

## 2020 WIND ENERGY CONVERSION SYSTEM CRITERIA

### 1. Intent

The criteria and conditions herein address major issues associated with an application for a conditional use for a proposed Wind Energy Conversion System (WECS); however, other issues may arise with respect to a specific proposed WECS. These criteria and conditions are not intended to regulate the installation and use of smaller individual private wind energy conversion systems.

A Wind Energy Conversion System is defined as an electrical generating facility that operates by converting the kinetic energy of wind into electrical or other form of energy and is comprised of one or more wind turbines and accessory facilities, including but not limited to, ancillary operational meteorological towers, overhead and underground communication and electrical transmission lines, transformers, substations, roads, administrative and operations buildings, turbines, supervisory control and data acquisition (SCADA) facilities, and other associated facilities. The energy may be used on-site or distributed into the electrical grid.

### 2. Definitions

- A. **Wind Energy Conversion System:** The combination of mechanical and structural elements used to produce electricity by converting the kinetic energy of wind to electrical energy. Wind Energy Conversion Systems (WECS) consist of the turbine apparatus and any other buildings, support structures and other related improvements necessary for the generation of electric power from wind.
- B. **Commercial Wind Energy Conversion System (CWECS):** A single Wind Energy Conversion System exceeding 100 kW or exceeding 120 feet in height above grade, or more than one Wind Energy Conversion System of any size proposed and/or constructed by the same person or group of persons on the same or adjoining parcels or as a unified or single generating system. The primary purpose of such system is the sale, resale or off-site use of electrical power.
- C. **Domestic Wind Energy Conversion System:** 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, which is equal to or less than 120 feet in height above grade and which is intended to primarily reduce on-site consumption of utility power and not primarily for commercial power production.
- D. **Wind Energy Conversion System Height:** The distance measured from the ground level at the base of the tower structure to the highest point on the Wind Energy Conversion System, including the rotor blades.
- E. **Blade Glint:** The intermittent reflection of the sun off the gloss surface of wind turbine blades.
- F. **Ice Throw:** Ice build-up that is thrown by spinning blades

- G. **Shadow Flicker:** A readily observable, moving shadow cast upon an observer when the blades of an operating wind turbine pass between the sun and an observer.
- H. **Turbine Height:** The height of the structure supporting the turbine, plus the height of the rotor blade at its highest point measured from the elevation of the ground surface at the base of the tower.

### 3. Key Considerations

The following items shall be considered in the assessment of any CW ECS Conditional Use Application:

- Land Use
- Visual Impact
- Noise
- Bird migration/strikes
- Endangered Species
- Soil Erosion
- Water Quality
- Infrastructure
- Aviation/Lighting
- Electromagnetic Interference
- Reception Interference
- Cultural Heritage
- Native Vegetation/Weeds
- Cumulative Impact
- Wildlife Habitat
- Public Health and Safety
- Decommissioning/Restoration
- Financial Surety Agreement

### 4. Area To Be Included and Signature Requirements

- A. Any CW ECS Conditional Use shall encompass the entire perimeter of the proposed CW ECS and all supporting improvements and infrastructure and the entire tract under common ownership with respect to a CW ECS Conditional Use is sought for any part. One application, with the signature(s) of the owners of record of real property, shall be required for all the land area located within the perimeter of the Conditional Use. The signature of an agent of a property owner shall be sufficient if accompanied by proof of the agent's authority to sign on their behalf. With respect to a CW ECS Conditional Use application, a notice of a Planning Board hearing shall be provided to all owners of record of real property located within one mile of the boundaries of the CW ECS. This notice provision does not define or affect the area with respect to which a valid protest petition can impose a supermajority voting requirement.

## 5. Turbine and Blade Design Requirements for CWECS Special Use

Any Conditional Use for a CWECS shall be subject to the following design requirements without regard to whether such requirements are specifically listed in any resolution approving a Conditional Use:

### A. Tower Location Requirements:

- (1) Vertical distances shall be measured from the grade level.
- (2) Horizontal distances, including setback distances, shall be measured from the furthest extremity of each structure, typically the tip of the blade in its horizontal position, and projected vertically downward onto the grade level.
- (3) Total turbine height is defined as the height of the structure supporting the turbine, plus the height of the rotor blade at its highest point measured from the elevation of the ground surface at the base of the tower.
- (4) Minimum setback horizontal distance of 1.5 times the overall height from any public road right-of-way.
- (5) (See Figures 1&2) Minimum setback distance of 10.5 times overall height, from lot lines of any property not included in the Conditional Use boundary without the express written permission of all owners of any such property filed with the Conditional Use application.
- (6) (See Figures 1&2) Minimum setback distance of 10.5 times overall height from property lines of an active residence, except that owners of any residential property can grant express written permission for the placement of a turbine at a shorter distance of no less than a setback horizontal distance of 1.5 times the total height if such permission is filed with the Conditional Use application and negotiated under the following conditions:
  - a. Applicant must fully disclose all potential effects associated with placement of turbines at shorter distances.
  - b. Applicant must not require indemnification for health affects (direct and indirect cause, or property damage as a result of negligence or improper siting).
  - c. Communities can collectively bargain for the best possible agreement.
- (7) No turbines shall be located within three miles of Cheney Reservoir, State Park, Wildlife Area or any land managed by the Kansas Department of Wildlife, Parks, and

Tourism or any land held by the United States of America for the development or maintenance of said area.

- (8) (See Figures 1&2) Minimum setback distance of 10.5 times overall height from any school property line for any school registered with the Kansas State Board of Education.
- (9) Minimum setback distance of 21.0 times overall height from the boundary of any incorporated city or of any unincorporated community of at least five residences on tracts of one acre or less.
- (10) Setback distance for any airport or airstrip depicted on current FAA charts or eligible for inclusion on FAA charts airport runways shall be 50 times the overall height for a horizontal distance of 10,000 feet, and 32 times the overall height to for a horizontal distance of 16,000 feet.
- (11) Setback distance for helipads shall be 25 times the overall height for a horizontal distance of 5,000 feet.
- (12) No turbine component shall be an obstruction, as classified by the FAA.

## **6. Noise Standards**

- A. (See Figure 2) The average operating sound level shall not exceed 35dBA. The maximum sound level allowance for a CW ECS at any point in time shall not exceed 45 decibels (C-weighted) if it is determined that a pure tone noise is generated by the project. Turbines shall be moved, modified, or removed from service if necessary to comply with this condition.
- B. Applicant shall provide with the application, a comprehensive acoustical impact study modeling exact locations of all turbines inside and outside the perimeter of CW ECS, reporting the projected noise levels from the CW ECS at each occupied residential structure within two miles of any turbine and at the boundaries of the CW ECS. The acoustical impact study shall be performed by an independent third party approved by Reno County Planning Commission. No application shall be set for a hearing prior to the submission of the acoustical impact study. After the first year of operation, the owner of turbines shall on an annual basis perform and submit to the zoning administrator a study of each turbine to ensure noise does not exceed 45 decibels as specified herein. Studies shall be performed by a qualified third party approved by Reno County zoning administrator.

## **7. Turbine Access Roads Requirements**

- A. Applicant shall minimize turbine access roads required for the installation, operation, and decommissioning phases.
- B. Access roads shall be low profile roads so farming equipment can cross the roads.
- C. Where an access road is to cross a stream or drainage way, it shall be designed and constructed so runoff from the upper portions of the watershed can readily flow to the lower portions of the watershed, and Applicant shall follow the regulations pertaining to building a structure in a floodplain zone of the Federal Emergency Management Agency and the Floodplain Management Regulations of these Zoning Regulations

## **8. Communication and Power Collection Lines**

- A. All power collection and transmission lines above-ground or below ground shall follow all Kansas Corporation Commission (K.C.C) siting process and shall be reviewed by the Reno County Planning and Zoning Board and approved by the Reno County Commissioners, following the Reno County Conditional Use Permit process. Applicant must not opt out of their public utility determination by the K.C.C. at any point in development, or operation of this project.
- B. Communication lines and power collection lines shall be installed underground in the area covered by the Special Use and located under or at the edge of turbine access roads or as otherwise negotiated with the landowner.
- C. Above-ground transmission lines may be used in public right of way or easements. If the Applicant submits documentation of unusual existing or potential circumstances Planning Committee may approve modifications of the above standards to mitigate such concerns. Such modifications shall be effective only when specifically described in a condition attached to the approval of the Special Use.

## **9. Minimum Blade Clearance**

Minimum distance between ground grade and the point of the rotor blades shall be at least 65 feet.

## 10. Turbine Tower Design

- A. Structures for wind turbines shall be self-supporting tubular towers painted a non-reflective neutral color such as a white or pale gray. No lattice-type structure or other designs that would provide perches for avian predators shall be used. To promote visual uniformity, the rotors, nacelles, and towers in an array should appear similar. No logos or advertisements are allowed on these structures. Each turbine shall be marked with a visible identification number located no higher than 15 feet above ground
- (2) At any point the color and/or finish on the turbines deteriorates or fails, the operator shall within 30 days of notification by the zoning administrator restore the finish and evaluate all turbines in the CW ECS to determine if other turbines finish repair.

## 11. Turbine Tower Lighting

- A. There shall be no lights on the facility towers other than those required by the minimum standards of the Federal Aviation Administration (FAA). In any event, no high intensity or strobes or white lights shall be permitted at nighttime. Infrared heating devices may be used to protect the wind monitoring equipment. Usage of Aircraft Detection Lighting System (ADLS) is preferred.

## 12. Contents of CW ECS Development Plan

- A. Every application for a Special Use for a CW ECS shall be accompanied by a general description of the project addressing the key issues as listed in Section 3 and include the total acreage and a legal description for all owners of real property located within the perimeter of the Conditional Use on which the Applicant has easements, leases, licenses or other agreements related to the project. The Applicant shall also submit with the application a presentation map identifying as a minimum the location of all existing residence structures in both the leased and unleased area of the notification area, including all gas storage locations and all setbacks for turbine locations referenced in this document. In addition, the Applicant shall show such information that it has available at the time of the application is filed which would be included in the Development Plan herein this document and identify what additional information the Applicant will need to obtain to include in the final Development Plan. Except as specifically provided otherwise below, the Planning Commission shall publish notification, distribute notices as provided for in Section 4, and conduct a public hearing to determine an initial recommendation to the Governing Body based on the Conditional Use Report with or without conditions attached for the Conditional Use for a CW ECS even though not all information required for the Development Plan has been provided. The Planning Board may require such additional information as necessary to make such a recommendation.

- B. Once the Applicant has obtained a Power Purchase Agreement (PPA) within the time permitted, the Applicant shall submit a final application with all the information required by this Section for inclusion in the Development Plan. Based on the latter information, the Planning Board shall similarly give notice and conduct a hearing and, if satisfied with the information submitted, make a final recommendation to the Governing Body on the Conditional Use. A Zoning Permit for the Conditional Use for a CW ECS shall be valid only for the construction in conformity with an approved Development Plan.
- C. The Development Plan shall be written in a style that is easily understood by the general reader. Technical terminology shall be avoided when general reader terms, definitions, and explanations are available. Detailed technical data, statistics and supplementary information required to support the main text is to be included as appendices. All sources of information are to be referenced and shall be current. To provide clarity, information presented as maps, diagrams, or plans is preferred.
- D. Close consultation with the Zoning Administrator during preparation of the Development Plan is highly recommended. More than one draft may be required before it is considered suitable for presentation to the Planning Board. A Development Plan shall, at a minimum, contain the following information:
  - (1) A general introduction to the project including a description of the anticipated timeline of construction, whether the project will be or may be built in phases and the nature of those phases; the total acreage included in the project; and the names and current addresses of all people who have provided easements, leases, licenses or other permission with respect to property in connection with the project together with a legal description of the land. Name, address and phone number of the Applicant and for any contact person shall be disclosed along with an overview of the company provided relevant information regarding qualifications and experience in commercial wind energy development and environmental management.
  - (2) Prior to the setting of any Planning Commission hearing, a topographical map with contours at intervals of 20 feet at a 1 inch = 2,000 feet scale showing the location of the following features (U.S.G.S. Scale.).
    - a. Lot lines for each parcel under separate ownership included in the Conditional Use area and within one mile of the proposed CW ECS boundaries.
    - b. All residential buildings within three miles of the proposed CW ECS boundaries, designating those known to be occupied.
    - c. All public roads within the CW ECS area and within one mile of its boundaries. The access points to the public roads to be used for both the construction and the operation phase of the project shall be designated.

- d. All structures; utility lines; pipelines; rights-of-way of record; oil and gas wells, facilities and storage batteries; existing driveways and field service roads; and water impoundments, creeks and rivers in the area covered by the Conditional Use application.
  - e. All airports or landing strips designated on current FAA charts or eligible for designation on current FAA charts within nine miles of the project boundaries.
  - f. Proposed setbacks of all turbines and other structures from the boundary lines.
  - g. Boundaries of any 100-year floodplain as identified on the Federal Insurance Administration's maps of the County.
  - h. All turbines, transformers, substations and connecting power lines for the project.
  - i. All structures to be used as part of the operation of the project including the envelope dimensions of such structures.
  - j. All roads to be constructed within the project both for construction and for operation and all fences, walls, gates and landscaping proposed to be installed.
- (3) A complete description of the Applicant or Developer's current status with respect to:
- a. Securing a power purchase agreement, including the duration of any such agreement or proposed agreement.
  - b. Securing the right to tie into the power grid for the purposes of marketing the power to be generated from the project, including, to the extent known, the upgrades and improvements required with the County, including their location.
  - c. The selection of wind turbines to be located on the site including primary specifications for each model being considered. The Conditional Use shall not be valid for the placement of turbines that exceed the height of, or produce more noise than, those disclosed in the Development Plan.
- (4) Independent third-party studies or university studies assessing the following aspects of the project site, which shall include an inventory, identification of potential impacts from the CWECs construction or operations, and possible mitigation measures: The Applicant shall submit all such studies to all applicable county, state and federal agencies for their review and comments which shall be reported to the Planning & Zoning Commission as part of the applications' submittal information.
- a. The capacity of roads, bridges and culverts over which equipment for the CWECs will travel during the construction phase to withstand the expected traffic.



- b. Archaeological sites and sites of historical significance. An archeological reconnaissance survey within the site that will be impacted by the construction or operation of the CWECS shall be provided to the State Historic Preservation Office (SHPO) to determine if cultural resources are present. Any unrecorded cultural resources that are found shall be evaluated for integrity and potential listing on the State Historic Site Survey and/or the National Register of Historic Places. Undocumented resources that are eligible for listing on the National Register of Historic Places shall be avoided. All archaeological investigations shall meet the SHPO standards and guidelines.
- c. Endangered, threatened or target-listed species
- d. Avian impacts, including impacts on both nesting and migrating birds
- e. Wetlands and other biologically sensitive areas within the site.
- f. Potential impact to business in the County.
- g. Potential impact on Cheney Reservoir, State Park, and Wildlife Area State and any Kansas Department of Wildlife, Parks, and Tourism (KDWPT) managed property.
- h. Potential impact on local Hunting Businesses and Outfitters.

(5) General Construction Document Requirements.

- a. A general description of major components of the turbines and on-site facilities including wind turbine specifications, transmission lines and accessory facilities such as control rooms, transformers, substations, maintenance facilities, underground infrastructure and interior access roads. The number, location, capacity, and dimensions of the turbines shall also be included.
- b. A description and general schedule of major construction activities for the turbines, transmission lines, and accessory structures related to the CWECS.
- c. An outline of any proposed site preparation involving removal of vegetation and restoration of the site due to construction
- d. The volume and designated route for the traffic generated during the construction phase, including oversized and heavy equipment.
- e. Within the first or follow-on second application for the Wind Energy Conversion Systems, the Applicant shall provide the County Zoning Administrator with the latitude and longitude of the center point for all turbine locations, including alternate locations.

(6) Soil Erosion, Sediment Control and Storm Water Runoff Plan.

- a. Applicant shall submit a Soil Erosion, Sediment Control and Storms Water Runoff Plan which shall identify effects of the CWECS (especially during constructions) on surface water and surface water runoff along with any mitigation measures, and address erosion-prone areas and what types of erosion control measures will be used during each phase of the project. It shall identify plans for:
  - i. Grading.
  - ii. Revegetation to ensure slope stability.
  - iii. Construction and drainage of access roads and turbine pads.
  - iv. Restoring the site after temporary project activities
  - v. Design features to maintain downstream water quality
- b. The Soil Erosion, Sediment Control and Storm Water Runoff Plan shall also set out the proposed practices which shall, unless disapproved, become part of the Special Use approval, regarding:
  - i. Disposal or storage of excavated materials.
  - ii. Protecting exposed soil.
  - iii. Stabilizing restored material and removal of silt fences or barriers when the area is stabilized.
  - iv. Maintenance of erosion controls throughout the life of the project

(7) Fire Safety Plan.

- a. The Development Plan shall include a Fire Safety Plan identifying the protentional fire risk associated with the project, including both prescribed burning and non-prescribed burning (natural or accidental). This shall address fire originating within the site, fire escaping from the site and the potential effects of fire originating from outside the site. "Prescribed Burning" is defined as the controlled application of fire to naturally occurring or naturalized vegetative fuels under specified environmental (weather) conditions in accordance with a written prescription that is designed to confine the fire to a predetermined area and to accomplish planned land management objectives; and conforms to the standards established by the Kansas State University Research and Extension office in South Hutchinson, KS.

- b. The Fire Safety Plan shall address high angle rescue and all provisions for fire suppression, fire and emergency medical response to be provided by the applicant both during the construction and during operation of the project. The Fire Safety Plan shall identify what equipment not presently owned by the public fire department or other first responders may be needed to respond to emergencies at the project both during construction and during operation of the project. If it is determined there is a need for additional equipment not already in possession by the public fire department or other first responders, the applicant will be responsible for 100% of the cost of the purchase and maintenance of such equipment as an impact fee. If there is additional training required for the use of said new equipment, the applicant shall also be responsible for 100% of the training costs. The payment of such costs shall be a condition to the continued validity of the Special Use.
- c. If the Fire Safety Plan deems that the current available manpower to properly execute the Fire Safety Plan is insufficient, the holder of the Special Use shall be 100% responsible for the financial costs associated with hiring additional manpower throughout the duration of the project.
- d. The Fire Safety Plan shall include an assessment of the ability of EMS helicopters to land within the CWECs. This assessment shall be provided in prior to the setting of a public hearing on the Special Use application so that the planning commission can evaluate whether to recommend conditions to approval to improve the safety of the CWECs.

(8) Ground Water Resources.

- a. Applicant shall identify any risks to the ground water aquifer in connection with the construction of a CWECs project and all mitigation measures the applicant proposes to utilize to mitigate such risks.

(9) Air Quality.

Applicant shall submit a Dust Control Management Plan to control dust on turbine access roads during construction for approval by the County zoning administrator and the County road supervisor no less than 30 days prior to construction. The Dust Control Management Plan shall contain measures that provide for conformance to the following:

- a. No person shall engage in construction activities in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period; and
- b. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion or track-out/carry-out shall:

- i. Be minimized by the use of any of the following or equally effective trackout/carry-out and erosion control measures that apply to the project or operation: track-out gates or gravel beds at each egress point, wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks: using secured tarps or cargo covering, watering, or treating of transported material; and
    - ii. Be removed at the conclusion of each workday when active operations cease, or every 24 hours for continuous operations. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.
  - c. Measures to comply with visible dust emissions restrictions may include:
    - i. Watering or applying soil stabilizers to areas with loose dirt
    - ii. Ceasing earthmoving activities when sustained wind speed exceeds 20 miles-per-hour
    - iii. Cover soil stockpiles
  - d. Applicant shall provide qualified third-party inspection approved by Reno County to monitor air quality during construction. Fines are to be issued at any time there is a violation to the Dust Control Management Plan. Minimum fine shall be \$2,000 per occurrence. At any time, Reno County can require the inspector be replaced if Reno County determines that the inspections have been insufficient to assure compliance.

(10) Land Use and Development.

Applicant shall identify potential constraints and benefits the CWECs may place on the current and future use of the land within the project site and the surrounding area. The extent of any limitations due to public health and safety risks shall be specifically addressed, and, the effects on the following activities shall also be addressed:

- a. Existing or proposed tourist or recreation activities
- b. Agricultural activities
- c. Local and regional tourism
- d. Residential activities
- e. Commercial activities

f. Industrial activities

(11) Monitoring and Review Programs.

The Development Plan shall provide any monitoring, review and reporting program for each part of the project. Details shall include any pre-construction monitoring/studies, sites to be sampled, the sampling procedures, the parameters to be analyzed, frequency of sampling and reporting. A Site Plan showing sampling location is required.

(12) Bibliography.

The Development Plan shall contain a bibliography of the authorities consulted and the documents relied on in completing the Development Plan.

(13) Appendices.

All detailed technical information that supports the Development Plan should be included in appendices. The most important features of the appendices shall be included in the main body of the Development Plan.

### **13. Prerequisites to Construction Under an Approved Conditional Use**

#### **A. Zoning Permit**

No construction under an approved Conditional Use may commence until a Zoning Permit is approved by the Zoning Administrator.

#### **B. Power Purchase Agreement (PPA)**

Approval of a Conditional Use does not authorize construction of the project until the Applicant has obtained a Power Purchase Agreement (PPA) for the electricity to be generated by the CWECs. The Applicant shall advise the Zoning Administrator when it obtains a PPA and shall provide such documentation confirming said agreement. Unless an alternate timeline is determined as a condition attached to the approved Conditional Use on a case by case basis, the PPA shall be obtained within one year of the date of publication of the Resolution effectuating the Special Use. This one- year period may be extended up to six months upon written request by the Applicant and approval by the Governing Body. In the event the Applicant does not obtain a PPA within the 12-to-18-month time span, the Resolution effectuating the Conditional Use shall automatically become null and void.

A Zoning Permit shall be approved only after the Administrator receives documentation confirming the PPA and all conditions pertaining to a CWECs have been satisfied.

#### **C. Deconstruction Bond.**

A bond for complying with Section 17 herein shall be approved and accepted by the Governing Body before any Zoning Permit is approved for construction to begin.

#### **D. Road Agreement.**

Transportation routes used for construction shall be coordinated with the Supervisor of the County Road and Bridge Department. Applicant shall be held liable for any damage to County roads or rights of way resulting from tower construction, deconstruction and/or maintenance activity. A Road Agreement by which the developer or operator of the CWECs assumes financial responsibility for infrastructure improvements needed for construction and repair for infrastructure damages caused by construction shall be approved by the Governing Body before any Zoning Permit is approved for construction to begin. The following shall be made a part of any Road Agreement, along with such further terms as the County may require.

- (1) Applicant shall identify all haul/transportation routes prior to Zoning Permit approval.

- (2) Applicant shall provide a complete survey/inspection of all haul/transportation routes prior to Zoning Permit, performed by a licensed, qualified engineer approved by Reno County and performing the engineering services for the benefit of Reno County but at the expense of the applicant. This survey will bench mark the condition of all roads, bridges culverts and other infrastructure that may be impacted by the construction of the CWECS. The Road Agreement shall require the applicant at the applicant's sole expense, at a minimum, to restore all infrastructure to its condition prior to construction and to promptly repair all conditions created by the applicant impairing the safety, convenience or usability of the county or township roads or other infrastructure, as directed by the County road supervisor.
- (3) Applicant shall provide a qualified third-party inspector approved by and responsible to Reno County to provide daily monitoring of the use and conditional of haul/transportation routes during construction. Impact fees are to be imposed at any time there is a violation to the Road Agreement as to use of unauthorized haul routes or road conditions. The impact fee will be \$5,000 per occurrence. At any time Reno County can request the inspector be replaced if Reno County concludes that the inspector's performance has been inadequate to assure compliance with the Road Agreement.
- (4) Upon completion of construction of the CWECS no vehicle relating to the wind turbines maintenance, upgrades, repairs, or decommissioning, weighing more than 60 tons shall utilize county roads without the advance permission of the County Road and Bridge Department. At that time a plan will be developed to inspect the route prior to and post use of the county roads. The current owner of the wind turbines shall be responsible for the restoration of the roads.

#### **14. Construction Requirements**

- A. A licensed professional structural engineer or certified structural engineering firm selected by the Applicant shall conduct all inspections on each turbine with respect to the foundation, structural assembly, mechanical and electrical aspects of turbine construction. Documentation regarding each approved inspection shall be submitted to the Zoning Administrator before the next step of construction begins and prior to any operation of an individual turbine.

All expenses of such engineer or engineering firm shall be the responsibility of the Applicant or holder of the Conditional Use permit. Reno County, its officers, agents and employees shall be held harmless from any and all claims, costs, liabilities, damages, or expenses, including costs of suits and fees and expenses for legal services on account of any damages claimed by any third party, including such claims by agents or employees of said third party, arising from any approval or non-approval of any inspection.

B. Site Clearance:

- (1) Applicant shall disturb or clear the site only to the extent necessary to assure suitable access for construction, safe operation and maintenance of the CWECS.
- (2) Applicant shall minimize the removal of trees and shall not remove groves of trees or hedgerows (shelter belts) without approval of the affected property owner.
- (3) On cultivated land, Applicant shall minimize compaction of the land during all phases of the CWECS's lifecycle. Compaction shall be confined to as small an area as practical.
- (4) During site clearance and construction, silt fences and other temporary erosion controls shall be installed and left in place until new native vegetation covers the bare ground around the turbines.

C. Prior to the start of, and continuously throughout construction and site restoration, Applicant shall designate a field representative responsible for overseeing compliance with the conditions of the Conditional Use. Such representative shall be accessible by telephone during normal business hours. Address, phone number and emergency phone number shall be provided to the Zoning Administrator and 911 Emergency service and shall be available to residents, officials and other interested persons. Applicant is required to notify the Administrator and 911 Emergency service of any change of the designated representative.

D. Cleanup.

Applicant shall remove all waste and scrap that is the product of construction, operation, restoration and maintenance from the site and properly dispose of it upon completion of each task. Bottles, paper and other litter deposited by site personnel shall be contained or removed on a daily basis.

E. Applicant shall inform all employees, contractors and others involved in the construction of the CWECS of the conditions of the Conditional Use.

F. Hours of construction are not to start before 6am and exceed 8pm.

G. Applicant shall furnish 24 hour, 7 days a week, 365 days (non-stop) security monitoring for the entire CWECS project area plus a three-mile radius around the exterior perimeter of CWECS that is in addition to the local law enforcement. The amount of security shall be suggested by the applicant and approved by the Reno County Sheriff. Applicant's security contractor or employees shall be approved by Reno County Sheriff.



## 15. Operational Requirements

The following operational requirements shall be conditions to all CWECS Conditional Uses without respect to whether such conditions are expressly stated in the approval of the Conditional Use.

- A. Lubricants and/or hazardous materials located on the premises shall be kept and transported in accordance with all state and federal regulations.
- B. Applicant shall take reasonable measures such as planting trees, installing awnings, etc. to mitigate specific adverse visual impacts such as reflections, shadow flicker and blade glint affecting residences within or up to 2 miles radius of project area.
  - (1) Applicant will design CWECS to ensure that all non-participating landowners will experience zero shadow flicker at their dwelling structures or those that may be constructed in the future on such landowners' property.
  - (2) If at any point shadow flicker is experienced at a residence's property belonging to a non-participating landowner, the operator of the CWECS shall immediately shut down all turbine(s) causing shadow flicker and correct the violation immediately. If not resolved by measures listed in this section or stop rotating assemblies during the interval in which shadow flicker would otherwise occur.
- C. No component shall cause microwave, television, radio, telecommunications, navigation, wireless internet, cell phone or satellite TV interference of non-participating parcels and residences. The CWECS shall operate in conformity with all applicable Federal Communications Commissions (FCC) regulations. In the event the CWECS and its associated facilities or its operations cause such interference in or near the project, Applicant shall take timely measures necessary to correct the problem.
- D. The turbine shall not be operating at any time freezing precipitation is accumulating on rotational turbine components.
- E. Extraordinary Event Response.
  - (1) Upon an occurrence of an extraordinary event, the Applicant shall notify the Zoning Administrator of any extraordinary event. Extraordinary events include tower collapse, major turbine failure including but not limited to lubrication leakage, kills of threatened or endangered species, thrown/broken blade or hub, collector-feeder line failure, discovery of an unexpectedly large number of dead birds of any variety on site, or injured person.

(2) In the event of extraordinary avian mortality, the Applicant shall within 30 days of the occurrence submit a report to the Administrator, the Kansas Department of Wildlife, Parks and Tourism or its successor, and the U.S. Fish and Wildlife Service describing the cause of the occurrences and the steps taken to avoid future occurrences.

(3) An evacuation procedure plan for the entire CW ECS project shall be developed by the applicant and then approved by the Governing Body prior to permit being issued. All residences inside the perimeter and within 2 miles around the exterior perimeter shall be included in this evacuation plan. The plan shall be distributed to all said residences.

F. Decommissioning.

(1) Decommissioning shall occur in compliance with the Decommissioning Plan.

G. Non-liability for Prescribed Burning.

No party with an interest in the Conditional Use shall hold liable an owner, lessee or occupant of agricultural land for property damage to CW ECS-related equipment caused by or resulting from prescribed burning conducted on the land owned by, leased by or occupied by the person if the prescribed burning is conducted under the procedures established by the Kansas State University Research and Extension office in South Hutchinson.

## **16. Decommissioning, Restoration, & Abandonment**

### **A. Decommissioning Plan.**

Applicant shall submit a Decommissioning Plan with the application for a CWECs Conditional Use. Compliance with the Decommissioning Plan shall be a condition of the Conditional Use whether or not explicitly listed in any document reflecting the approval. The Decommissioning Plan shall describe the manner in which the CWECs improvements shall be dismantled and removed from the site within 18 months of abandonment or the end of useful life of the CWECs or of such improvement and shall require the removal of all above-ground components of the CWECs. Foundations shall be removed to the satisfaction of the property owner(s) and the area removed filled with soil which is reasonably similar in quality to that of the original excavation. Access roads shall be removed to the property owner's satisfaction. Minimum foundation removal shall be 4 feet below finished grade.

### **B. Abandonment.**

The CWECs or any wind turbines shall be deemed abandoned at the end of a one-year period following the mailing by certified mail of written notice of abandonment to the owner of record, sent when a completed wind turbine does not produce electric energy for distribution and there is no demonstrated plan to restore the equipment to operating condition. The Governing Body may require Applicant or holder of Conditional Use to decommission any abandoned turbine or may undertake such decommissioning with the proceeds of the escrow account, surety bond, or insurance policy, or otherwise at the expense of the last approved holder of the Special Use.

### **C. Removed from Service.**

If the CEWCS or any turbine facility has been out of service for greater than one year, the facility shall be decommissioned.

## **17. Financial Agreement**

Prior to the commencement of construction, Applicant shall submit an escrow account, a surety bond, or an insurance policy (referred to herein as “bond” regardless of the type of arrangement) in an amount approved by the Governing Body, in the amount reasonably necessary to fund the implementation of the Decommissioning Plan, payable to Reno County. The holder of the Conditional Use shall maintain the bond until the Decommissioning Plan has been completely performed and any damages to public roads caused by the decommissioning paid. The account, bond or policy shall be available to the Governing Body in the event of an abandonment of the project or a failure to comply with the Decommissioning Plan or pay for damage to public roads caused by decommissioning activities. The bond shall not be revocable without 30 days advance notice to Reno County and, in the event it is not replaced within 20 days of such notice, the County shall immediately receive the proceeds of the bond, to be used for decommissioning purposes. Nothing in the financial agreement or otherwise shall impose any liability or duty whatsoever on Reno County or any of its agencies, including, but not limited to any liability to undertake decommissioning or for taxes, wages or any other employee benefits for any person or entity.

## **18. Transfer of Special Use**

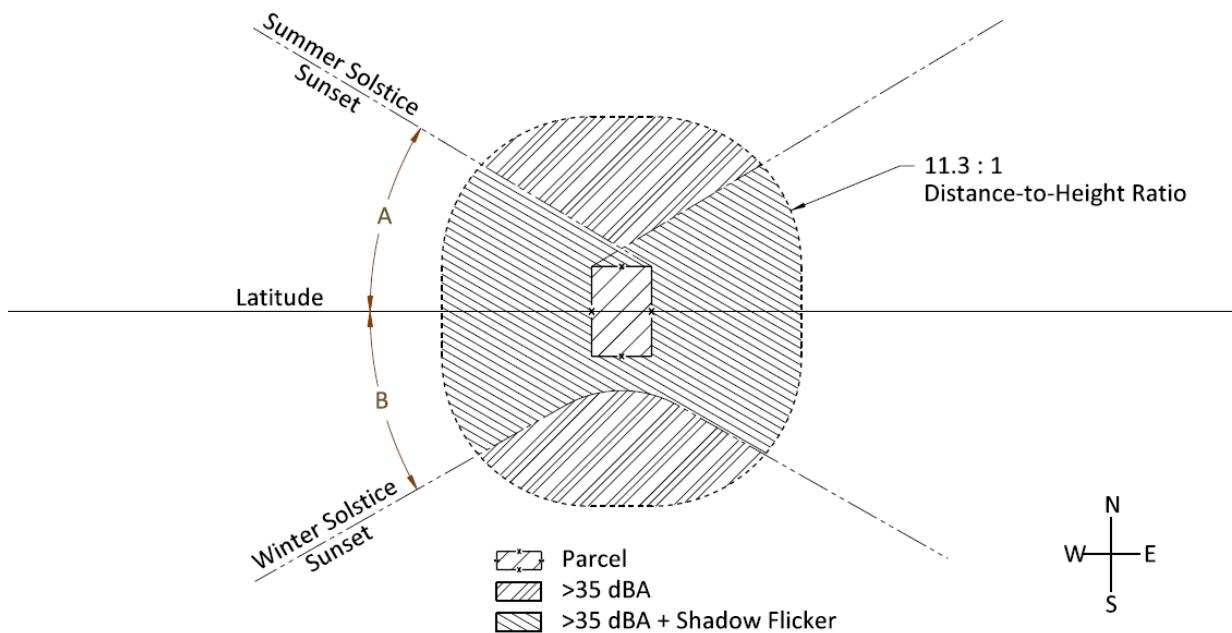
Special Use shall not be transferred from one party to a different party without approval of the Governing Body. If the Conditional Use is to be transferred, the current holder of the Conditional Use shall inform the second party of the decommissioning funding requirements and all other requirements of the Conditional Use. The second party or new holder of the Conditional Use shall meet the escrow account, surety bond, or insurance policy requirements for decommissioning and all other requirements of the Special Use. A transfer request shall be submitted to the Zoning Administrator who shall assess the current compliance of the CW ECS with the conditions of the Conditional Use and other applicable law. If the zoning Administrator determines the CW ECS is in compliance, the transfer application shall be forwarded to the Governing Body for action. A transfer fee of \$100.00 per turbine shall be paid to the County. The Governing Body shall approve the transfer application if it finds that the requirements of this section have been satisfied.

**Figure 1:** Shadow Flicker For a Typical 500-ft Tall Turbine is 1722 meters (5649.6 ft), which is equal to 11.3:1 distance-to-height ratio.



Note: Shadow flicker will occur when at least 20% of the sun’s disc is covered by the turbine blades. Shadow flicker is dependent upon alignment of turbine with respect to the sun, final blade size, pitch, and yaw.

**Figure 2:** Required Setback based on Shadow Flicker & Noise Level, based on ANSI S12.9 Parts 4&5 and Pretty Prairie Wind Energy Center Shadow Flicker Analysis, March 2019 report:



**Works Cited:**

**Pretty Prairie Wind Energy Center  
Shadow Flicker Analysis**

**Reno County, Kansas, March 2019 report:**

*“Since shadow flicker is only an issue when at least 20 percent of the sun disc is covered by the blades, WindPro uses blade dimension data to calculate the maximum distance from the turbine where shadow flicker must be calculated. For the proposed 127-meter rotor diameter, WindPro calculates a shadow flicker distance of 1,722 meters.”*

**Rand Acoustics, LLC re Pretty Prairie Wind Energy Center, Pretty Prairie Wind, LLC  
Conditional Use Permit Application, Reno County, Kansas**

**March 25, 2019 report**

(35 dBA max average operating noise)