADA Tower has not been abandoned, or is not unsafe or out-of-compliance with applicable federal, state or local codes or regulations, the Zoning Administrator will withdraw the Notice.

If the owner does not provide sufficient evidence that the Large Wind Energy Conversion System or Met or SCADA Tower has not been abandoned, or is not unsafe or out-of- compliance, within 120 days of receipt of the Notice, the owner must cause the removal of the Large Wind Energy Conversion System or Met or SCADA Tower and reclamation of the site. All foundations, pads, and underground electrical wires must be reclaimed to a depth of four (4) feet below the surface of the ground. All hazardous materials must be removed and disposed of in accordance with federal and state law. If the owner fails to cause the removal of the Large Wind Energy Conversion System or Met or SCADA Tower within 120 days of the Notice, the cost of removal and reclamation will become a lien upon the property and may be collected in the same manner as property taxes.

1. ENFORCEMENT

The Zoning Administrator may enter any property for which a Special Land Use Permit (Permit) has been issued under this *Ordinance* to conduct an inspection to determine whether there is any violation of this *Ordinance*, or whether the conditions stated in the Permit have been met. The Zoning Administrator, or the Sheriff or Sheriff’s designee at the request of the Zoning Administrator may issue a municipal civil infraction citation for any violation of this *Ordinance*. Any person who fails to comply with any provision of this *Ordinance* or conditions stated in the Permit shall, upon conviction, be fined not less than $500 or more than $1,000 for each offense, together with costs of prosecution for each violation. The Township may bring an action for injunction to restrain, prevent, or abate any violation of this Ordinance.

1. CHANGE IN OWNERSHIP

A special land use permit granted for a LWECS is transferrable. The proposed new LWECS owner/operator must register with the Township Clerk before the transfer of ownership or operation of the LWECS. The new LWECS owner/operator must comply with all requirements of this Ordinance and any special land use permit issued pursuant to this section and must maintain a financial security guarantee as required under this section.

1. COMPLAINT RESOLUTION

A complaint resolution process shall be established by the L'Anse Township Board. The form shall be, but not limited to:

A. Receiving and Forwarding of Complaints: The L'Anse Township Board shall select a complaint resolution process that is independent of the facility operator or owner and that reports to the Township first and operator second.

B. Investigation of Complaints: Township shall initiate an investigation into a complaint within utilizing escrow funds to hire the appropriate expert(s).

C. Hearing of Complaints: The Township Board shall set a hearing date after completion of the Investigation of Complaints where experts, residents and/or the Applicant may present information before the Township Board. Notice of hearing shall be via certified mail.

D. Decision of Complaints: The Township Board shall issue a decision and corrective actions following Hearing of Complaints.

Applicant shall be required as a condition of approval to fund an escrow account for investigation of complaints for, but not limited to, shadow flicker, stray voltage, noise, and signal interference to the amount of $20,000 to be used at the discretion of the Township Board. When escrow account balance is below $5,000, the Township shall notify Applicant and Applicant shall replenish the account in the amount of $20,000 within forty-five (45) days.

1. PRECEDENCE

Any conflicts that may exist between this Section (Section 3.17 - Large Wind Energy Conversion Systems) and any other sections of the L’Anse Township Zoning Ordinance, this Section shall take precedence.

SECTION 6.03 – SPECIAL LAND USES

The following uses are allowed as Special Land Uses pursuant to the requirements of Section 13 of this *Ordinance*:

G. LWECS , which shall meet the requirements of Section 3.15 of this *Ordinance*.

SECTION 10.03 – SPECIAL LAND USES

The following uses are allowed as Special Land Uses pursuant to the requirements of Section 13 of this *Ordinance*:

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SECTION 11.03 – SPECIAL LAND USES

The following uses are allowed as Special Land Uses pursuant to the requirements of Section 13 of this Ordinance:

K. LWECS , which shall meet the requirements of Section 3.15 of this *Ordinance*.