

From PVC site 2008

## DRAFT MODEL ORDINANCE FOR SITING OF WIND ENERGY SYSTEMS (WES)

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### 1. Purpose

The purpose 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.

### 2. Authority and Jurisdiction

South Dakota Codified Law 11-2-2 delegates the responsibility to the Board of County Commissioners of each county to adopt and enforce regulations designed for the purpose of promoting health, safety, and general welfare of the county.

### 3. Federal and State Requirements

All WES facilities 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 WES facilities.

### 4. Definitions

1. **Board** – The County Commission, City Commission, or other governmental body governing the district this ordinance refers to.
2. **Construction** – Any clearing of land, excavation, or other action that would adversely affect the natural environment of the site or route but does not include changes needed for temporary use of sites or routes for non-utility purposes, or uses in securing survey or geological data, including necessary borings to ascertain foundation conditions.
3. **High Voltage Transmission Line** – A conductor of electric energy and associated facilities.
4. **Large Wind Energy System or LWES** – All WES facilities excluding Small Wind Energy Systems.
5. **Person** – An individual, partnership, joint venture, private or public corporation, association, firm, public service company, cooperative, political subdivision, municipal corporation, government agency, public utility district, consumers power district, or any other entity, public or private, however organized.

6. **Route** – The location of a High Voltage Transmission Line between two end points. The route may have a variable width of up to 1.25 miles.
7. **Small Wind Energy System** or **SWES** – A WES facility with a single Tower Height of less than seventy-five (75) feet used primarily for on-site consumption of power.
8. **Tower Height** – The height above grade of the fixed portion of the tower, excluding the wind turbine itself
9. **System Height** – The height above grade of the tallest point of the WES, including the rotor radius.
10. **Turbine** – The parts of the WES including the blades, generator and tail.
11. **Utility** – Any person engaged in the generation, transmission or distribution of electric energy in this state including, but not limited to, a private investor owned utility, a cooperatively owned utility, a consumers power district and a public or municipal utility.
12. **Wind Energy System** or **WES** – A commonly owned and/or managed integrated system that converts wind movement into electricity. All of the following are encompassed in this definition of system:
  - (a) Tower or multiple towers, including foundations;
  - (b) Generator(s);
  - (c) Blades;
  - (d) Power collection systems, including padmount transformers;
  - (e) Access roads, meteorological towers, on-site electric substation, control building, and other ancillary equipment and facilities; and
  - (f) Electric interconnection systems or portion thereof dedicated to the WES.

## 5. Requirements for Siting Small Wind Energy Systems

### 1. Standards

A Small Wind Energy System shall be a permitted use in all zoning districts subject to the following requirements:

- (a) **Setbacks.** The minimum setback distance between each wind turbine tower and all surrounding property lines, overhead utility or transmission lines, other wind turbine towers, electrical substations, public roads and dwellings shall be equal to no less than one point one (1.1) times the system height, unless written permission is granted by each affected person.
- (b) **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 eight (8) feet above the ground.
- (c) **Lighting.** A SWES shall not be artificially lighted unless such lighting is required by the Federal Aviation Administration.

- (d) Noise. SWES facilities shall not exceed fifty-five (55) dBA, as measured at the closest neighboring inhabited dwelling. The level, however, may be exceeded during short-term events such as utility outages or wind storms.
- (e) Appearance, Color, Finish. The SWES shall remain painted or finished the color or finish that was originally applied by the manufacturer, unless approved in the building permit.
- (f) Signs. All signs, other than the manufacturer's or installer's identification, appropriate warning signs, or owner identification on a wind generator, tower, building, or other structure associated with a SWES visible from any public road shall be prohibited.
- (g) Code Compliance. A SWES shall comply with all applicable state construction and electrical codes, and the National Electrical Code.
- (h) Utility Notification. No SWES shall be installed until evidence has been given that the utility company has been informed of the customer's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

## 2. Permit Requirements

- (a) Building Permit. A building permit shall be required for the installation of a SWES.
- (b) The building permit shall be accompanied by a plot plan which includes the following:
  - (1) Property lines and physical dimensions of the property;
  - (2) Location, dimensions, and types of existing major structures on the property;
  - (3) Location of the proposed SWES;
  - (4) The right-of-way of any public road that is contiguous with the property;
  - (5) Any overhead utility lines;
  - (6) Wind system specifications, including manufacturer and model, rotor diameter, tower height, and tower type (monopole, lattice, guyed);
  - (7) Tower foundation blueprints or drawings;
  - (8) Tower blueprint or drawing;
  - (9) Proof of notification to the utility in the service territory in which the SWES is to be erected, consistent with the provisions of 5(3)(h) herein; and
  - (10) The status of all necessary interconnection agreements or studies.
- (c) Expiration. A permit issued pursuant to this ordinance shall expire if:
  - (1) The SWES is not installed and functioning within twenty-four (24) months from the date the permit is issued; or
  - (2) The SWES is out of service or otherwise unused for a continuous 12-month period.

### 3. Abandonment

- (a) A SWES 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 SWES 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 SWES has not been abandoned.
- (b) If the SWES is determined to be abandoned, the owner of the SWES 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.

### 4. Building Permit Procedure

- (a) An owner shall submit an application to the Board for a building permit for a SWES. The application must be on a form approved by the Board and must be accompanied by two (2) copies of the plot plan identified.
- (b) The Board shall issue a permit or deny the application within one month of the date on which the application is received.
- (c) The Board shall issue a building permit for a SWES if the application materials show that the proposed SWES meets the requirements of this ordinance.
- (d) If the application is approved, the Board will return one signed copy of the application with the permit and retain the other copy.
- (e) If the application is rejected, the Board will notify the applicant in writing and provide a written statement of the reason why the application was rejected. The applicant may reapply if the deficiencies specified by the Board are resolved.
- (f) The owner shall conspicuously post the building permit on the premises so as to be visible to the public at all times until construction or installation of the SWES is complete.

5. Violations. It is unlawful for any person to construct, install, or operate a SWES that is not in compliance with this ordinance or with any condition contained in a building permit issued pursuant to this ordinance. SWES facilities installed prior to the adoption of this ordinance are exempt.

6. Severability. The provisions of this ordinance are severable, and the invalidity of any section, subdivision, paragraph, or other part of this ordinance shall not affect the validity or effectiveness of the remainder of the ordinance.

## 6. Requirements for Siting Large Wind Energy Systems

### 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 LWES.
- (b) Topsoil Protection. The permittees shall implement measures to protect and segregate topsoil from subsoil in cultivated lands unless otherwise negotiated with the affected landowner.
- (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 on the LWES site from project operations during all phases of the project's life.
- (e) Fences. The permittees 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.
- (f) Roads
  - (1) 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 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 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 Zoning Office of such arrangements.

- (2) 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. 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.

- (3) 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.
- (4) Control of Dust. The permittees shall utilize all reasonable measures and practices of construction to control dust during construction.
- (g) 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 Zoning Office. 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, 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

LWES shall meet the following minimum spacing requirements.

- (a) Distance from currently occupied off-site residences, business and public buildings shall be not less than one thousand (1,000) feet. Distance from the residence of the landowner on whose property the tower(s) are erected shall be not less than five hundred (500) feet or one point one (1.1) times the system height, whichever is greater. For the purposes of this section only, the term "business" does not include agricultural uses.
  - (b) Distance from right-of-way (ROW) of public roads shall be not less than five hundred (500) feet or one point one (1.1) times the system height, whichever is greater.
  - (c) Distance from any property line shall be not less than five hundred (500) feet or one point one (1.1) times the system height, whichever is greater, unless appropriate easement has been obtained from adjoining property owner.
3. Electromagnetic Interference. The permittees shall not operate the LWES 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 LWES 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.

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 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 LWES is constructed.
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. This paragraph does not apply to feeder lines.
8. Feeder Lines. The permittees shall place overhead electric lines, known as feeders, on public rights-of-way if a public right-of-way exists or immediately adjacent to the public right-of-way on private property. Changes in routes may be made as long as feeders remain on public rights-of-way or immediately adjacent to the public right-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 permittees may place feeders on private property. When placing feeders on private property, the permittees shall place the feeder in accordance with the easement(s) negotiated. The permittees shall submit the site plan and engineering drawings for the feeder lines to the Board before commencing construction.
9. Height from Ground Surface. The minimum height of blade tips at their lowest possible point shall be twenty-five (25) feet above grade.
10. Towers
  - (a) Color and Finish. The finish of the exterior surface shall be non-reflective or matte.
  - (b) All towers shall be singular tubular design, unless approved by the Board.
11. Noise. Noise level produced by the LWES shall not exceed 55 dBA, average A-weighted sound pressure at the perimeter of occupied residences existing at the time the permit application is filed, unless a signed waiver or easement is obtained from the owner of the residence.
12. Permit Expiration. The permit shall become void if no substantial construction has been completed within three (3) years of issuance.
13. Required Information for Permit Application.
  - (a) Boundaries of the site proposed for LWES and associated facilities on United States Geological Survey Map or other map as appropriate.
  - (b) Map of easements for LWES.

- (c) Map of occupied residential structures, business and public buildings within one half mile of the proposed LWES site boundaries.
- (d) Preliminary map of sites for LWES, access roads and utility lines. Location of other LWES within five (5) miles of the proposed LWES site.
- (e) Project-specific environmental and cultural concerns (e.g. native habitat, rare species, and migratory routes). This information shall be obtained by consulting with the following agencies:
  - (1) South Dakota Department of Game, Fish and Parks;
  - (2) U.S. Fish and Wildlife Service; and
  - (3) South Dakota State Historical Society
 Evidence of such consultation shall be included in the application.
- (f) Project schedule.
- (g) Mitigation measures.
- (h) Status of interconnection studies/agreements.

#### 14. Decommissioning

- (a) Cost Responsibility. The owner or operator of a LWES is responsible for decommissioning that facility and for all costs associated with decommissioning that facility and associated facilities. The decommissioning plan shall clearly identify the responsible party.
- (b) Useful Life. A LWES 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 LWES to service within twelve (12) months of the submission.
- (c) Decommissioning Period. The facility owner or operator shall begin decommissioning a LWES facility within eight (8) months after the time the facility or turbine reaches the end of its useful life, as determined in 14(b). Decommissioning must be completed with eighteen (18) months after the facility or turbine reaches the end of its useful life.
- (d) Decommissioning Requirements. Decommissioning and site restoration includes dismantling and removal of all towers, turbine generators, transformers, overhead and underground cables, foundations, buildings and ancillary equipment to a depth of forty-two (42) inches; 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 LWES. To the extent 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 requests in writing that the access roads or other land surface areas be retained.

- (e) Decommissioning Plan. Prior to commencement of operation of a LWES facility, the facility owner or operator shall file with the Board the estimated decommissioning 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 LWES to file a report describing how the LWES owner or operator is fulfilling this obligation.
  - (f) Financial Assurance. After the tenth (10<sup>th</sup>) year of operation of a LWES facility, the Board may require a performance bond, surety bond, letter of credit, corporate guarantee or other form of financial assurance that is acceptable to the Board to cover the anticipated costs of decommissioning the LWES facility.
  - (g) Failure to Decommission. If the LWES 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 landowner 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 LWES facility and seek additional expenditures necessary to do so from the facility owner.
15. Pre-construction Filing. At least forty-five (45) days prior to commencement of construction, the applicant/permittee shall submit 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.