

## *Memorandum #10-91*

**To:** Doug Russell, City Manager  
**From:** Dave Mingo, Community Development Director  
**Date:** June 9, 2010  
**Subject:** Ordinance 930 Regulating Wind Energy Conversion Systems

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Over the past several years the Planning Commission has considered proposing an amendment to the zoning ordinance that addresses Wind Energy Conversion Systems (WECS). The attached Ordinance 930 was produced using examples from other South Dakota communities and a resource document from the American Planning Association. The Planning Commission molded the sample language to better suit the situation in Yankton based on discussions at meetings of over the years.

The goal of producing the ordinance was to allow WECS in certain areas with specific dimensional, structural and documentation requirements. The ordinance also addresses issues with noise, lighting, abandonment and other details that were found to be problematic in other communities. Requiring proposals to obtain a Conditional Use Permit will give the community the review necessary to guide applicants through meeting the proposed requirements and allow adjoining landowners to comment through the public process.

The idea of providing some opportunity for WECS while minimizing the impact on surrounding properties formed the foundation of the ordinance proposal. Large wind farm types of system development were viewed as inappropriate in the city and the surrounding extraterritorial jurisdiction. You will note that the ordinance does not provide for WECS in existing residential areas but it does provide a process for including WECS in new subdivisions.

Key components of Ordinance 930 in their most basic form include:

- Requiring a Conditional Use Permit (CUP) for any WECS.
- With a CUP, allowing WECS in commercial, industrial and certain new residential areas.
- Establishing dimensional and structural requirements.
- Addressing access, noise, lighting, color and abandonment issues.
- Prohibiting WECS in existing residentially zoned areas.

The Planning Commission has gone through the required public hearing process and recommended approval of Ordinance 930 at their meeting on April 12, 2010.

Respectfully submitted,

  
Dave Mingo, AICP  
Community Development Director

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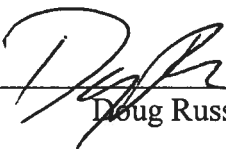
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**Recommendation:** It is recommended that the City Commission adopt Ordinance 930, an ordinance creating the referenced sections of Zoning Ordinance No. 711 making wind energy conversion systems a conditional use in the B-2 Highway Business District, Industrial Districts and certain new residential districts when established as a Community Unit Plan; and establishing regulations for the same.

I concur with this recommendation.

I do not concur with this recommendation.

  
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Doug Russell, City Manager

## **ORDINANCE No. 930**

### **AN ORDINANCE CREATING THE REFERENCED SECTIONS OF ZONING ORDINANCE NO. 711 MAKING WIND ENERGY CONVERSION SYSTEMS A CONDITIONAL USE IN THE B-2 HIGHWAY BUSINESS DISTRICT, INDUSTRIAL DISTRICTS AND CERTAIN NEW RESIDENTIAL DISTRICTS WHEN ESTABLISHED AS A COMMUNITY UNIT PLAN; AND ESTABLISHING REGULATIONS FOR THE SAME.**

**Section 1.** The following sections in the City of Yankton Zoning Ordinance No. 711 are hereby created:

#### SECTION II. DEFINITIONS.

Wind energy conversion system (WECS): Any mechanism or device designed for the purpose of converting wind energy into electrical or mechanical power.

#### SECTION X. COMMUNITY UNIT PLANS

1. f. The Board of Commissioners may consider allowing WECS in new residential areas as a part of the development of a Community Unit Plan Ordinance. Specific regulations related to the consideration of WECS under this provision shall be developed during the plan creation process.

#### SECTIONS XXV, XXVII AND XXVIII; D. CONDITIONAL USES AND STRUCTURES.

Wind Energy Conversion Systems (WECS).

The regulations regarding wind energy conversion systems (hereafter referred to as WECS) shall be as follows:

- (a) Limited use: No WECS installed in accordance with the requirements of this ordinance shall generate power as a commercial enterprise unless it meets all of the applicable requirements of the Public Utilities Commission regulations and the interconnect requirements of the electric utility company.
- (b) Setback requirements: The minimum distance between the property line, overhead utility lines or another wind turbine and any tower support base of a WECS shall be equal to the proposed tower height (plus the radius of the rotor for the horizontal axis machines).

Contiguous property owners and planned developments may construct a WECS for their use in common. If property held by more than one single owner is used to meet the setback requirements, a site plan establishing easements or reserved areas must be submitted to the city for their approval.

(c) Tower height. In no event shall the height of a WECS exceed 125 feet as measured from the ground to highest point of the structure at its peak point in rotation. Further, there shall be no less than 30 feet between the lowest arc of the rotors of a WECS and the ground, any portion of a structure or any tree.

(d) Tower access: Climbing access to the WECS tower shall be limited either by means of a fence six feet high around the tower base with a locking portal, by limiting tower climbing apparatus so there is access to it no lower than 12 feet from the ground or installation of a locked anti-climb device on the tower.

(e) Electromagnetic interference. No WECS shall produce electromagnetic interference so as to disrupt transmissions such as those from radio, television or microwave towers. At the time of application for the conditional use, the petitioner must submit information from the manufacturer indicating that, once operational, the WECS will not adversely affect the transmissions. If necessary, generators and alternators shall be filtered, shielded, or both so as to prevent the emission of radio and television signals.

(f) Air space: A WECS shall be located or installed in compliance with the guidelines of the federal aviation regulations with regard to airport approach zones.

(g) Rotor size/operation. The maximum size of the rotors of a WECS shall be reviewed upon application for a conditional use. In determining the appropriate size for the rotors, the city shall consider such factors as noise, proximity to surrounding residences, safety and aesthetic issues. All systems shall be equipped with appropriate braking devices or similar protective devices to slow down or stop the rotors if the wind exceeds the capacity of the system.

(h) Noise. No WECS system shall produce more than 60 decibels of sound measured at the closest point on the closest property line from the base of the system. Information from the manufacturer of the WECS shall be submitted at the time of the submittal of the conditional use, ensuring that this requirement can be met once the system is operational.

(i) Warning information. Information related to the maximum power output, nominal voltage and maximum current, and emergency shut-down procedures for the WECS shall be posted near the base of the tower in a visible location.

(j) Lighting. Unless required by a more restrictive regulation, no lighting shall be installed on a WECS.

(k) Tower design. In reviewing the conditional use for a WECS, the city shall consider the design and color of the tower to ensure that no significant adverse impacts are occurring to neighboring property owners, including, but not limited to, infringement into natural and urban view sheds, historic property, major community entryways, parks, schools, churches, playgrounds, or similar public and recreational uses.

(l) Manufacturer warranty/maintenance information. Upon application for a conditional use for a WECS, the petitioner shall submit a manufacturer's statement documenting that the system has been successfully and safely operated in atmospheric conditions that are similar to conditions in Yankton. Further, the petitioner shall provide a copy of the manufacturer's warranty indicating that the system is warranted against any system failures reasonably expected during severe weather conditions. Further, the petitioner shall submit system specifications including maximum power output and a maintenance schedule for the system.

(m) Construction standards. Any WECS shall be constructed in accordance with all applicable life, safety, building and fire codes including but not limited to the following:

1. An applicant for a building permit for a WECS shall submit plans and specifications stamped by a registered engineer.

2. Lightning Protection. Any WECS shall have appropriate lightning protection to sufficiently protect all connected and adjacent equipment and structures from damage. The lightning protection system shall effectively discharge lightning energy from the structure to the ground through the application of shielding, lightning arresters and deep earth grounding.

(n) Abandonment/removal.

1. Any WECS which has not been used for a period of 12 months or more shall be declared abandoned. Upon abandonment of the system, the city may revoke the conditional use permit and the system shall be removed at the expense of the property owner. The city may determine that a WECS has not been used if the following criteria apply:

a. The WECS has not been operating for a substantial period of time and the owner of the system is unable to provide documentation demonstrating that the system has produced a minimum of 25% of the power output as stated in the system specifications over the past 12 months;

b. The WECS has fallen into obvious disrepair and/or has been condemned by the City of Yankton.

c. The WECS has become a violation of some other local, state or federal law and the owner of the system has not taken appropriate actions to remedy the problem.

2. If deemed appropriate, the city may stipulate through the conditional use that the WECS shall be removed at the owner's expense, upon the rezoning of the subject property to a zoning district classification in which wind energy conversion systems are not allowed as either a permitted use or conditional use.

**Section 2.** Saving Clause.

Should any section, clause, or provision of this ordinance be declared by the Courts to be invalid, the same shall not affect the validity of the ordinance as a whole or any part thereof, other than the part so declared to be invalid.

**Section 3.** Effective Clause.

This ordinance shall be in full force and effect from and after its passage, approval and publication as required by law.

Adopted:

1st Reading:

2nd Reading:

Publication Date:

Effective Date:

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David D. Knoff, Mayor

Attest:

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Al Viereck, Finance Officer