

Proposed Amendments

In the setback chart at **section 8.08.06**, we propose a commercial wind turbine setback from “Dwelling Units owned by non-participating landowners of 2 miles (10,560’) from property line.”

“Property Lines of non-participating land of 2 miles (10,560’) from property line.”

We also propose a commercial wind turbine setback from “Wetlands, USFW Types III, IV, and V” of Greater of 2 times the total height or a distance required by any State or Federal agency.”

Meteorological Towers setback: “1.1 times the total height.”

The changes are consistent with Cedar County and/or Dawson County Nebraska Zoning Regulations for Commercial/Utility Grade Wind Energy Conversion Systems (CWES) and are also being adopted by several counties in Nebraska. The reasons for the changes to the regulations are that the newer commercial wind energy conversion systems (CWES) turbines are now between 600-700 feet tall which are several feet taller than the turbines in the past. This means **expanding scope of hazards**. Nebraska has had major wind storms, tornadoes, and fires recently, and the nearby turbines can do major damage to people, properties, and water sources in the area. Lightning strikes can also cause extensive damage. Other hazards are: several gallons of lubricants in Nacelle and ice throws.

Other Justification of increased setbacks: Limiting noise and infrasound 35-40 decibels (instantaneous maximum level),

potential damage to adjacent property, fire hazards, tower collapse, EPA noise standards or better, and blade disintegration/failure. It will also help to protect natural resources.

The owner of a proposed CWECS, Commercial Scale Wind System or Turbine that requests to build closer than allowed in 8.08.06 shall be required to obtain an Impact Easement Agreement with any existing owner of property within the required setback distance.

Shadow Flicker Mitigation section: Projections of the “shadow flicker” on any existing structures located off the property on which the CWECS will be constructed and shall include the extent and duration of the shadow flicker on these existing structures.

Applicant shall submit a modeling report prepared by a qualified third party establishing that no occupied residence will experience more than thirty (30) hours per year or more than thirty (30) minutes per day of shadow flicker at the nearest external wall of residence based on “real world” or “adjusted case” assessment modeling.

The owner or resident of an occupied residence may waive the shadow flicker limits, which must be on File with the Knox County Register of Deeds and included with the application.

Change definition of Shadow/Flicker: Shall mean the shadow cast by the rotating blades of a wind turbine which moves with the blades.

Lighting definition section: All CWECS, Commercial Scale Wind Systems or Turbines shall use Aircraft Detection Lighting Systems.

In the Discontinuation and Decommissioning section of the regulations include: Cash Escrow account deposited in a Knox County fund. The amount deposited shall be 120% of the

decommissioning cost estimate. The Decommissioning plan must be updated every five years and the financial resources must be updated to account for any new decommissioning cost. All decommissioned sites including access roads shall be restored to conditions consistent with surrounding land unless the landowners want the road to remain. The restoration shall be maintained for 5 years after initial restoration is complete.

All CW ECS and accessory facilities shall be removed to six feet below original grade within 180 days of the discontinuation of use. When decommissioned all elements of the CW ECS must be removed from the site and disposed of in an approved landfill or recycling location.

This is required before the permit is approved to guarantee removal and restoration upon discontinuation, decommissioning or abandonment.

Noise section please include: No Commercial/Utility Grade Wind Energy Conversion Systems (CWES) shall exceed 40 dBA at the nearest structure occupied by humans. Exception: A Commercial/Utility Grade Wind Energy Conversion System may exceed 40dBA during period of severe weather as defined by the US Weather Service.

Clustering section: Each CWES, Commercial Scale Wind System or Turbine shall be separated from any other Commercial Scale Wind System or Turbine by 2640 feet.

Site Insurance section: Each CWES, Commercial Wind System or Turbine must maintain liability insurance of \$5,000,000 per tower

while it is construction and operation. Annual proof of such insurance shall be provided to the County Board of Commissioners.

Height section: The maximum total height of any Wind Turbine/CWES shall be 600 feet from original grade.

The set of regulations protects the health, safety and welfare of residents in Knox County. It also provides protection for landowners.