

Appendix B

STANDARDS FOR WIND ENERGY CONVERSION SYSTEMS (WECS)

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I. Introduction

A. Title

This Ordinance shall amend the Marion County Land Use Order and be known, cited and referred to as the Marion County Wind Energy Conversion Systems Ordinance (WECS).

B. Purpose

This Ordinance is adopted for the following purposes:

1. To assure that any development and production of wind-generated electricity in Marion County is safe and effective;
2. To facilitate economic opportunities for local residents;
3. To promote the supply of wind energy in support of the goal of increasing energy production from renewable energy sources.

II. Definitions

- A. **“Applicant”** means the entity or person who submits to the Marion County Coordinator, pursuant to Section V of this Ordinance, an application for the siting of any WECS or substation.
- B. **“Construction Permit”** means the Building Permit which shall be obtained from Planning and Zoning prior to commencing any construction on the WECS project.
- C. **“Financial Assurance”** means reasonable assurance from a credit worthy party, examples of which include a surety bond, trust instrument, cash escrow, or irrevocable letter of credit.
- D. **“Operator”** means the entity responsible for the day-to-day operation and maintenance of the WECS(s), including any third party subcontractors.
- E. **“Owner”** means the entity or entities with a legal and/or equity interest in the WECS(s), including their respective successors and assigns. Owner does not mean (i) the property owner from whom land is leased for locating the WECS (unless the property owner has an equity interest in the WECS); or (ii) any person holding a security interest in WECS(s) 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(s) at the earliest practicable date.

- F. **“Professional Engineer”** means a qualified individual who is licensed as a professional engineer in the State of Missouri.
- G. **“Primary Structure”** means, for each property, the structure that one or more persons occupy the majority of time on that property for either business or personal reasons. Primary Structure includes structures such as residences, commercial buildings, hospitals, churches, schools and day care facilities. Primary Structure excludes structures such as hunting sheds, storage sheds, pool houses, unattached garages and barns.
- H. **“Substation”** means the apparatus that connects the electrical collection system of the WECS(s) and increases the voltage for connection with the utility’s transmission lines.
- I. **“Wind Energy Conversion System (WECS)”** means all necessary facilities that together convert wind energy into electricity and deliver that electricity to a utility’s transmission lines, including, but not limited to, the rotor, nacelle, generator, WECS Tower, electrical components, WECS foundation, transformer, electrical cabling from the WECS Tower to the substation(s)/switchyard(s), communication facilities, transmission lines, poles, and/or towers, operations and maintenance building, and other related devices, facilities and equipment.
- J. **“WECS Project”** means the collective WECS(s) as specified in the siting approval application pursuant to Section V of this Ordinance.
- K. **“WECS Tower”** means the support structure to which the nacelle and rotor are attached.
- L. **“WECS Tower Hub Height”** means the distance from the center of the rotor hub to the top surface of the WECS Tower foundation.
- M. **“WECS Tower Tip Height”** means the distance from the rotor blade at its highest point to the top surface of the WECS foundation.

III. **Applicability**

This Ordinance governs the siting of WECS(s) and Substations that generate electricity except that owners of WECS(s) with an aggregate generating capacity of 500 kW or less who locate the WECS(s) on their own property are not subject to this Ordinance.

IV. **Prohibition**

No WECS, or WECS Project governed by Section III of this Ordinance shall be constructed, erected, installed or located within Marion County unless prior siting approval has been obtained for each individual WECS and Substation pursuant to this Ordinance. Upon siting approval, a construction permit shall be obtained from the

Marion County Planning and Zoning Administrator prior to the commencement of construction of any WECS or WECS Project or any part thereof.

V. Siting Approval Application

- A. To obtain siting approval, the Applicant must first submit a siting approval application to the Marion County Coordinator.
- B. The siting approval application shall contain or be accompanied by the following information:
 - 1. 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 WECS(s), maximum number of WECS(s), and approximate name plate generating capacity of each WECS; the maximum height of the WECS Tower(s) and maximum diameter of the WECS(s) rotor(s); the general location of the project; and (2) a description of the Applicant, Owner and Operator, including their respective business structures;
 - 2. The name(s), address(es), and phone number(s) of the Applicant(s), Owner and Operator, and all property owner(s) if known;
 - 3. A preliminary site plan for the installation of WECS(s) showing the proposed 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, Substation(s), electrical cabling from the WECS Tower to the Substation(s), ancillary equipment, third party transmission lines, and layout of all structures within the geographical boundaries of any applicable setback, and a final site plan shall be required before the construction permit is issued;
 - 4. All required studies, reports, certifications, and approvals demonstrating compliance with the provisions of this Ordinance;
 - 5. Financial assurance that the project can be developed as proposed before the construction permit is issued; and
 - 6. Any other information normally required by the Marion County as part of its Zoning Ordinance and all other information required by any Missouri State or Federal statute or regulation including but not limited to an Environmental Protection Agency or a Missouri Department of Natural Resources.

7. A signed, dated agreement stating that:
 - a. Commencing with the issuance of construction permits, the Applicant, Owner or Operator of the WECS(s) shall maintain a current general liability policy covering bodily injury and property damage with limits of at least \$3 million per occurrence and \$5 million in the aggregate. Such insurance may be provided, pursuant to a plan of self insurance, by a party with net worth of \$50 million or more. Marion County shall be named as an additional insured on the policy to the extent the County is entitled to indemnification in accordance with Section V(B)(b).
 - b. Applicant, Owner or Operators shall defend, indemnify and hold harmless Marion County and its officials, employees and agents (collectively and individually, the “Indemnified Parties”) from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses and liabilities whatsoever, including attorney’s fees, except to the extent arising in whole or in part out of the negligence or intentional acts of such Indemnified Parties (such liabilities together known as “liability”) arising out of Applicant’s, Owner’s or Operator’s selection, construction, operation, upgrade, maintenance, and removal of the WECS and affiliated equipment including, without limitation, liability for property damage or personal injury (including death), whether said liability is premised on contract or on tort (including without limitation strict liability or negligence). This general indemnification shall not be construed as limiting or qualifying the County’s other indemnification rights available under the law.
- C. The Applicant shall notify Marion County of any changes to the information provided in Section V(B) above that occur while the siting approval application is pending.

VI. Design and Installation

A. *Design Safety Certification*

1. WECS(s) shall conform to applicable industry standards, including those of the American National Standards Institute (“ANSI”). Prior to the issuances of construction permits, Applicant 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. All turbines shall be new equipment commercially available, no used or experimental equipment shall be approved by Marion County Planning and Zoning without the issuance of a variance.
2. Following the grant of siting approval under this Ordinance, a Professional 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 Electric Commission). Utility lines connecting the towers, substations, etc., shall be placed underground where practical.

D. *Color*

Towers and blades shall be painted a non-reflective, unobtrusive color that mitigates the visual appearance of the structure. No advertisement shall be visible on the blades or tower.

E. *Turbine Consistency*

To the extent feasible, the project shall consist of turbines of similar design and size, including tower height. All turbines shall rotate in the same direction.

F. *Compliance with the Federal Aviation Administration*

The Applicant for the WECS shall comply with all applicable FAA requirements.

G. *Lighting*

A lighting plan for each WECS shall be provided to the Marion County Planning and Zoning Office. Such plan must describe all lighting that will be used, including any lighting that may be required by the FAA. Such a plan shall include but is not limited to the planned number and locations of lights, light color and where any lights will be flashing. Strobe lights are discouraged, and if they are required by the FAA, they must be shielded from the ground. The lighting should be planned and developed in such a way to minimize the visual impact of the structures. A plan to synchronize all lighting shall also be part of any lighting plan.

H. ***Warnings***

1. A reasonably visible warning sign concerning voltage must be placed at the base of all 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 15 feet from the ground.

I. ***Climb Prevention***

1. All WECS Towers must be unclimbable by design or protected by anti-climbing devices such as:
 - a. Fences with locking portals at least six feet high; or
 - b. Anti-climbing devices 12 feet vertically from the base of the WECS Tower; or
 - c. Locked doors and interior ladders.

J. ***Height***

WECS Tower Tip Height shall not exceed 550 feet.

K. ***Blade Clearance***

The minimum distance between the ground and any protruding blade(s) utilized on a WECS shall be 30 feet, as measured at the lowest point of the arc of the blades.

L. ***Setbacks***

1. All WECS Towers shall be set back a distance of at least 1000 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(s) of the Primary Structure may waive this setback requirement in writing; but in no case shall the WECS Tower be located closer to a Primary Structure than 1.1 times the WECS Tower Tip Height.
2. All WECS Towers shall be set back a distance of 1000 feet from the legally established boundaries, as of the date of approval of the siting approval permit, of any platted community established by Missouri Statutes. Distance shall be measured from the closed Corporate Limit boundary line to the center of the WECS Tower foundation.

3. All WECS Towers shall be set back a distance of at least 1.1 times the WECS Tower Tip Height from adjacent property lines, established as of the date of approval of the siting approval permit, unless waived in writing by the affected adjacent property owner(s). Distance shall be measured from such adjacent property line to the center of the WECS Tower foundation.
4. All WECS Towers shall be set back a distance of at least 1.1 times the WECS Tower Tip Height from the nearest above-ground third party transmission lines, telephone lines and communication towers, in existence as of the date of approval of the siting approval permit, unless waived in writing by the affected property owner(s) and utility company. Distance shall be measured from the center of the WECS Tower foundation to the closest point on such above-ground public electric power line, third party transmission line, telephone line and center of the base of the communication tower.
5. All WECS Towers shall be set back a distance of at least 1.1 times the WECS Tower Tip Height from the nearest edge of the existing right of way of public roads as of the date of approval of the siting approval permit. Distance shall be measured from the nearest edge of the road right of way of such public road. Upon recommendation of the Marion County Highway Supervisor, the Marion County Commission may waive this setback requirement as to Marion County maintained roads.
6. The Applicant does not need to obtain a variance or other approval from the County upon written waiver by the applicable State, County, utility company or property owner(s) of any of the above setback requirements. Any waiver of any of the above setback requirements shall run with the land and be recorded as part of the chain of title in the deed of the subject property.

M. *Drainage Repair*

The Owner or Operator shall repair waterways, drainage ditches, field tiles, or any other infrastructures damaged during construction, maintenance phases, upgrading, and decommissioning.

N. *Compliance with Additional Regulations*

Nothing in this Ordinance is intended to preempt other applicable state and federal laws and regulations.

O. *Use of Public Roads*

1. An Applicant, Owner, or Operator proposing to use any county road(s), for the purpose of transporting WECS or Substation parts and/or equipment for construction, operations, upgrades and decommissioning, or maintenance of WECS(s) or Substation(s), shall, prior to the issuance of construction permits:
 - a. Identify all such public roads; and
 - b. Obtain applicable weight and size permits from relevant government agencies prior to construction.
2. To the extent an Applicant, Owner, or Operator must obtain a weight or size permit from the county, the Applicant, Owner, or Operator shall, prior to the issuance of construction permits:
 - a. Conduct a pre-construction baseline survey to determine existing road conditions for assessing potential future damage; and
 - b. 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, maintaining, upgrades and decommissioning the WECS.
 - c. Provide Marion County Planning and Zoning with a signed copy of any agreements pertaining to the use of the public roads. The County will sign off on the pre-construction baseline survey.
3. Reasonable dust control measures will be required during construction of the WECS.

P. *Terms*

Notwithstanding any other provisions of the Marion County Land Use Order, a siting approval permit for a WECS shall be effective and may be relied upon so long as construction of the WECS is commenced within 24 months after issuance of the siting approval permit, which period may be extended by the Marion County Commission without further public hearing.

VII. *Operation*

A. *Maintenance*

Any physical modification to the WECS that alters the mechanical load, mechanical load path, or major electrical components shall require re-certification

under Section VI(A)(1) of this Ordinance. Like-kind replacements shall not require re-certification. Prior to making any physical modification (other than a like-kind replacement), the Owner or Operator shall confer with a relevant third-party certifying entity identified in Section VI(A)(1) of this Ordinance to determine whether the physical modification required re-certification.

B. *Interference*

1. The Applicant shall provide the applicable microwave transmission providers and local emergency service provider(s) (911 operators) copies of the project summary and site plan, as set forth in Section V(B)(1) and V(B)(3) of this Ordinance. To the extent that the above provider(s) demonstrate a likelihood of interference with its communications resulting from the WECS(s), the Applicant shall cause such interference to stop. 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 necessary steps to rectify the nature of the complaint within 30 days.
2. If, after the construction of the WECS, the Owner or Operator receives a written complaint related to interference with local broadcast residential television, the Owner or Operator shall take necessary steps to rectify the nature of the complaint within 30 days.

C. *Coordination with Local Fire Department*

1. Prior to commencement of construction, the Applicant, Owner or Operator shall submit to the local fire department a copy of the site plan.
2. Prior to issuance of construction permits, the Owner or Operator shall cooperate with the local fire department to develop and implement a fire protection plan in coordination with local emergency response authorities to ensure that all the appropriate emergency services agencies are cognizant of actions required in the event of a fire or other emergency at the wind power facility. In addition, the owner of the wind power facility shall provide training for, and the necessary equipment to, local emergency response authorities and their personnel so that they can properly respond to a potential emergency at the wind project.
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(s) 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(s) shall be handled, stored, transported and disposed of in accordance with all applicable local, state and federal laws.

VIII. Noise Levels

Noise levels from each WECS or WECS Project shall be in compliance with applicable state regulations. The Applicant, through the use of a qualified professional, as part of the siting approval application process, shall appropriately demonstrate compliance with the above noise requirements.

IX. Birds

The Applicant, through the use of a qualified professional, such as an ornithologist or wildlife biologist, shall conduct an avian habitat study, as part of the siting approval application process, to determine if the installation of WECS(s) will have a substantial adverse impact on endangered species.

X. Shadow Flickering

The Applicant, Owner or Operator shall conduct a study on potential shadow flicker. The study shall identify the locations of shadow flicker that may be caused by the project and the expected durations of the flicker at these locations. The study shall identify problem areas where shadow flicker may interfere more than twenty-four (24) hours per year with residences and other existing uses and describe measures that shall be taken to eliminate or mitigate the problems. Any safety problems identified by the Marion County Highway Supervisor caused by shadow flicker on Marion County roads shall be eliminated or mitigated.

XI. Public Participation

Nothing in the Ordinance is meant to augment or diminish existing opportunities for public participation in the Marion County's consideration of the siting approval application.

XII. Liability Insurance and Indemnification

- A. Commencing with the issuance of construction permits, the Applicant, Owner or Operator of the WECS(s) shall maintain a current general liability policy covering bodily injury and property damage with limits of at least \$3 million per occurrence and \$5 million in the aggregate. Such insurance may be provided, pursuant to a plan of self insurance, by a party with net worth of \$50 million or more. Marion County shall be named as an additional insured on the policy to the extent the County is entitled to indemnification in accordance with Section XII(B).

- B. Applicant, Owner or Operators shall defend, indemnify and hold harmless Marion County and its officials, employees and agents (collectively and individually, the “Indemnified Parties”) from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses and liabilities whatsoever, including attorney’s fees, except to the extent arising in whole or in part out of the negligence or intentional acts of such Indemnified Parties (such liabilities together known as “liability”) arising out of Applicant’s, Owner’s or Operator’s selection, construction, operation, upgrade, maintenance, and removal of the WECS and affiliated equipment including, without limitation, liability for property damage or personal injury (including death), whether said liability is premised on contract or on tort (including without limitation strict liability or negligence). This general indemnification shall not be construed as limiting or qualifying the County’s other indemnification rights available under the law.

XIII. Decommissioning Plan (Cessation of Operations)

The WECS project must provide a decommissioning plan to insure that the WECS equipment is removed and land is restored to its previous use upon the end of the project’s life, before a construction permit is issued. The plan shall include:

- A. If any Wind Energy Conversion System has not been in operation and producing electricity for at least 180 days within a 12 month period, it shall be removed. The Marion County Commission shall notify the Owner to remove the system. Within thirty days, Owner shall either submit evidence showing that the system has been operating and producing electricity for 180 days within a 12 month period or remove it. If the Owner fails to or refuses to remove the WECS, the violation shall be referred to the Marion County Prosecuting Attorney for enforcement.
- B. Provisions for the removal of structures, debris, and cabling on the surface and including those below the soil surface;
- C. Provisions for the restoration of the soil and vegetation;
- D. An estimate of the decommissioning costs certified by a Professional Engineer in current dollars, which shall be updated and submitted to the Marion County Commission every 5 years;
- E. Financial Assurance, secured by the Owner or Operator, for the purpose of adequately performing decommissioning, in an amount equal to the Professional Engineer’s certified estimate of the decommissioning costs with a surety bond.
- F. Identification of and procedures for Marion County’s access to Financial Assurances;
- G. A provision that the terms of the decommissioning plan shall be binding upon the Owner or Operator and any of their successors, assigns or heirs; and

XIV. 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 County Commission 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 60 days, for good faith negotiations to resolve the alleged default(s).
- C. If after the 60 day period: (i) the Applicant, Owner, or Operator has not cured the alleged default, or (ii) the County Commission 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.

XV. Penalties

A failure to obtain applicable building permit(s) for the construction of a Wind Energy Conversion System or failure to comply with the requirements of a building permit or the provisions of this Ordinance shall be deemed a violation of this ordinance. The Marion County Prosecuting Attorney shall bring an action to enforce compliance of the requirements of this Ordinance by filing an action in the Circuit Court for an injunction requiring conformance with this ordinance or seek such other order as the court deems necessary to secure compliance with this ordinance. Any person who violates this ordinance shall be fined not less than five hundred dollars or more than one thousand dollars for each offense. A separate offense shall be deemed committed by each WECS tower upon each day during or on which a violation occurs or continues. Nothing herein shall prevent the County from seeking such other legal remedies available to prevent or remedy any violations of this ordinance.

Revised & adopted by the Marion County Commission on the ____ day of _____, 2011.

Presiding Commissioner

Eastern District Commissioner

Western District Commissioner

Attest:

County Clerk

This Order has been approved by me as to the content and legality according to the Statutes of Missouri.

County Attorney

Date