

Handout B

Received 3-12-19
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WIND ENERGY SYSTEM (WES) REQUIREMENTS

Section 1 Applicability

The requirements of these regulations shall apply to all WES facilities except private non-commercial facilities with a single tower height of less than one-hundred forty (140) feet and used primarily for on-site consumption of power.

Section 2 Federal and State Requirements

All WESs shall 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 WESs.

Section 3 General Provisions

1. Mitigation Measures.

- a. **Site Clearance.** The permittees shall disturb or clear the site only to the extent necessary to assure suitable access for construction, safe operation and maintenance of the WES.
- b. **Topsoil Protection.** The permittees shall implement measures to protect and segregate topsoil from subsoil in cultivated lands unless otherwise negotiated with the affected land owner.
- c. **Compaction.** The permittees 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.
- d. **Livestock Protection.** The permittees shall take precautions to protect livestock during all phases of the project's life.
- e. **Fences.** The permittees shall promptly replace or repair all fences and gates removed or damaged during all phases of the project's life unless otherwise negotiated with the affected landowner.
- f. **Roads**
 - i. **Public Roads.** Prior to commencement of construction, the permittees 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 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 practical, existing roadways shall be used for all activities associated with the WES. Where practical, all-weather roads shall be used to deliver cement, turbines, towers, assemble nacelles and all other heavy components to and from the turbine sites.

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- ii. The permittees 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 permittees shall notify the County of such arrangements upon request of the County.
 - iii. Turbine Access Roads. Construction of 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. When access roads are 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.
 - iv. Private Roads. The permittees 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.
 - v. Control of Dust. The permittees shall utilize all reasonable measures and practices of construction to control dust.
 - vi. Soil Erosion and Sediment control Plan. The permittees shall develop a Soil Erosion and Sediment Control Plan prior to construction and submit the plan to the County. 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 revegetation plan 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, stabilizing restored 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.
2. Setbacks. See Table 1 on page 3.

TABLE 1

Setback Type	Distance
Project wind turbines from currently participating occupied residence, unless waived in writing by the owner of the occupied residence	1,320 feet
Project wind turbines from currently non-participating occupied residence	2,640 feet
Project wind turbines from maintained County roadway, unless waived in writing by the County	1.1 times wind turbine tip height
Project wind turbines from maintained township roadway, unless waived in writing by the applicable township	1.1 times wind turbine tip height
Project wind turbines from existing overhead distribution and transmission lines, unless waived in writing by the infrastructure owner	1.1 times wind turbine tip height
Pursuant to SDCL 43-13-24, Project wind turbines from property lines, unless the Developer has a written agreement with the adjacent landowner allowing the placement of the tower closer to the property line, in which case, the tower may be placed closer to the property line shared with that adjacent land owner.	500 feet or 1.1 times the height of the wind turbine tower, whichever is greater

- a. Set back distance to be measured from the wall line of the neighboring principal building to the base of the WES tower. The vertical height of the wind turbine is measured from the ground surface to the tip of the blade when in a fully vertical position.
- b. The horizontal setback shall be measured from the base of the tower to the public right-of-way.
- c. The horizontal setback shall be measured from the base of the tower to the adjoining property line unless wind easement has been obtained from adjoining property owner.

Exception: The Board of Adjustment may allow setback/separation distances to be less than the established distances identified above if the road authority, participating or non-participating landowner, or municipality (by resolution of the governing body) agree to a lesser setback/separation distance. If approved, such agreement is to be recorded and filed with the Hand County Zoning Officer. Said agreement shall be binding upon the heirs, successors, and assigns of the title holder and shall pass with the land.

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3. 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.
4. 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. This restriction shall not apply to infrared heating devices used to protect the monitoring equipment. The preferred manner of lighting is by means of an Aircraft Detection Light System (ADLS). Subject to FAA approval, applicants will install an ADLS within on (1) year of approval by FAA for the specified project. In the event FAA does not approve an ADLS system, the applicant will comply with all lighting and markings otherwise required by FAA.
5. Turbine Spacing. The turbines shall be spaced no closer than is allowed by the turbine manufacturer in its approval of the turbine array for warranty purposes.
6. Footprint Minimization. The permittees 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 such as electrical/electronic boxes, transformers and monitoring systems shall to the greatest extent feasible be mounted on the foundations used for turbine towers or inside the towers unless otherwise negotiated with the affected landowner.
7. Electrical Cables. The permittees 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. Collectors and cables shall also be placed within or immediately adjacent to the land necessary for turbine access roads unless otherwise negotiated with the affected landowner. This paragraph does not apply to feeder lines.
8. Collector Lines. Collector lines are the conductors of electric energy from the WES to the feeder lines. When located on private property, the permittees shall place electrical lines, known as collectors, and communication cables underground between the WES and the feeder lines. The exception to this requirement is when the total distance of the collectors from the substation requires an overhead installation due to line loss of current from an underground installation. Collectors and cables shall also be placed within or immediately adjacent to the land necessary for turbine access roads unless otherwise negotiated with the affected landowner. The paragraph does not apply to feeder lines.
9. Feeder Lines. Feeder lines are the conductors of electric energy from the collector lines to the main electric terminal, and may be located either above or below the ground. Overhead electric lines, known as feeders, may be placed on private property or on public rights-of-way. Changes in routes in public rights-of-way may be made as long as approval has been obtained from the governmental unit responsible for the affected right-of-way. When placing feeders on private property, the permittees shall place the feeder in accordance with the easement negotiated with the affected landowner. The permittees shall submit the site plan and engineering drawings for the feeder lines before commencing construction.

10. Decommissioning/Restoration/Abandonment.

a. Decommissioning Plan. Within 120 days of completion of construction, the permittees shall submit to the County a decommissioning plan describing the manner in which the permittees anticipate decommissioning the project in accordance with the requirements of paragraph (b) below. The plan shall include a description of the manner in which the permittees will ensure that it has the financial capability to carry out these restoration requirements when they go into effect. The permittees shall ensure that it carries out its obligation to provide for the resources necessary to fulfill these requirements. The County may at any time request the permittees to file a report with the County describing how the permittees are fulfilling this obligation.

b. Site Restoration. Upon expiration of this permit, or upon earlier termination of operation of the WES, the permittees shall have the obligation to dismantle and remove from the site all towers, turbine generators, transformers, overhead and underground cables, foundations, buildings and ancillary equipment to a depth of forty two (42) inches. To the extent possible the permittees shall restore and reclaim the site to its pre-project topography and topsoil quality. All access roads shall be removed unless written approval is given by the affected landowner requesting that one or more roads, or portions thereof, be retained. Any agreement for removal to a lesser depth or for no removal shall be recorded with the County and shall show the locations of all such foundations. All such agreements between the permittees and the affected landowner shall be submitted to the County prior to completion of restoration activities. The site shall be restored in accordance with the requirements of this condition within eighteen months after expiration.

11. Abandoned Turbines. The permittees shall advise the County of any turbines that are abandoned prior to termination of operation of the WES. The County may require the permittees to decommission any abandoned turbine.

12. Height from Ground Surface. The minimum height of blade tips, measured from ground surface when a blade is in fully vertical position, shall be twenty-five (25) feet.

13. Towers.

a. Color and Finish. The finish of the exterior surface shall be non-reflective and non-glass.

b. All towers shall be singular tubular design.

14. Noise. Noise level shall not exceed 50 DBA, average A-Weighted Sound pressure at the perimeter of participating residences and business and 45 DBA, average A-Weighted Sound pressure at the perimeter for non-participating residences and business and shall not exceed 45 DBA, average A-Weighted Sound pressure and buildings owned and/or maintained by a governmental entity.

15. Permit Expiration. The permit shall become void if either no construction as described in the application has commenced within three (3) years of issuance; or if a State Permit from the South Dakota Public Utility Commission has not been issued with two (2) years of issuance.

16. Required Information for Permit.

- a. Boundaries of the site proposed for WES and associated facilities on United States Geological Survey Map or other map as appropriate.
- b. Map of easements for WES.
- c. Copy of easement agreements with landowners.
- d. Map of occupied residential structures, businesses and public buildings.
- e. Map of sites for WES, access roads and utility lines.
- f. Proof of utility right-of-way easement for access to transmission lines.
- g. Location of other WES in general area.
- h. Project schedule.

Section 4 Definitions

The following words, terms, and phrases, when used in this Section, shall have the meanings ascribed to them in this Section, except where the context clearly indicates a different meaning:

1. *Occupied Residence* a dwelling, mobile home, or manufactured home which has been occupied for two (2) years immediately preceding an application for a wind energy system permit.
2. *Participating Party* is any landowner or person who receives direct or indirect compensation for allowing a wind energy system to utilize or have an access/easement to utilize their property.