

ARTICLE 9 WIND ENERGY SYSTEMS

Section 901 Intent

The intent of this ordinance is to ensure that the placement, construction, and modification of a Wind Energy System (WES) facility is consistent with the County's land use policies, to minimize the impact of WES facilities, to establish a fair and efficient process for review and approval of applications, to assure a comprehensive review of environmental impacts of such facilities, and to protect the health, safety and welfare of the County's citizens, livestock & wildlife.

Of significant concern to the County is Windy Energy Systems (WES) potential impact upon humans and animals from infrasound, low frequency noise and light flicker. The Board's concern is not only the effect upon participating landowners and their property, but upon non-participating neighboring properties. The Board recognizes difficulty in defining safe distance, so to speak, from the towers at which there are no adverse effects upon human and animals. Therefore, it is the intent of this ordinance to be highly cognitive of, and protective of, non-participating landowners' peace and healthful enjoyment of their properties.

Section 903 Federal and State Requirements

All WES facilities must meet or exceed standards and regulations of the Federal Aviation Administration and South Dakota State Statutes and any other agency of Federal or State government with the authority to regulate WES facilities.

Section 905 Application Requirements and Procedures

Every application for a conditional use permit for the construction and operation of a WES shall contain at least the following:

1. Plans and Leases Applicants shall provide site plans and copies of leases or easements of proposed sites of turbines and other facilities. A single application may be for multiple turbine sites and associated facilities that are part of a single project;
2. Boundaries of the site proposed for WES and associated facilities on the United States Geological Survey Map or other map as appropriate;
3. Location of wetlands, scenic, and natural areas (including bluffs) within 3 miles of the proposed WES.

4. An Acoustical Analysis that certifies that the noise & frequency requirements within this Windy Energy Systems County Ordinance;
5. Location, dimensions, and types of existing major structures on or within 3 miles of the proposed WES site boundaries;
6. Any overhead utility lines;
7. Wind system specifications, including manufacturer and model, rotor diameter, tower height, and tower type (monopole, lattice, guyed);
8. Tower foundation blueprints or drawings;
9. Tower blueprint or drawing;
10. Proof of notification to the utility in the service territory in which the WES is to be erected, consistent with the provisions herein;
11. Project-specific environmental and cultural concerns to include but not limited to; native habitat, rare species, and migratory routes. This information shall be obtained by consulting with the following agencies with evidence of such consultation included within the application.
 - a. South Dakota Department of Game, Fish and Parks;
 - b. U.S. Fish and Wildlife Service;
 - c. South Dakota State Historical Society
 - d. Geological Survey
 - e. Bureau of Indian Affairs; and
 - f. South Dakota Bat Working Group
 - g. Core of Engineers
12. Status of interconnection studies/agreements; and
13. Decommissioning Plan & Reclamation including the financial means to implement the plan.
14. Project Schedule.

The applicant/permittee shall submit with its application reports of predicted noise and frequency levels, predicted shadow flicker levels, soil erosion and control plan, final maps depicting the approximate location of the proposed wind turbines, access roads and collector and feeder lines. Upon completion, the applicant shall also supply an “as-built” ALTA survey indicating that the proposed facilities are in compliance with the setbacks in the permit.

Section 907 Mitigation Measures

1. Site Clearance: The permittee shall disturb or clear the site only to the extent necessary to assure suitable access for construction, safe operation and maintenance of the WES;
2. Topsoil Protection: The permittee shall implement reasonable measures to protect and segregate topsoil from subsoil in cultivated lands unless otherwise negotiated with the affected landowner;
3. Compaction: The permittee shall implement measures to minimize compaction of all lands during all phases of the project's life and shall confine compaction to as small an area as practicable;
4. Livestock protection: The permittee shall take precautions to protect livestock on the WES site from project operations during all phases of the project's life;
5. Fences: The permittee shall promptly replace or repair all fences and gates removed or damaged by project operations during all phases of the project's life unless otherwise negotiated with the fence owner; and
6. Roads:
 - a. Public Roads – at the time of application, the permittee shall identify all state, county, or township “haul roads” that will be used for the WES project and shall notify the state, county, or township governing body having a jurisdiction over the roads to determine if the haul roads identified are acceptable. The governmental body shall be given adequate time to inspect the haul roads prior to use of these haul roads. Where practicable, existing roadways shall be used for all activities associated with the WES. Where practicable, all-weather roads shall be used to deliver concrete, turbines, towers, assemble nacelles and all other heavy components to and from the turbine sites. The permittee shall, prior to the use of approved haul roads, make satisfactory arrangements with the appropriate state, county or township governmental body having jurisdiction over approved haul roads for construction of the WES for the maintenance and repair of the haul roads that will be subject to extra wear and tear due to transportation of equipment and WES components. The permittee shall notify the County Zoning Administrator of such arrangements.
 - b. An agreement regarding the use and method of repair to roads and bridges shall be made with the Gregory County Highway Superintendent, Gregory County Commissioners, Organized and Un-Organized townships and in conjunction with the South Dakota Department of Transportation prior to the approval of a Conditional Use

- Permit. All roads and bridges to be used in construction, maintenance, and decommissioning of the WECS, Commercial Scale Wind Systems or Turbines, shall be upgraded by the developer to a level determined by said Road Superintendent, Gregory County Commissioners, Organized and Un-Organized townships. This may include a maintenance fund to cover the County, Organized and Un-organized Township expense of maintenance and repair to any roads and bridges not properly repaired.
- c. Turbine Access Roads - Construction of the turbine access roads shall be minimized. Access roads shall be low profile roads so that farming equipment can cross them and shall be covered with Class 5 gravel or similar material. Access roads shall avoid crossing streams and drainage ways wherever possible. If access roads must be constructed across streams and drainage ways, the access roads shall be designed in a manner so runoff from the upper portions of the watershed can readily flow to the lower portion of the watershed.
 - d. Private Roads - The permittee shall promptly repair private roads or lanes damaged when moving equipment or when obtaining access to the site, unless otherwise negotiated with the affected landowner.
 - e. Control of Dust - The permittee shall utilize all reasonable measures and practices of construction to control dust during construction. The permittee shall develop a Soil Erosion and Sediment Control Plan prior to construction and submit the plan to the County Zoning Administrator. The Soil Erosion and Sediment Control Plan shall address the erosion control measures for each project phase, and shall at a minimum identify plans for grading, construction and drainage of roads and turbine pads; necessary soil information detailed design features to maintain downstream water quality; a comprehensive re-vegetation plan that uses native plant species to maintain and ensure adequate erosion control and slope stability and to restore the site after temporary project activities; and measures to minimize the area of surface disturbance. Other practices shall include containing excavated material, protecting exposed soil, stabilized restore material and removal of silt fences or barriers when the area is stabilized. The plan shall identify methods for disposal or storage of excavated material.
 - f. Environmental and cultural concerns including native habitat, rare species, and migratory routes.

Section 909 Setbacks

WES shall meet the following minimum spacing requirements.

1. Distance from a dwelling, commercial properties, public buildings, and churches shall not be less than three miles;
2. Distance from the residence of the landowner on whose property the tower(s) are erected shall be no less than three miles;
3. Distance from public road rights-of-way shall be not less than three times the total height of the turbine as measured from the tip of the blade to the ground at the highest point; and
4. Distance from any property line shall be not less than one point one (1.1) times the system height, unless an appropriate easement has been obtained from adjoining property owner.
 - h. Distance from public conservation lands including wildlife management; state recreation areas; South Dakota Department of Game, Fish and Parks; U.S. Fish and Wildlife Service; South Dakota State Historical Society; Geological Survey; Bureau of Indian Affairs; and South Dakota Bat Working Group; shall be no less than three miles.
5. Electromagnetic Interference. The permittees shall not operate the WES so as to cause microwave, television, radio, or navigation interference contrary to Federal Communications Commission (FCC) regulations or other law. In the event such interference is caused by the WES or its operation, the permittees shall take the measures necessary to correct the problem.

Section 913 Construction Standards

WES shall meet the following minimum construction requirements.

1. **Footprint Minimization:** The permittee shall design and construct the WES so as to minimize the amount of land that is impacted by the WES. Associated facilities in the vicinity of turbines shall as electrical/electronic boxes, transformers and monitoring shall to the extent practicable be mounted on the foundations used for turbine towers or inside the towers unless otherwise allowed by the landowner on whose property the WES is constructed; and
2. **Electrical Cables:** The permittee shall place electrical lines, known as collectors, and communication cables underground when located on private property except when total distance of collectors from the substation require an overhead installation due to line loss

of current from an underground installation. This paragraph does not apply to feeder lines; and

3. **Feeder Lines:** The permittee shall place overhead electric lines, known as feeders, on public right-of-way if a public right-of-way exists or immediately adjacent to the public rights-of-way on private property. Changes in routes may be made as long as feeders remain on public right-of-way or immediately adjacent to the public rights of-way on private property and approval has been obtained from the governmental unit responsible for the affected right-of-way. If no public right-of-way exists, the permittee may place feeders on private property. When placing on private property, the permittee shall place the feeders in accordance with the easements negotiated; and
4. **Height from Ground Surface:** The minimum height of blade tips at their lowest possible point shall be twenty-five (25) feet above ground; and
5. **Access:** All ground mounted electrical and control equipment shall be labeled or secured to prevent unauthorized access, and the tower shall be designed and installed so as to not provide step bolts or a ladder readily accessible to the public for a minimum height of twelve (12) feet above the ground;
6. **Towers:**
 - (a) **Color and Finish** The finish of the exterior surface shall be a nonreflective or matte; and
 - (b) All towers shall be singular tubular design
7. **Noise level:** Noise level produced by the WES shall not exceed 45 dBA, average A-weighted sound pressure at the perimeter of residences existing at the time the permit application is filed, unless a signed waiver or easement is obtained from the owner of the residence. The permittees shall submit a report of predicted noise and frequency levels at habitable residential dwellings within three miles of proposed tower locations to the Board
8. **Lighting:** Towers shall be marked as required by the Federal Aviation Administration (FAA). There shall be no lights on the towers other than what is required by the FAA. Aircraft Lighting Detection System (ALDS). This restriction shall not apply to infrared heating devices used to protect the monitoring equipment; and
9. **Shadow Flicker.** Shadow/flicker shall not be allowed on any dwelling or public road. A flicker study will need to be submitted and contain the following input: -
 - a. Turbine Location (latitude and longitude)
 - b. Shadow/Flicker receptor (dwelling and road)
 - c. USGS 1:24,000 topographic scale and USGS Digital Elevation Model (height

- contours)
- d. Turbine Rotor diameter
 - e. Turbine Hub Height
 - f. Wind Speed and direction frequency distribution data
 - g. Identification of the model and turbine size.

10. Output from the model must include the following information:

- a. Calculated shadow flicker time at selected receptors
- b. Tabulated and plotted time of day with shadow flicker at selected receptors
- c. Map showing turbine locations, selected shadow/flicker receptors and iso-line contour indications of projected shadow/flicker time (hours/year)

11. Signs. All signs, other than the manufacturers or installers identification, appropriate warning signs, or owner identification on a wind generator, tower, building, or other structure associated with a WES visible from any public road shall be prohibited;

12. Permits shall expire if the WES is not installed and functioning within twenty-four (24) months from the date the permit is issued; or

13. Each WES, Commercial Scale Wind System or Turbine must maintain liability insurance of \$5,000,000 per tower while it is in construction and operation. Annual proof of such insurance shall be provided to the County Board of Commissioners

Section 915 Abandonment

A WES that is out-of-service for a continuous 12-month period will be deemed to have been abandoned. The Board may issue a Notice of Abandonment to the owner of a WES that is deemed to have been abandoned. The owner shall have the right to respond to the Notice of Abandonment within thirty (30) days from Notice receipt date. The Board shall withdraw the Notice of Abandonment and notify the owner that the Notice has been withdrawn if the owner provides information that demonstrates the WES has not been abandoned.

If the WES is determined to be abandoned, the owner of the WES shall remove the wind generator from the tower at the Owner's sole expense within three (3) months of receipt of Notice of Abandonment. If the owner fails to remove the wind generator from the tower, the Board may pursue legal action to have the wind generator removed at the owner's expense. The board will be entitled to all attorney fees and reasonable cost occurred to any action brought under this section.

Section 917 Decommissioning

1. **Cost Responsibility.** The owner or operator of a WES is responsible for decommissioning the facility and for all costs associated with decommissioning that facility and associated facilities. The decommissioning plan shall clearly identify the applicant or responsible signee;
2. A WES is presumed to be at the end of its useful life if the facility generates no electricity for a continuous period of twelve (12) months. The presumption may be rebutted by submitting to the Board for approval of a plan outlining the steps and schedule for returning the WES to service within twelve (12) months of the submission;
3. **Decommissioning Period.** The facility owner or operator shall begin decommissioning a WES facility within eight (8) months after the time the facility or turbine reaches the end of its useful life, as determined in **Subsection 915**. Decommissioning must be completed within eighteen (18) months after the facility or turbine reaches the end of its useful life;
4. **Decommissioning Requirements.** Decommissioning and site restoration includes dismantling and removal of all towers, turbine generators, transformers, overheads and underground cables, foundations, building and ancillary equipment and removal of surface road material and restoration of the roads and turbine sites to substantially the same physical condition that existed immediately before construction of the WES To the extent reasonably possible, the site must be restored and reclaimed to the topography and topsoil quality that existed just prior to the beginning of the construction of the commercial wind energy conversion facility or wind turbine disturbed earth must be graded and reseeded, unless the landowner request that the access roads or other land surface areas be retained;
5. **Decommissioning Plan.** At the time of application, the facility owner or operator shall file with the Board the estimated decommission cost per turbine, in current dollars at the time of the application, for the proposed facility and a decommissioning plan that describes how the facility owner will ensure that resources are available to pay for decommissioning the facility at the appropriate time. The Board shall review a plan filed under this section and shall approve or disapprove the plan within six (6) months after the decommissioning plan was filed. The Board may at any time require the owner or operator of a WES to file a report describing how the WES owner or operator is fulfilling this obligation;
6. **Financial Assurance.** Each WES project under this section shall have a Decommissioning Plan outlining the anticipated means and cost of removing WES at the end of their serviceable life or upon being discontinued use. The cost estimates shall be made by an independent competent party subject to board approval such as a Professional Engineer, a

contractor capable of decommissioning, or a person with suitable expertise or experience with decommissioning. The plan shall also identify the financial resources that will be available to pay for decommissioning and removal of the WES and accessory facilities. The form of financial resources will be a cash escrow account deposited in a Gregory County fund or a Performance & Payment Bond Company. 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.

7. **Failure to Decommission.** If the WES facility owner or operator does not complete decommissioning, the Board may take such action as may be necessary to complete decommissioning, including requiring forfeiture of the bond. The entry into a participating land owner agreement shall constitute agreement and consent of the parties to the agreement, their respective heirs, successors, and assigns, that the Board may take such action as may be necessary to decommission a WES facility and seek additional expenditures necessary to do so from the facility owner.

First Reading August 7, 2024
Second Reading August 21, 2024

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