

Amendment to Sections 8.07 and 8.08  
of Article 8 of the  
Zoning Regulations of The county of Lincoln, Nebraska

**Section 8.07 Small Wind Energy Systems**

**8.07.01 Purpose**

It is the purpose of this regulation to promote the safe, effective and efficient use of small wind energy systems installed to reduce the on-site consumption of utility supplied electricity.

**8.07.02 Definitions**

The following are defined for the specific use of this section.

1. **Rotor Diameter** shall mean the diameter of the circle described by the moving rotor blades.
2. **Small Wind Energy System** shall mean a wind energy conversion system consisting of a wind turbine, a tower, and associated control or conversion electronics, which has a rated capacity of not more than 100 kW and which is intended to primarily reduce on-site consumption of utility power.
3. **Structurally mounted System** shall mean a Small Wind Energy System that is designed to be mounted on a building including residential dwellings.
4. **Total Height** shall mean the highest point, above ground level, reached by a rotor tip or any other part of the Wind Energy Conversion System.
5. **Tower Height** shall mean the height above grade of the first fixed portion of the tower, excluding the wind turbine itself.

**8.07.03 Requirements**

Certain requirements as set forth below shall be met:

1. Tower Height
  - A. For property sizes between  $\frac{1}{2}$  acre and one acre the tower height shall be limited to 80 feet.
  - B. For property sizes of one acre or more, there is no limitation on tower height, except as imposed by FAA (Federal Aviation Administration) regulations.
2. Setbacks  
No part of the wind system structure, including guy-wire anchors, may extend closer than accessory building setbacks of the appropriate zoning district to the property lines of the installation site.
3. Noise
  - A. Small wind energy systems shall not exceed 50 dBA, as measured at the closet neighboring inhabited dwelling unit.
  - B. The noise level may be exceeded during short term events such as utility outages and/or severe wind storms.
4. Approved Wind Turbines  
Small wind turbines must have been approved under the Emerging Technologies program of the California Energy Commission or any other small wind certification program recognized by the American Wind Energy Association.
5. Compliance with Building and Zoning Codes

- A. Applications for small wind energy systems shall be accomplished by standard drawings of the wind turbine structure, including the tower base, and footings.
  - B. An engineering analysis of the tower showing compliance with official building code of the governing body and/or the State of Nebraska certified by a professional engineer licensed and certified in Nebraska shall also be submitted.
  - C. The manufacturer frequently supplies this analysis.
  - D. Wet stamps shall not be required.
6. Compliance with FAA and NDA (Nebraska Department of Aeronautics) Regulations  
Small wind energy systems must comply with applicable FAA and NDA regulations, including any necessary approvals for installations close to airports.
7. Compliance with National Electrical Code
- A. Permit applications for small wind energy systems shall be accompanied by a line drawing of the electrical components in sufficient detail to allow for a determination that the manner of installation conforms to the National Electrical Code.
  - B. The manufacturer frequently supplies this analysis
8. Utility Notification
- A. No small wind energy system shall be installed until evidence has been given that the utility company has been informed of the customer's intent to install an interconnected customer-owned generator,
  - B. Off-grid systems shall be exempt from this requirement.

	Wind Turbine – Non Commercial	Meteorological Towers
Property Lines (other than right angle corners)	Shall be 1.5 times the total height measured to the property lines.	One times the total height
Neighboring Dwelling Units*	Shall be 1.5 times the total height measured to the closest exterior wall of the dwelling unit but at no less than a minimum of 500 feet.	One times the total height
Road Rights-of-Way**	One times the total height	One times the total height
Other Rights-of-Way	One times the total height	One times the total height
Public Conservation Lands Including Wildlife Management Areas and State Recreation Areas	600 ft.	600 ft.
Certified Wetlands	600 ft.	600 ft.
Other structures not on the applicant's site	One times the total height	One times the total height
River Bluffs of over 15 feet	One times the total height	One times the total height

**Section 8.08 Commercial/Utility Grade Wind Energy Systems**

**8.08.01 Purpose**

It is the purpose of this regulation to promote the safe, effective and efficient use of commercial/utility grade wind energy systems, also known as Commercial Wind Energy Conservation Systems, within Lincoln County, Nebraska.

Furthermore, it is of the utmost importance that this regulation promotes standards to assure decommissioning of Commercial WECS and assurance of adequate financial resources be given to ensure that the Commercial WECS can be appropriately decommissioned at the end of the Commercial WECS useful life.

**8.08.02 Definitions**

The following are defined for the specific use of this section.

**Aggregate Project** shall mean projects that are developed and operated in a coordinated fashion, but which have multiple entities separately owning one or more of the individual Commercial WECS within the larger project. Associated infrastructure such as power lines and transformers that service the facility may be owned by a separate entity but are also part of the aggregated project.

**Applicant** shall mean the entity or person who submits to the county an application for the siting of any commercial wind energy conversion system (WECS) or substation.

**Commercial WECS** shall mean a wind energy conversion system of equal to or greater than 100 kW in total name plate generating capacity.

**Fail Zone** shall mean the area, defined as the furthest distance from the tower base, in which a guyed tower will collapse in the event of a structural failure. This area is less than the total height of the structure.

**Financial Assurance** shall mean reasonable assurance from a credit worthy party or parties satisfactory to the county that any damage to public roads caused by the wind energy project will be repaired and that the project will be decommissioned and deconstructed. Examples of such include a performance bond, surety bond, trust instrument, cash, escrow sinking fund, irrevocable letter of credit or combination thereof, which shall be to the satisfaction of the County.

**Meteorological Tower:** A tower which is erected primarily to measure wind speed and directions plus other data relevant to siting a Wind Energy Conversion System. Meteorological towers do not include towers and equipment used by airports, the NDOR (Nebraska Department of Roads), or other applications to monitor weather conditions.

**Operator** shall mean the entity responsible for the day-to-day operation and maintenance of the Commercial WECS, including any third-party subcontractors.

**Owner** shall mean the entity with an equity interest in the Commercial WECS, including its respective successors and assignees, or an entity that becomes an owner through foreclosure. The term "owner" does not mean:

1. The property owner from whom land is leased for locating the Commercial WECS (unless the property owner has an equity interest in the Commercial WECS); or
2. Any person holding a security interest in the Commercial 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 Commercial WECS at the earliest practicable date.

**Project:** For the purpose of this section, a Project shall be a Commercial Wind Energy Conservation System (WECS) which is limited to no more than one (1) section of land (640 acres), subject to other requirements set forth in this section.

**Rotor Diameter** shall mean the diameter of the circle described by the moving rotor blades.

**Shadow Flicker** When the blades of an operating wind turbine pass between the sun and an observer, casting a readily observable, moving shadow on the observer and his or her immediate environment.

**Total Height** shall mean the highest point, above ground level, reached by a rotor tip or any other part of the Wind Energy Conversion System.

**Tower** shall mean the vertical structures that support the electrical, rotor blades, or meteorological equipment.

**Tower Height** shall mean the height above grade of the hub portion of the tower, excluding the wind turbine itself.

**Wind Energy Conservation System (WECS):** An electrical generating facility comprised of one or more wind turbines and accessory facilities, including but not limited to: power lines, transformers, substations and meteorological towers that operate by converting the kinetic energy of wind into electrical energy. The energy may be used on-site or distributed into the electrical grid.

**Wind Turbines:** Any piece of electrical generating equipment that converts the kinetic energy of blowing wind into electrical energy using airfoils or similar devices to capture the wind.

**8.08.03 Requirements**

Commercial/Utility Grade wind energy system project, also known as Commercial WECS Project, shall be permitted as a Conditional Use within the A-1 District. Permanent Meteorological towers shall be considered part of the system. Temporary meteorological towers may be permitted by a Zoning (Building) Permit and limited to two years or less. The following requirements and information shall be met and supplied:

1. The name(s) of project applicant.
2. The name of the project owner.
3. The legal description and address of the project.
4. A description of the project of the project including; Number, type, name plate generating capacity, tower height, rotor diameter, and total height of all wind turbines and means of interconnecting with the feeder lines.
5. Site layout, including the location of property lines, wind turbines, electrical grid, and all related accessory structures. This site layout shall include distances and be drawn to scale.
6. Engineer's certification.
7. Documentation of land ownership or legal control of the property.
8. The latitude and longitude of individual wind turbines.
9. A USGS (United States Geological Service) topographical map, or map with similar data, of the property and surrounding area, including any other WECS not owned by the applicant, within 10 rotor distances of the proposed Commercial WECS.
10. Location of wetlands, scenic, and natural areas (including bluffs) within 1,320 feet of the proposed WECS.
11. An Acoustical Analysis that certifies that the noise requirements within this regulation can be met.
12. FAA (Federal Aviation Administration) and NDA (Nebraska Department of Aeronautics) review and permit
13. Location of all known Communication Towers within two miles of the proposed Commercial WECS.
14. Decommissioning Plan including the financial means to implement the plan.
15. Description of potential impacts on nearby WECS and wind resources on adjacent properties not owned by the applicant.

**8.08.04 Aggregated Projects**

1. Aggregated projects, consisting of no more than two projects, may jointly submit a single application and be reviewed under joint proceedings, including notices, public hearings, reviews and as appropriate approvals.
2. Permits may be issued and recorded separately.
3. Joint projects will be assessed fees as one project.
4. Setbacks to property lines, not road rights-of way, may be less when adjoining property owners are within the same aggregate project.

**8.08.05 Setbacks**

All towers shall adhere to the setbacks as measured from the hub established in the following table:

	<b>WECS Wind Turbine – Commercial/Utility WECS</b>	<b>Meteorological Towers</b>
<b>Property Lines</b>	Setback shall be 2 times the total height measured to the property lines but no less than 1,000 feet to the property line.	<u>One times the total height</u>
<b>Neighboring Dwelling Units*</b>	5 times the total height, measured to the closest exterior wall of the	One times the total height

	dwelling unit at a minimum 1,000 feet to the property line	
<b>Road Rights-of-Way**</b>	One times the total height	One times the total height
<b>Other Rights-of-Way</b>	One times the total height	One times the total height
<b>Public Conservation Lands Including Wildlife Management Areas and State Recreation Areas</b>	600 ft. or a distance established by any state or Federal agency.	600 ft. or a distance established by any state or Federal agency.
<b>Certified Wetlands</b>	600 ft. or a distance established by any state or Federal agency.	600 ft. or a distance established by any state or Federal agency.
<b>Other structures not on the applicant's site</b>	One times the total height	One times the total height
<b>River Bluffs of over 15 feet</b>	One times the total height	One times the total height

Setbacks to the external boundary of the conditional use permit area shall be no less than stated above, except

that the owner of the adjacent property may sign an agreement allowing that setback to be reduced to the rotor radius plus the setback of the zoning district

\* The setback for dwelling units shall be reciprocal in that no dwelling unit shall be constructed within the same distance required for a commercial/utility Wind Energy Conversion System.

\*\* The setback shall be measured from any future Rights-of-Way if a planned change or expanded right-of-way is known.

### **8.08.06 Special Safety and Design Standards**

All towers shall adhere to the following safety and design standards:

1. Clearance of rotor blades or airfoils must maintain a minimum of 30 feet of clearance between their lowest point and the ground.
2. All Commercial/Utility WECS shall have a sign or signs posted on the tower, transformer and substation, warning of high voltage. Other signs shall be posted at the entrance to the site with the 911 address and emergency contact information.
3. All wind turbines, which are a part of a commercial/utility WECS, shall be installed with a tubular, monopole type tower.
4. Consideration shall be given to painted aviation warnings on all towers less than 200 feet.
5. **Color and finish**  
All wind turbines and towers that are part of a commercial/utility WECS shall be white, grey, or another non-obtrusive color. Blades may be black in order to facilitate deicing; Finishes shall be matte or non-reflective.
6. **Lighting**  
Lighting, including lighting intensity and frequency of strobe, shall adhere to but not exceed requirements established by the FAA and NDA permits and regulations. Red strobe lights shall be used during nighttime illumination to reduce impacts on neighboring uses and migratory birds. Red pulsating incandescent lights should be avoided.
7. **Other signage**  
All other signage shall comply with the sign regulations found in these regulations.
8. **Feeder Lines**  
All communications and feeder lines installed as part of a WECS shall be buried, where feasible. Feeder lines installed as part of a WECS shall not be considered an essential service.
9. **Waste Disposal**  
Solid and Hazardous wastes, including but not limited to crates, packaging materials, damaged or worn parts, as well as used oils and lubricants, shall be removed from the site promptly and disposed of in accordance with all applicable local, state and federal rules and regulations.
10. **Discontinuation and Decommissioning**  
A Commercial WECS shall be considered a discontinued use after one year without energy production, unless a plan is developed and submitted to the Planning Administrator outlining the steps and schedule for returning the Commercial WECS to service. All Commercial WECS and accessory facilities shall be removed to four feet below ground level within 180 days of the discontinuation of use. This period may

be extended by the Planning Administrator following a written request by an agent of the owner of the Commercial WECS.

Prior to receiving siting approval under this article, the applicant, owner, and/or operator must formulate a decommissioning plan to ensure that the Commercial WECS project is properly decommissioned. The decommissioning plan shall include:

- A. Provisions describing the triggering events for decommissioning the Commercial WECS project. Any nonfunctioning wind turbine of the Commercial WECS functioning wind turbine of the Commercial WECS, which is a wind turbine or component that is not able to generate electricity for six continuous months, shall be decommissioned within 30 days unless the operator has shown to the county zoning administrator that it is diligently repairing such wind turbine or component.
- B. Provisions for the removal of structures, debris and cabling, 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, to be updated every three years or as determined by the county Planning & Zoning Administrator, which update shall include an analysis of the salvage value of the improvements. The owner or operator shall provide the county zoning administrator with each updated estimate, which will be subject to review and approval or adjustment by the Planning Commission. If the Planning Commission determines that the amount of security must be increased due to changes in the estimated decommissioning costs, the owner or operator shall post such additional security within 30 days of the owner or operator receiving written notification from the county. The Planning Commission or the county Planning & Zoning Administrator may request an independent third party verification of the decommissioning costs at any time. The costs for this verification shall be reimbursed by the owner/operator.
- E. Financial assurance, secured by the owner or operator, for the purpose of adequately performing decommissioning, in an amount of one hundred and twenty-five percent (125%) of the professional engineer's certified estimate of the decommissioning costs and the cost to continue insurance coverage at the level specified in section 8.08.06(17) of the Lincoln County Zoning Regulations. The terms of the financial assurance shall contain a provision that the financial assurance may not be cancelled or allowed to expire until at least 60 days' written notice has been given to the county. If replacement financial assurance is not provided within seven days thereof, then the county shall have the absolute right to draw upon the financial assurance until such financial assurance is replaced.
- F. Provision that the terms of the decommissioning plan shall be binding upon the owner or operator and any of his successors, assigns, or heirs.

**11. Noise**

No Commercial/Utility WECS shall exceed 50 dBA at the nearest structure occupied by humans. Exception: a Commercial/Utility WECS may exceed 50 dBA during periods of severe weather as defined by the US Weather Service.

**12. Interference**

The applicant shall minimize or mitigate interference with electromagnetic communications, such as radio, telephone, microwaves, or television signals caused by any Commercial WECS. The applicant shall notify all communication tower operators within five miles of the proposed Commercial WECS location upon application to the county for permits.

**13. County Roads**

In regard to roads applicants shall:

- A. Identify all county, municipal or township roads to be used for the purpose of transporting WECS, substation parts, cement, and/or equipment for construction, operation or maintenance of the

Commercial WECS and obtain applicable weight and size permits from the impacted jurisdictions prior to construction.

- B. Conduct a pre-construction survey, in coordination with the appropriate jurisdictions to determine existing road conditions. The survey shall include photographs and a written agreement to document the condition of the public facility.
- C. Be responsible for restoring the road(s) and bridges to preconstruction conditions.

**14. Drainage System**

The applicant shall be responsible for immediate repair of damage to public drainage systems stemming from construction, operation or maintenance of the Commercial WECS.

**15. Permit Fees**

Applicant shall remit an application fee of \$5,000.00 for each project in addition to the Conditional Use Permit Application fee set by the Board of Commissioners.

**16. Shadow Flicker**

Any proposed wind turbine which is within half mile of any non-participating dwelling shall provide shadow flicker modeling data showing the expected effect of shadow flicker on non-participating properties. Shadow flicker shall not fall upon any non-participating dwelling, or other building which is occupied by humans, for more than a total of 30 hours per any calendar year. If shadow flicker exceeds these limits then measures shall be taken to reduce the effects of shadow flicker on buildings, which may include shutting the turbine down during periods of shadow flicker. If a turbine violates this standard on a non-participating dwelling unit, constructed after the wind turbine is approved, then the wind turbine becomes a non-conforming use, with regards to the dwelling unit constructed after the wind turbine was approved.

**17. Liability Insurance**

The owner or operator of the Commercial WECS shall maintain a current general liability policy covering bodily injury and property damage with limits of at least \$10,000,000 per occurrence and \$40,000,000 in the aggregate, with an annual certificate of insurance being provided to the Planning & Zoning Administrator, with the county being added as an additional insured, with the designation to primary and non-contributory.

The applicant shall promptly increase such liability insurance if such amount is increased in this regulation (Section 8.08 Commercial/Utility Grade Wind Energy Systems) and the applicant is notified in writing of same by the county. The applicant shall provide evidence of such increased insurance to the Planning & Zoning Administrator.

Insurance coverage shall be maintained without interruption from the date of permitting through the decommissioning of all wind turbines. Certificates of insurance acceptable to the county and in compliance with this section shall be filed with the county prior to the commencement of any work on the Commercial WECS and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required under this section shall contain a provision that coverages afforded under the policies shall not be cancelled or allowed to expire until at least 60 days written notice has been given to the county.

Applicants shall also, to the fullest extent permitted by law, indemnify, and hold the county, its employees, board members and agents harmless for any action due to or arising out of the construction, maintenance, decommissioning, deconstruction and/or operation of the Commercial WECS, including the payment of attorney's fees and costs arising out of any action due to or arising out of the construction, maintenance and/or operation of the Commercial WECS.

- 18.** A lease or other agreement between a landowner and an owner of a Commercial WECS may contain provisions for decommissioning that are more restrictive than provided for in this section.

(This is an **Amendment to Sections 8.07 and 8.08 of Article 8 of the Zoning Regulations of The county of Lincoln, Nebraska** which was passed and adopted under Resolution No. 2020-\_\_ on February 10, 2020, by The Board of Commissioners of the county of Lincoln, Nebraska)

**ADOPTED AND APPROVED** by the Governing Body of Lincoln County, Nebraska, this \_\_ day of \_\_\_\_\_, 2020.

By: \_\_\_\_\_  
Bill Henry  
Chairman of the Lincoln County Board of Commissioners

**ATTEST:**

\_\_\_\_\_  
Rebecca J. Rossell  
Lincoln County Clerk