

4.8. WIND ENERGY CONVERSION SYSTEMS SITING

4.8.1. Purpose. It is the purpose of this Section to:

1. Assure that any development and production of wind-generated electricity in Boone County is safe and effective.
2. Facilitate economic opportunities for local residents.
3. Promote the supply of wind energy in support of Illinois' statutory goal of increasing energy production from renewable energy sources.

4.8.2. Applicability. This ordinance governs the siting of wind energy conversion systems (WECS) and Substations that generate electricity to be sold to wholesale or retail markets, except that owners of WECSs with an aggregate generating capacity of 1.5 MW or less and that locate the WECS on their own property are not subject to requirements of this Section.

4.8.3. Prohibition. No WECS or Substation governed by section 4.8.2 of this ordinance shall be constructed, erected, installed, or located within Boone County unless prior siting approval (approved special use and building permit issuance) has been obtained for each individual WECS and Substation pursuant to this Ordinance.

4.8.4. Special Use Permit Requirements. In addition to the standards and criteria established in Section 2.7, herein, no Special Use Permit shall be granted for the use(s) listed below unless evidence is presented to establish that the standards and criteria set forth herein have been met.

4.8.5. Definitions. The following words and terms when used in the interpretation and administration of this Section 4.8 shall have the meaning set forth herein except where otherwise specifically indicated.

Applicant: Shall mean the entity or person who submits to the County an application for the siting of any WECS or Substation.

Financial Assurance: Shall mean reasonable assurance from a credit-worthy party; examples of which include a surety bond, trust instrument, cash escrow, or irrevocable letter of credit.

Operator: Shall mean the entity responsible for the day-to-day operation and maintenance of the WECS and substations, including any third party subcontractors.

Owner: Shall mean the entity or entities with an equity interest in the WECS(s), including their respective successors and assignees. Owner does not mean (1) the property owner from whom the land is leased for locating the WECS, unless the

property owner has an equity interest in the WECS, or (2) any person holding a security interest in the WECS solely to secure an extension of credit, or a person foreclosing on such security interest provided that after foreclosure, such person seeks to sell the WECS at the earliest practicable date.

Professional Engineer: Shall mean a qualified individual who is licensed as a professional structural engineer in the State of Illinois.

Primary Structure: Shall mean, for each property, the structure that one or more persons occupy the majority of the time on that property for either business or personal reasons. Primary Structure includes structures such as residences, commercial buildings, hospitals, and day care facilities. Primary Structure excludes such structures as hunting sheds, storage sheds, pool houses, unattached garages and barns.

Substation: Shall mean the apparatus that connects the electrical collection system of the WECS and increases the voltage for connection with the utility's transmission lines.

Wind Energy Conversion System (WECS): Shall mean all necessary devices that together convert wind energy into electricity, including the rotor, nacelle, generator, WECS Tower, electrical components, WECS foundation, transformer and electrical cabling from the WECS tower to the Substation.

WECS Project: Shall mean the collection of WECS(s) and substations specified in the siting approval application pursuant to Section 4.8.6 of this ordinance.

WECS Tower: Shall mean the support structure to which the nacelle and rotor are attached.

WECS Tower Height: Shall mean the distance from the rotor blade at its highest point to the top surface of the WECS foundation.

4.8.6 Special Use Application Requirements. In addition to the Special Use Permit requirements per Section 2.7, a WECS Applicant shall meet with county representatives in a pre-application meeting and submit to Boone County descriptions, site plans, studies, reports, certifications and approvals demonstrating compliance with the ordinance.

- A. A pre-application meeting shall be held with representatives from the Planning Department, Building Department, County Highway Department, impacted Township, the Boone County Soil and Water Conservation District and all other applicable departments and agencies as determined by the Planning Department.
- B. In addition to a special use permit application per section 2.7, a WECS applicant shall submit to the Boone County Planning Department a "WECS Project Summary," including, to the extent available:

1. A general description of the project, including its approximate name plate generating capacity, the potential equipment manufacturer(s), type(s) of WECSs, number of WECSs and name plate generating capacity of each WECS, the maximum height of the WECS tower(s) and the maximum diameter of the WECS(s) rotors.
 2. A description of the general location of the project.
 3. A description of the Applicant, Owner, and Operator, including their respective business structures (business form).
 4. A general business plan outlining all major WECS related events that will take place over the useful life of the WECS project.
 5. The names, addresses, and phone numbers of the Applicants, Owners, Operators, and all property owners included in the Application.
 6. A site plan for the installation of WECSs showing the planned location of each WECS tower, guy lines and anchor bases (if any), Primary Structure(s), property lines including identification of adjoining properties, setback lines, public access roads and turnout locations, substations, electrical cabling from the WECS tower to the substations, ancillary equipment, third party transmission lines, and layout of all structures within the geographical boundaries of the setback established in Section 4.8.7.H.
 7. All required studies, reports, certifications, and approvals demonstrating compliance with the provisions of this Ordinance (including but not limited to: Natural Resource Areas, Bird and Bat Migration Paths, Shadow Flicker, Noise Levels, Vibration Levels).
 8. The Applicant shall notify the Planning Department of any changes to this information that occur while the Special Use Permit application is pending.
- C. For Special Use Permit applications involving multiple WECS towers, only one application is required. Although processed as one Special Use, each tower within a WECS Special Use shall be charged the established Special Use fee.

4.8.7 Design and Installation.

- A. DESIGN SAFETY CERTIFICATION.

1. WECSs shall conform to applicable industry standards, including those of the American National Standards Institute (ANSI). Applicants shall submit certificates of design compliance that equipment manufacturers have obtained from Underwriters Laboratories (UL), Det Norske Veritas (DNV), Germanischer Lloyd Wind Energie (GL), or an equivalent third party.
 2. Following the granting of siting approval and Special Use Permit under this Ordinance, a professional structural engineer shall certify, as part of the building permit application that the foundation and tower design of the WECS is within accepted professional standards, given local soil and climate conditions.
- B. CONTROLS AND BRAKES. All WECS shall be equipped with a redundant braking system. This includes both aerodynamic over speed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over speed protection.
- C. ELECTRICAL COMPONENTS. All electrical components of the WECS shall conform to applicable local, state, and national codes, and relevant national and international standards e.g., ANSI and International Electrical Commission.
- D. COLOR. Towers and blades shall be painted white or gray or another non-reflective, unobtrusive color. No advertisement or signs shall be allowed.
- E. COMPLIANCE WITH THE FEDERAL AVIATION ADMINISTRATION. The applicant for the WECS shall comply with all applicable FAA requirements. Evidence of compliance shall be submitted with the siting request.
- F. WARNINGS:
1. A reasonably visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.
 2. Visible, reflective, colored objects, such as flags, reflectors, or tape shall be placed on the anchor points of guy wires and along the guy wires up to a height of fifteen (15) feet from the ground.
- G. CLIMB PREVENTION. All WECS towers must be un-climbable by design or protected by anti-climbing devices including, but not limited to:
1. Fences with locking portals at least six (6) feet high; or

2. Anti-climbing devices twelve (12) feet vertically from the base of the WECS tower.

H. **SETBACKS.** All WECS towers shall provide the following minimum setbacks:

1. From Primary Structure(s): One thousand (1,000) feet from any Primary Structure. The distance shall be measured from the point of the Primary Structure foundation closest to the WECS tower to the center of the WECS tower foundation. The owner of the Primary Structure may waive this setback requirement but in no case shall a WECS tower be located closer to a Primary Structure than 1.10 times the WECS tower's height.
2. From property lines not part of the Special Use petition: All WECS towers shall be setback a distance of at least 1.10 times the WECS tower's height. The County may waive this setback requirement.
3. From public roads, third party transmission lines, and communication towers: 1.10 times the WECS tower's height
4. The Applicant does not need to obtain a variance from the County upon waiver by either the County or property owner of any of the above setback requirements. Any waiver of any of the above setbacks shall run with the land and be recorded as part of the chain of title in the deed of the subject property.

I. **COMPLIANCE WITH ADDITIONAL REGULATIONS.** Nothing in this Ordinance is intended to preempt other applicable state and federal laws and regulations.

J. **USE OF PUBLIC ROADS.**

1. **Road Agreement.** A road agreement that includes all effected jurisdictions (municipal, township, county, state, etc.) must be agreed upon by all parties and recorded with the Boone County Recorder's Office. A signed agreement must be recorded prior to the issuance of the first building permit. The agreement shall include but not be limited to:

A. An applicant, owner, or operator proposing to use any Boone County roads for the purpose of transporting WECS or substation parts and/or equipment for construction, operation, or maintenance of the WECSs or substations, shall:

1. Identify all such public roads; and

2. Obtain applicable weight and size permits from relevant government agencies prior to construction.

B. To the extent an applicant, owner, or operator must obtain a weight or size permit from the county, the applicant, owner, or operator shall:

1. Conduct a pre-construction baseline survey to determine existing road conditions for assessing potential future damage; and

2. Secure financial assurance, in a reasonable amount agreed to by the relevant parties, for the purpose of repairing any damage to public roads caused by constructing, operating, or maintaining the WECS.

4.8.8. Operation.

A. MAINTENANCE.

1. The owner or operator of the WECS must submit, on an annual basis, a summary of the operation and maintenance reports to the Zoning Administrator. In addition to the above annual summary, the owner or operator must furnish such operation and maintenance reports as the county reasonably requests.
2. Any physical modification to the WECS that alters the mechanical load, mechanical load path, or major electrical components shall require re-certification under Section 4.8.7.A.1 of this ordinance. Like-kind replacements shall not require re-certification. Prior to making any physical modification (other than like-kind replacements) the owner or operator shall confer with a third-party certifying entity identified in Section 4.8.7.A.1 to determine whether the physical modification requires re-certification.

B. INTERFERENCE.

1. The Applicant shall provide the applicable microwave transmission providers and local emergency service providers and local emergency providers (e.g., 911 operators) copies of the project summary and site plan, as set forth in Section 4.8.6.B.3. The Applicant shall provide evidence that any potential interference has been resolved to the satisfaction of the providers. If, after construction of the WECS, the Owner or Operator receives a written complaint related to the above-mentioned interference, the

Owner or Operator shall take reasonable steps to resolve the complaint.

2. If, after construction of the WECS, the Owner or Operator receives a written complaint related to interferences with local broadcast residential television, the Owner or Operator shall take reasonable steps to resolve the complaint.

C. COORDINATION WITH LOCAL FIRE DEPARTMENTS:

1. The Applicant, Owner or Operator shall submit to the local fire department(s) a copy of the site plan.
2. Upon request by the local fire department(s), the Owner or Operator shall cooperate with the fire department(s) to develop the fire department's emergency response plan.
3. Nothing in this section shall alleviate the need to comply with all other applicable fire laws and regulations.

D. MATERIALS HANDLING, STORAGE AND DISPOSAL:

1. All solid wastes related to the construction, operation and maintenance of the WECS shall be removed from the site promptly and disposed of in accordance with all federal, state, and local laws.
2. All hazardous materials related to the construction, operation and maintenance of the WECS shall be handled, stored, transported and disposed of in accordance with all applicable local, state and federal laws.

4.8.9. Noise Levels. Noise levels from each WECS or WECS Project shall be in compliance with applicable Illinois Pollution Control Board regulations. The applicant, through the use of a qualified professional, as part of the Special Use Permit application approval process, shall appropriately demonstrate compliance with the above noise requirements.

4.8.10. Birds. A qualified professional, such as an ornithologist or wildlife biologist, shall conduct an avian habitat study, as part of the Special Use Permit application approval process, to determine if the installation of WECSs will have a substantial adverse impact on birds. The applicant must take reasonable action to mitigate such adverse impacts on habitat and migration.

4.8.11. Public Participation. Nothing in the ordinance is meant to augment or diminish existing opportunities for public participation such as public hearings and open meetings.

4.8.12. Liability Insurance. The owner or operator of the WECS shall maintain a current general liability policy covering bodily injury and property damage with limits of at least one million dollars per occurrence and one million dollars in the aggregate.

4.8.13. Decommissioning and Site Reclamation Plan Required. At the time of Special Use Permit application, the County and the Applicant, Owner and/or Operator must formulate a Decommissioning and Site Reclamation Plan to ensure that the WECS Project is properly decommissioned. The decommissioning and site reclamation plan shall be binding upon all successors of title to the land. A signed decommissioning and site reclamation plan must be submitted to the Zoning Administrator prior to the granting of the special use permit.

The applicant or subsequent project operator shall ensure that the WECS facilities are properly decommissioned within twelve (12) months of the end of the project life or the facility abandonment. The applicant or subsequent project operator's obligations shall include removal of all physical material of the project improvements to a depth of 48 inches beneath the soil surface and the restoration of the area as near as practicable to the same condition prior to construction.

A. A Decommissioning and Site Reclamation Plan shall be prepared by an independent Illinois Certified Professional Engineer and shall include:

1. Provisions describing the triggering events for decommissioning the WECS project;
2. A description of the methodology and cost to remove all above ground and below ground WECS facilities of the approved special use permit;
3. Provisions for the removal of all above ground and below ground WECS facilities of the approved special use permit;
4. Methodology and cost to restore all areas used for construction, operation and access to a condition equivalent to the land prior to the WECS construction;
5. A work schedule and a permit list necessary to accomplish the required work;

6. Methodology to identify and manage any hazardous or special materials.
 7. Proof that the necessary amount and form of financial security has been received by the county in the form of an escrow account that names Boone County as the beneficiary. The amount of security shall be equal to the positive difference between the total cost of all decommissioning and restoration work and the net salvage value of all removed WECS equipment or materials, plus a ten-percent contingency. To determine that amount, the WECS owner and the Boone County Board shall: 1) obtain bid specifications provided by a professional structural engineer; 2) request estimates from construction/demolition companies capable of completing the decommissioning of the WECS project; The Boone County engineer, an independent engineer of the county's choosing, the zoning administrator and the zoning enforcement offices will review all estimates and make a recommendation to the Boone County Board for an acceptable estimate. Boone County reserves the right to pursue other estimates; 3) certification of the selected estimate by a professional structural engineer. All costs to secure the estimates will be funded by the WECS owner.
 8. A provision that the terms of the decommissioning plan shall be binding upon the WECS Owner or Operator and any of their successors, assigns, or heirs;
 9. Confirmation by affidavit that the obligation to decommission the WECS facilities is included in the lease agreement for every parcel included in the special use application. A list of all landowners should be kept current and affidavits shall be secured from future WECS owners and landowners stating their financial understanding;
 10. A provision that allows for the county to have the legal right to transfer applicable WECS material to salvage firms;
 11. Identification of and procedures for Boone County to access the Financial Assurances; and
 12. A provision that Boone County shall have access to the site, pursuant to reasonable notice to affect or complete decommissioning. A portion of the escrow account will be required to be held for one year past the decommissioning to settle any potential disputes.
- B. Provisions triggering the decommissioning of any portion of the WECS project due to abandonment:

1. Inactive construction for 12 consecutive months or if there is a delay in obtaining electrical certification for 12 consecutive months, unless a signed document is provided by the utility company claiming responsibility for the delay.
 2. If no electricity is generated by an individual turbine or the entire project for twelve consecutive months after electricity is initially generated, unless proof is provided that new parts have been ordered and will be received within six months. The Boone County Zoning Administrator shall have access to records in order to determine the electric generation of every turbine.
 3. The principal company dissolves or chooses to walk away from the project.
 4. If any part of an individual turbine or the project falls into disrepair, is in threat of collapsing or any other health and safety issue.
- C. Provisions for the removal of structures, debris and cabling; both above and below the soil surface:
1. Items required to be removed include but are not limited to: turbines, transformers, foundation pads, electrical collection systems and transporters, underground cables, fencing, access roads and culverts. A landowner must sign an agreement if they wish for the access roads or culverts to remain.
- D. Provisions for the restoration of soil and vegetation:
1. All affected areas shall be inspected, thoroughly cleaned and all construction related debris shall be removed.
 2. Items required to be restored include but are not limited to: windbreaks, waterways, site grading, drainage tile systems and topsoil to former productive levels.
 - a. In work areas involving decommission from expansion of turbine crane pads, widening access roads or any other work areas, the topsoil must be first removed, identified and stored separate from other excavated material for later replacement as applicable.
 - b. The 48-inch below-surface excavation area shall be filled with clean sub-grade material of similar quality to that in the immediate surrounding area.

- c. All sub-grade material will be compacted to a density similar to surrounding grade material.
 - d. All unexcavated areas compacted by equipment used in decommissioning shall be de-compacted in a manner that adequately restores the topsoil and sub-grade material to the proper density consistent and compatible with the surrounding area.
 - e. Where possible, the topsoil shall be replaced to its original depth and surface contours.
 - f. Any topsoil deficiency and trench settling shall be mitigated with imported topsoil that is consistent with the quality of the effected site.
3. Disturbed areas shall be reseeded to promote re-vegetation of the area to a condition reasonably similar to the original condition. A reasonable amount of wear and tear is acceptable.
 4. Restoration measurements shall include: leveling, terracing, mulching and other necessary steps to prevent soil erosion; to ensure establishment of suitable grasses and forbs; and to control noxious weeds and pests.
 5. Items required to be repaired after decommissioning include but are not limited to: roads, bridges and culverts.
 6. An independent drainage engineer shall be present to insure drainage tiles, waterways, culverts, etc. are repaired as work progresses.
 7. A soil erosion control plan shall be approved by the Boone County Soil and Water Conservation District.
 8. All Stormwater management, floodplain and other surface water codes and ordinances shall be followed.

E. Estimating the costs of decommissioning:

1. Costs shall include but not be limited to engineering fees, legal fees, accounting fees, insurance costs, decommissioning and site restoration.
2. When factoring the WECS salvage value into decommissioning costs, the authorized salvage value may be deducted from decommissioning costs if the following standards are met:

- a. The net salvage value shall be based on the average salvage price of the past five consecutive years, this includes any deconstruction costs.
 - b. The maximum allowable credit for the salvage value of any WECS shall be no more than the estimated decommissioning costs of removal of the above ground portions of that individual WECS or up to 70 percent of the total estimated decommissioning costs, whichever is greater.
3. Adjustments to the financial assurance amount that reflect changes in the decommissioning costs and salvage values shall be submitted every five years and shall be adjusted for inflation and other factors. The escrow account shall be adjusted accordingly within six months of receiving the updated information as determined by an Illinois professional engineer. Failure to provide financial assurance as outlined herein shall be considered a cessation of operation.
 4. When determining salvage values—demolition costs, transportation costs and road permits shall be a consideration.
 5. If salvage value items are removed prior to decommissioning, then the escrow account must be credited.

F. Financial assurance:

1. The county shall have access to the decommissioning fund secured by the escrow account in a bank of the county's choosing if:
 - a. The WECS operator fails to address a health and safety issue in a timely manner; or
 - b. The WECS operator fails to decommission the abandoned turbine(s) or the entire WECS project in accordance with the Decommissioning and Site Reclamation Plan.
2. The applicant and/or WECS owner shall grant perfected security in the escrow account by use of a control agreement establishing the county as an owner of record pursuant to the Secured Transit Article of the Uniform Commercial Code, 810 ILCS 9/101 et seq.
3. The escrow agent shall release the decommissioning funds when the WECS owner or operator has demonstrated and Boone County concurs that decommissioning has been satisfactorily completed, or

upon written approval of the county to implement the decommissioning plan. Ten percent of the fund shall be retained one year past the date to settle any outstanding concerns.

4. Any interest accrued on the escrow account that is over and above the total value as determined by the Illinois professional structural engineer shall go to the WECS owner.
5. The applicant shall identify procedures for Boone County to assess the financial assurances, particularly if it is determined that there is a health and/or safety issue with the WECS and the principal company fails to adequately respond as determined by the County Board.
6. The county shall be listed as a debtor but shall not be responsible for any claims against the WECS owner and or operator.
7. The applicant shall agree that the sale, assignment in fact or at law, or other transfer of the applicant's financial interest in the WECS shall in no way effect or change the applicant's obligation to continue to comply with the terms, covenants and obligations of this agreement and agrees to assume all reclamation liability and responsibility of the WECS.
8. Boone County and its authorized representatives have the right of entry onto the WECS premises for the purpose of inspecting the methods of reclamation or for performing actual reclamation if necessary.

4.8.14. Remedies.

- A. The applicant's, owner's or operator's failure to materially comply with any of the above provisions shall constitute a default under this ordinance.
- B. Prior to implementation of the existing county procedures for the resolution of such default(s), the appropriate county body shall first provide written notice to the owner and operator, setting forth the alleged default(s). Such written notice shall provide the owner and operator a reasonable time period, not to exceed sixty (60) days, for good faith negotiations to resolve the alleged default(s).
- C. If the county determines in its discretion, that the parties cannot resolve the alleged default(s) within the good faith negotiation period, the existing county ordinance provisions addressing the resolution of such default(s) shall govern.

4.8.15. Future Operators. Future operators, successors, assignees, or heirs shall agree in writing to accept and to conform to all provisions of the Special Use

Permit. Prior notice to the county of the intent to sell or transfer ownership shall be done in a timely manner. Such agreement shall be filed with and accepted by the county before the transfer to a new operator, successors, assignees, or heirs shall be effective.