

467-2021

CERTIFIED COPY OF ORDER

STATE OF MISSOURI

November Session of the October Adjourned

Term. 20 21

County of Boone

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In the County Commission of said county, on the

4th

day of November

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the following, among other proceedings, were had, viz:

Now on this day the County Commission of the County of Boone takes up the revision and re-adoption of the Boone County Zoning Regulations, Sections 1 through 29. This includes revisions to Section 2, Definitions, Section 15 Administration, and adoption of Section 29 Wind Energy Conversion Overlay District (WECOD).

WHEREAS, the Boone County Planning and Zoning Commission conducted three (3) public hearings, after due public notice, into the issue of re-adoption of the Boone County Zoning Regulations, Sections 1 through 29. This includes revisions to Section 2, Definitions, Section 15 Administration, and adoption of Section 29 Wind Energy Conversion Overlay District (WECOD); and

WHEREAS, the Boone County Planning and Zoning Commission (P&Z) has recommended that the County Commission readopt those regulations including revisions to Section 2, Definitions, Section 15 Administration, and adoption of Section 29 Wind Energy Conversion Overlay District (WECOD); and

WHEREAS, the County Commission conducted a public hearing on re-adoption of those regulations on July 27, 2021; and

WHEREAS, all required notices have been given and all required public hearings have been held;

NOW, THEREFORE, the County Commission of the County of Boone does hereby adopt the Boone County Zoning Regulations Sections 1 through 29. This includes revisions to Section 2, Definitions, Section 15 Administration, and adoption of Section 29 Wind Energy Conversion Overlay District (WECOD), copies of which are attached and incorporated by reference, along with the following attachments:

1. Notice of the first P&Z hearing, affidavit of newspaper publication, affidavit of posting in the Boone County Government Center, and the hearing minutes.
2. Notice of the second P&Z hearing, affidavit of newspaper publication, affidavit of posting in the Boone County Government Center (northern district), and the hearing minutes.
3. Notice of the third P&Z hearing, affidavit of newspaper publication, affidavit of posting in the Boone County Government Center (southern district), and the hearing minutes.
4. Minutes from the P&Z meeting with recommendation for adoption.
5. Notice of public hearing before the County Commission on July 27, 2021, affidavit of newspaper publication, affidavit of posting in Boone County Government Center, and the hearing minutes showing the public hearing was opened for the re-adoption of the zoning regulations and adoption of revisions to Sections 2 and 15, and new Section 29.
6. Complete copy of Zoning Regulations.
 - 6A. Revisions to Sections 2, and new Section 29.
 - 6B. Revisions to Section 15.

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STATE OF MISSOURI

County of Boone

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Term. 20

In the County Commission of said county, on the

day of

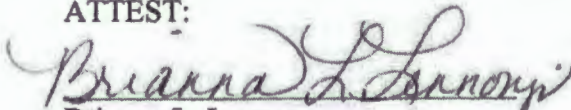
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the following, among other proceedings, were had, viz:

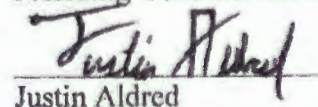
7. U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines
8. A method for defining wind turbine setback standards, Wind Energy, 2011.
9. World Health Organization (WHO) Environmental Noise Guidelines for the European Region.
10. ANSI S12.9-2005/Part 4, Quantities and Procedures for Description and Measurement of Environmental Sound-Part 4: Noise Assessment and Prediction of Long-term Community Response.
11. Demographic and Economic Comparison of Four Missouri Counties.
12. Maps of Boone County showing parcels capable of 1,750-foot radius buffer and population density.
13. Maps of Adair County showing parcels capable of 1,750-foot radius, existing wind turbine locations, and population density.
14. Map showing Boone County Block Level Census 2010 population density per square mile.
15. Map showing Adair County Block Level Census 2010 population density per square mile.
16. List of manufactures of 80-meter hub height wind turbine towers.


Done this 4th day of November 2021.

ATTEST:


Brianna L. Lennon
Clerk of the County Commission


Daniel K. Atwill
Presiding Commissioner


Justin Aldred
District I Commissioner


Janet M. Thompson
District II Commissioner

Staff Report to County Commission
WECOD/WECS-C CUP
November 4, 2021

As a result of the public comments that were received, staff has drafted several amendments to the proposed regulations:

Section 2 Definitions: Several definitions were added for clarity.

Section 29.1 Intent and Purpose: Language was added to provide a more robust statement of purpose.

Section 29.5.1.8 Visual Impact Assessment: New language was added to replace the requirement for a computer-generated visual simulation which, was perceived by many to be of questionable value. The new language describes several steps for assessment of the visual impact of a proposed wind farm. Those steps include:

- Viewshed analysis to determine actual visibility;
- Inventory of views to provide the basis for evaluating the extent of visibility;
- Photographic and/or virtual simulations; and
- A summary of key findings and proposed mitigation techniques.

29.8.4 Visual Impacts: The initial proposal stipulated a maximum height of 355 feet with the provision that towers of up to 400 feet could be approved on a case by case basis. Height was measured from the ground to the tip of the blade at its highest point. Public comment indicated that this was impossible due to limitations of the sizes of towers that are available in the North American market.

Staff research found that the industry standard for measuring height is from the ground level to the center of the turbine hub, or hub height. Towers are manufactured at several different hub heights, the shortest hub height tower for which there are multiple manufacturers is 80-meters or approximately 261 feet.

The regulations before the Commission tonight stipulate the maximum height to be 80-meters at the hub. Each of three manufactures that were researched

manufacture only one rotor for each 80-meter tower. This imposes a natural limit on the overall height of the wind turbine structure, including the rotor. The tallest structure with an 80-meter hub height was found to be 138 meters or 452 feet.

This adjustment in maximum height did not cause a revision to the setback requirement. The setback back of 1,750 feet was based on an article that identified blade tip speed, not tower height, as the controlling factor for establishing a setback. Blade tip speed is largely controlled by the generating capacity of the turbine. The generating capacity of the 80-meter towers aligns with the expected generating capacity that was considered when Planning and Zoning Commission identified the 1,750 setback.

Section 29.9.2 Abandonment: In response to comments received, language was added to clarify that a wind farm would not be considered to be abandoned in cases of a repowering or casualty event and there was an approved schedule of completion not to exceed 5-years.

The draft regulations brought before the Commission tonight are the result of many hours of work by the Planning and Zoning Commission, the public, the County Commission and staff. I too would like to extend special gratitude to the volunteers on the Planning and Zoning Commission and to the public who volunteered their time as well.