

O. WIND ENERGY FACILITIES

1. **Purpose:** The purpose of this provision is to provide a regulatory framework for the siting, construction, and operation of wind energy facilities in Mercer County subject to reasonable restrictions, which will preserve the best interests, safety and well-being of the residents of Mercer County, while allowing equitable and orderly development of wind energy facilities.

2. **Definitions**
 - a. Construction: any clearing of land, excavation, or other action that would affect the environment of the site.
 - b. Decommissioning: the process of terminating operation and completely removing a wind energy facility and all related buildings, structures, foundations, access roads, and equipment.
 - c. Height (of turbine): the vertical distance from the grade of the property as existed prior to construction to the highest point of a turbine rotor blade when in the upright position.
 - d. Interconnection agreement: agreement between owner and the Interconnection Utility regarding the interconnection of the facility to the transmission or distribution system of the Interconnecting Utility
 - e. Occupied Dwelling: (1) Where any person lives or carries on business or other calling; or (2) Which is used for overnight accommodation of persons for any duration.
 - f. Operator: entity responsible for the day-to-day operation and maintenance of a wind energy facility
 - g. Owner: individual or entity, including their respective successors and assigns, which have an equity interest of own the wind energy facility
 - h. Power Purchase Agreement: a long-term agreement for the sale of wind energy between the owner and a purchaser
 - i. Site: the location of the wind energy facility
 - j. Wind Energy Facility: one or more wind turbines, including appurtenant structures and facilities, rated at an individual or combined nameplate capacity of over 115 kv.

3. **Criteria**
 - a. **Wind Resource**
 1. Wind energy facilities shall only be installed where there is an established wind source, determined in any of the following;
 1. Planned wind energy site has a minimum eleven (11) mph average wind speed at the designed hub height as documented on the ND department of commerce statewide wind speed maps

2. The applicant submits an analysis conducted by a certified wind energy installer or site assessor (e.g. North American Board of Certified Energy Professional).
- b. **Appearance.** Wind turbines shall be painted with a non-reflective coating and in a uniform, white or gray color. Turbines shall be installed on tubular, monopole-type towers, shall be of similar size, height, design and appearance, and, to the extent possible, shall all rotate in the same direction. Turbines shall not display any advertising except for reasonable identification, restricted to one sign, of the manufacturer or operator or the wind energy conversion facility. Such identification signage shall not exceed three square feet, be posted at the base of the tower and specify the following: a warning of high voltage, the manufacturer's name, and an emergency phone number for the operator. The design of the buildings and related structures at the wind energy conversion facility sites shall use materials, textures, and location that will blend the wind energy facility into the natural setting and existing environment.
- c. **Design.**
1. All turbines must be self-supporting. The base for any tower shall be designed to anchor and support the tower for the site and is further subject to the industry standard for safety design.
 2. Internal Turbine Spacing: five rotor diameters downwind and three rotor diameters crosswind.
 3. The blade tip of any wind turbines shall, at its lowest point, have a ground clearance of not less than 75 feet.
- d. **Lighting.** Wind turbines shall not be artificially lighted except to the extent required by the Federal Aviation Administration (FAA) or other applicable governmental regulatory authority. Beacon lighting is prohibited unless required by the FAA.
- e. **Weeds.** All noxious weeds, or other weeds, grass, brush, or other unhealthful growths exceeding a height of 12 inches must be controlled by the applicant and comply with the directives of the County weed control officer.
- f. **Tree removal.** The applicant shall minimize the removal of trees and shall not remove groves of trees or shelter belts without the written approval of the affected landowner.
- g. **Chemicals.** The use of chemicals is limited to those herbicides and methods approved by the North Dakota Department of Agriculture and the

North Dakota Department of Health. The applicant must contact the affected landowners prior to application.

- h. **Waste removal.** The 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 in compliance with county and state guidelines. Personal litter, bottles, and paper deposited by site personnel shall be removed on a daily basis.
- i. **Hazardous waste.** The applicant shall be responsible for compliance with all federal, state, and local laws applicable to the generation, storage, transportation, clean up, and disposal of hazardous wastes generated during any phase of the project's life.
- j. **Fence and gate repair.** The applicant shall promptly repair or replace all fences and gates removed or damaged during all phases of the wind energy conversion facility's life and provide continuity of electric fence circuits unless otherwise negotiated with the affected landowner. All access gates to the wind energy facility shall be no less than 20 feet wide.
- k. **Drainage tile repair.** The applicant shall take into account, avoid, promptly repair or replace all drainage tiles broken or damaged during all phases of project life unless otherwise negotiated with the affected landowner.
- l. **Collector lines and communication cables.** The applicant shall place electrical lines, known as collector lines, and communication cables underground when located on private property. Collectors and cables shall also be placed within or adjacent to the land necessary for turbine access roads unless otherwise negotiated with the affected landowner.
- m. **Feeder lines.**
 - 1. All feeder lines used to collect power from individual turbines and all associated communication lines shall be buried underground at a depth of at least four feet, where practicable.
 - 2. Where underground lines are not practicable, the applicant shall place overhead or underground electric lines, known as feeder lines, on private land immediately adjacent to public rights-of-way (whether improved or not) except as necessary to avoid or minimize human, agricultural, or environmental impacts.
 - 3. Feeder lines may be placed on public rights-of-way only if approved or if the required permits have been obtained from the governmental unit responsible for the affected right-of-way.
 - 4. In all cases, the applicant shall avoid placement of feeder lines in locations that may interfere with agricultural operations.

5. Any guy wires on the structures for feeder lines shall be marked with safety shields.
6. When feeder lines are placed on private property, the applicant shall place the feeder lines in accordance with the easement negotiated with the affected landowners. Such easements must specify the use, width and location of the easement, and be recorded with the County Recorder.
7. A change of routes may be made as long as the feeders remain on public rights of way and approval has been obtained from the governmental unit responsible for the affected right of way.
8. All trenches for underground burial of associated equipment or lines shall have a marking tape installed at $\frac{1}{2}$ of the trench depth.

n. **Setbacks:**

1. General: Must meet all applicable federal, state and county setback requirements.
2. From occupied dwelling, commercial building or publicly used structure or facility. The horizontal distance between the center of a turbine monopole and any occupied structure shall not be less than 1500 feet, unless otherwise negotiated with the landowner of the structure.
3. Setbacks from property lines, roadways, rights-of-way, and utilities. Each wind turbine shall be set back not less than 110% the height of the turbine from any public roadway (whether improved or not), above ground communication or electrical lines, railroad right-of-way, and property lines.
4. Site perimeter. Each wind turbine shall be set back from the wind energy facility perimeter at a distance no less than 110% the height of the wind turbine (measured from the ground surface to the tip of the blade when in a fully vertical position). A variance may be granted by the County if the owner of the facility and adjacent landowners provide written consent.
5. Natural, recreational, and historical resources. Each turbine shall be set back a distance of no less than one mile from the nearest existing critical and irreplaceable natural and/or cultural resource area within the County, including, but not limited to Knife River Indian Villages. Each turbine shall be set back a distance of no less than one mile of any state, county, or city park or designated recreation area, water body, or wetland, including, but not limited to, Lake Sakakawea, Missouri River, and grasslands, wetlands and other public conservation lands managed by Game and Fish and USFWS. The setback for waterbodies and wetlands shall be measured from the ordinary high-water mark.

- o. **Shadow flicker.** The applicant shall make every reasonable effort, including landscape design, to minimize the effects of shadow flicker on any neighboring occupied dwelling or roadways. Upon receipt of a verified complaint, the Land Use Administrator may request a shadow flicker and blade glint study be prepared at the expense of the applicant by a registered professional engineer (qualified by training, education, and experience to conduct such a study) certifying that shadow flicker and blade glint present no deleterious effects for any neighboring occupied dwelling. If it is determined that shadow flicker and/or blade glint exists at any occupied structure, the applicant shall implement and maintain all necessary remedial measures.
- p. **Sound.**
1. In order to reduce the risk of negative health impacts from large wind turbine noise, audible sound limits shall not exceed 50 dBA for any measurable period of time within 300 feet of any occupied dwelling, business, or place of public gathering; and a dBC limit not to exceed 50 dB above ambient background levels.
 2. Construction noise or reasonable and necessary maintenance activities are allowed to exceed these sound limits except between the hours of 10 p.m. (CST) to 6 a.m. (CST).
 3. Noise testing shall be regularly conducted, at the expense of the applicant. Noise testing reports shall be available for inspection to the Land Use Administrator at any time, and shall include the following information: when, where and how was testing conducted. Noise testing shall have an acoustical analysis identifying noise levels in decibels at multiple distances from the turbine.
 4. Upon receipt of a complaint regarding noise, the Land Use Administrator may require the applicant, at the applicant's expense, to have prepared, by an independent acoustical consultant an acoustical study that shall demonstrate compliance with the above noise standard. If it is determined that the noise standard is not met, the applicant shall implement and maintain all necessary remedial measures. The noise level generated by the operation of the wind energy facility will be determined by comparing the sound level measured when the turbine blades are rotating to the sound level measured when the blades are stopped.
- q. **Temporary staging areas.** The applicant shall negotiate with landowners to locate sties for temporary equipment staging areas.

- r. **Archeological resource survey consultation.** Unless the project is under the purview of the North Dakota Public Service Commission, and an Archeological Resource Survey is being prepared as part of that process, the applicant shall work with the State Historic Preservation Office (SHPO) at the State Historical Society of North Dakota at the beginning of the planning process for the wind energy conversion facility to determine whether an archaeological survey is recommended for any part of the proposed project. If recommended, the applicant shall contract with a qualified archaeologist to complete such surveys, and shall submit the results to the county planner and the SHPO. The SHPO will make recommendations for the treatment of any significant archaeological sites which are identified. Any issues in the implementation of these recommendations will be resolved by the County in consultation with the SHPO at the expense of the applicant. All information provided or submitted under this provision is subject to North Dakota Century Code Section 55-02-07.1.
- s. **Biological resources survey.** Unless the project is under the purview of the North Dakota Public Service Commission, the applicant, in consultation with the US Fish and Wildlife Service – Ecological Services Office (USFWS) and the North Dakota Department of Game and Fish (NDGF) shall, for the project site, conduct a preconstruction inventory of existing wildlife management areas, scientific and natural areas, recreation areas, native prairies and forests, wetlands, and any other biologically sensitive areas and wildlife resources, particularly birds and bats, within the site and assess the presence of state-listed or federally-listed or threatened species, and other protected species such as migratory birds. The results of the survey shall be submitted to the Land Use Administrator, USFWS, and NDGF.
- t. **Electromagnetic interference assessment.** Unless the project is under the purview of the North Dakota Public Service Commission and an electromagnetic interference assessment is being prepared as a part of that process, the applicant shall submit an assessment of microwave signal patterns in the project area prior to commencement of construction of the project.
1. The assessment shall be designed to provide data that can be used in the future to determine whether the turbines and associated facilities are the cause of disruption or interference of microwave patterns in the event residents complain about such disruption or interference after the turbines are placed in operation. The assessment shall be completed prior to operation of the turbines.
 2. The applicant shall be responsible for alleviating any disruption or interference caused by the turbines or any associated facilities of

residents' cell phone, television, radio, computer, satellite, or other electronic transmissions, receptions, or services.

3. The applicant shall not operate the wind turbine facility so as to cause microwave, television, radio, telecommunications, or navigation interference contrary to Federal Communications Commission (FCC) regulations or federal, state, or local laws.
 4. In the event the wind turbine facility or its operations cause such interference as described in items 2 and 3 above, the applicant shall take measures necessary to correct problems within 30 calendar days of notification of such interference.
- u. **Fire protection and medical emergency plans.** Prior to construction, the applicant shall prepare fire protection and medical emergency plans in consultation with the rural fire district, Sheriff's Department, Emergency Management, and local emergency medical service provides having jurisdiction over the area. The applicant shall submit the project for registry in the 911 system. Each turbine shall also be marked with a visible identification number to assist emergency services and the operator shall file with the local fire and Sheriff's Department a wind energy facility map identifying wind turbine locations and numbers.
- v. **Public safety plan.** The applicant is encouraged to provide educational material to landowners within the site boundaries, and upon request, to interested persons about the project and any restrictions or dangers associated with the project. The applicant is encouraged to also provide any necessary safety measures, such as warning signs and gates for traffic control or to restrict public access to turbine access roads, substations, and wind turbines. The applicant shall comply with provisions outlined in their public safety plan.
- w. **Construction Timeframe.** Construction at the site must be started within two years of approval of the project and must be completed and the facility operational within four years.
- x. **Length of permit.** Permits shall be valid for 25 years unless otherwise determined by the Board, and shall be renewable at the discretion of the Board.
- y. **Performance history.**
1. All turbines shall be commercially available, utility scale, with an operational history of at least one year. Prototype turbines are not allowed.
 2. A use record of the turbines must be completed annually and available upon request by the Land Use Administrator.

3. All turbines and related facilities must be routinely maintained, as recommended by the manufacturer and/or pursuant to the industry standard.
- z. **As-built plans and specifications.** Within 30 calendar days after completion of construction, the applicant shall submit to the Land Use Administrator, a copy of the as-built plans and specifications in both hard copy and in electronic digital format as specified by the county planner.
 - aa. **Changes.** Any minor changes in the location or character of wind energy facilities and structures may be authorized in writing by the county.
 - bb. **Pre-construction meeting.** Prior to the start of any construction, the applicant shall conduct a preconstruction meeting with the County Road Superintendent and/or County Engineer to coordinate field monitoring of construction activities and to assess existing conditions of roads and drainage systems. The applicant shall provide photographs of the existing conditions to the Land Use Administrator. The pre-construction meeting shall be open to all interested parties and shall address staging, complaints, emergency plans, and other pertinent issues.
 - cc. **Turbine access roads and protection of agricultural operations.** The location and construction of access roads and other infrastructure shall, to the extent reasonably possible, not disrupt farming, agricultural operations, or the landscape of the County. In order to preserve the integrity of fields and capacity for efficient tilling, planting, and harvesting, the applicant shall work with the landowner to determine the most appropriate routing of access road locations.
 - dd. **Approach permits.** The applicant is responsible for obtaining an approach permit from the county engineer or the affected township for any new or reconstructed approach.
 - ee. **Overweight load permits.** The applicant is responsible for abiding by the state and local overweight load permitting process in accordance with North Dakota Century Code chapter 39-12. A special use permit issued under this ordinance to erect a wind turbine facility does not negate a hauler's obligation to obtain overweight load permits for hauling.
 - ff. **Road repair (private roads).** The applicant shall promptly repair any damaged private roads, driveways, or lanes to a condition at least equal to the condition prior to construction of the wind energy conversion facility, unless otherwise negotiated with the affected landowner.

- gg. **Road repair (public roads).** Any road, ridge, or drainage damage caused by the applicant, its independent contractor, employee, agent, contractor, or subcontractor shall be promptly repaired at the applicant's expense to County standard as determined by the County Road Superintendent. If it is reasonably foreseeable that continued trips will make prompt repair to this standard unreasonable, intermediary measures must be taken by the applicant, if approved by the political subdivision in charge of the road, to ensure the public road remains passable and useable as has been the tradition in the community. Final repairs to these standards must be made promptly after the completion of the construction of the wind turbine facility.
- hh. **Road use arrangements.** Prior to construction, the applicant shall make satisfactory arrangements (including a haul road agreement and/or obtaining permits) for road use, access road intersections, maintenance and repair of damages with governmental jurisdiction with authority over each road. The applicant shall notify the Land Use Administrator of such arrangements on request.
- ii. **Contact information.** The applicant must provide a local contact authorized by the applicant to receive service and respond to all notices, demands, complaints, concerns or other requests. Local contact information must include the name of the local representation, local phone number, and physical address. Said contact information must be filed with the Land Use Administrator prior to commencement of construction of the wind energy conversion facility.
- jj. **Complaints.** Prior to the start of construction, the applicant shall submit to the county planner the company's procedures to be used to receive and respond to complaints.
- kk. **Wildlife incidents.** Any fatality or injury to any state-listed or federally-listed species or migratory bird or bat shall immediately be reported to the USFWS North Dakota Field Office and the USFWS Office of Law Enforcement.
- ll. **Extraordinary events.** Within eight hours of an occurrence, the applicant shall notify the Land Use Administrator of any extraordinary event. Extraordinary events include, but shall not be limited to, fires, tower collapse, thrown blade, collector or feeder line failure, or injured wind turbine facility worker or private person. The applicant shall, within 10 calendar days of the occurrence, submit a report to the Land Use Administrator describing the cause of the occurrence and the steps taken to avoid future occurrences.

mm. **Transfer of ownership of a wind energy facility.** Prior to any change in ownership or assignment of a controlling interest of any entity owning a wind energy conversion facility permitted in the county, including any assignment or transfer of a controlling interest to any corporation, partnership, or other entity controlled by or a subsidiary or affiliate of the wind energy conversion facility permitted in the county, application shall be made to the Mercer County Planning and Zoning Commission, requesting transfer of the wind energy conversion facility special use permit. Approval of such transfer shall be conditioned upon explicit agreement by the new applicant to the original special use permit and these ordinances. The application shall also include the new applicant's agent and contact information. A change of ownership that results in inability, unwillingness, or failure to abide by the terms of the original permit and the conditions of these ordinances may be a basis for revocation of the special use permit.

nn. **Land restoration (post-construction).** The applicant shall, as soon as practical following construction of each turbine, considering the weather and preferences of the affected landowner, restore the area affected by any construction activities to the condition that existed immediately before construction began. The time period may be no longer than 120 days after completion of construction of the turbine. Restoration shall be compatible with the safe operation, maintenance, and inspection of the wind turbine facility.

oo. **Decommissioning plan.**

1. Unless the project is under the purview of the North Dakota Public Service Commission and a decommissioning plan is being prepared as a part of that process, prior to commencement of operation of a commercial wind energy conversion facility, the facility or turbine owner or operator shall file the estimated decommissioning cost per turbine, in current dollars at the time of filing, for the proposed facility or turbine and a comprehensive decommissioning plan that describes any expected effect on present and future natural resource development and identify the financial resources that will be available to pay for decommissioning the facility or turbine as required by section 69-09-10-05 at the appropriate time.
2. The applicant shall provide a description of any agreements with landowners regarding equipment removal upon lease termination.
3. A performance bond or equivalent financial instrument shall be posted in an amount determined by the County to be utilized in the event the decommissioning plan needs to be enforced with respect to tower removal, site restoration, etc. The bond shall be in favor of Mercer County and shall be in amount of at least \$ _____. The costs of such bond shall be borne by the applicant.

4. The Land Use Administrator may at any time require the owner or operator of a commercial wind energy facility or wind turbine to provide verification describing how the facility or turbine owner or operator is fulfilling this obligation.

pp. **Decommissioning requirements.**

1. Turbines shall be considered discontinued after one year without energy production subject to decommissioning and site restoration as described in paragraph 2, unless a plan is developed by a qualified individual or firm and provided to the Land Use Administrator outlining the steps and schedule for returning the wind tower to service within 120 days.
2. Decommissioning and site restoration shall be completed within 120 days of discontinuation of use of the facility includes dismantling and removal of all towers, turbine generators, transformers, and overhead cables; removal of underground cables to a depth of four feet; removal of foundations, buildings, and ancillary equipment to a depth of four feet 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 commercial wind energy conversion facility or wind turbine. The site must be restored and reclaimed to the same general topography that existed just prior to the beginning of the construction of the commercial wind energy conversion facility or wind turbine and with topsoil respread over the disturbed areas at a depth similar to that in existence prior to the disturbance. Areas disturbed by the construction of the facility and decommissioning activities must be graded, topsoiled, and reseeded according to natural resource conservation service technical guide recommendations and other agency recommendations, unless the landowner requests in writing that the access roads or other land surface areas be retained. Any access roads shall be removed, cleared, and graded, unless the property owner wants to keep the access roads. Mercer County will not be assumed to take ownership of any access road unless through official action of the Board of Mercer County Commissioners.

qq. The Board may attach any such other conditions and restrictions as it shall deem advisable.

4. SPECIAL USE PERMIT APPLICATION.

The following items shall accompany the special use permit application.

- a. Legal descriptions of the proposed facility.
- b. Two (2) copies of a site plan. Site plans shall contain the following elements:
 1. Type.
 1. A description of the type of facility proposed.
 2. A description of the purpose of the facility.
 3. The technology to be deployed.
 2. Product.
 1. A description of the type of product to be transmitted
 2. A description of the source of the product to be transmitted
 3. A description of the final designation of the product to be transmitted
 4. Size and design. A description of the proposed size and design, and any alternate size or design that was considered, including:
 5. Lot line for parcel where the wind energy power interconnects to a utility line or building.
 6. Location and height of all buildings, structures, above-ground utilities and trees on the site and within 500 feet of each proposed turbine.
 7. Visual impact analysis
 8. the width of right of way
 9. approximate length of facility
 10. estimated span lengths for electric facilities
 11. anticipated type of structure for electric facilities
 12. voltage for electric facilities
 13. the requirement for and general location of any new associated facilities for electric facilities
 14. estimated distance between surface structures for pipeline facilities
 15. pipe size for pipeline facilities
 16. maximum design operating pressure and temperature for pipeline facilities
 17. maximum design flow rate for pipeline facilities
 18. the number and general location of compressor or pumping stations
 3. Access. Identify all roads and drainage systems that may be impacted by or used for the purpose of transporting any equipment or supplies related to construction, operation, and maintenance of the facility.

4. Time schedule. The anticipated time schedule for the accomplishment of major events including:
 1. the certificate of corridor compatibility
 2. the route permit
 3. completion of right of way acquisition
 4. construction start date
 5. construction completion
 6. testing operations
 7. in-service date

5. Studies. Provide a copy of any evaluative studies or assessments of the environmental impact of the proposed facility submitted to the federal and state agencies listed in section 69-06-01-05 and any response received from those agencies.

6. Need.
 1. An analysis of the need for the proposed facility based on present and projected demand for the product transmitted, including the most recent system studies supporting the analysis of the need.
 2. A description of any feasible alternatives methods for serving the need.
 3. A statement justifying any deviations from the most recent ten-year plan that the facility may present.

7. Location.
 1. Identification of current zoning districts of the proposed site and adjacent parcels.
 2. The width of a corridor must be at least ten percent of its length, but not less than one mile [1.61 kilometers] or greater than six miles [9.66 kilometers] unless another appropriate length is determined by the commission.
 3. Select a study area that includes a proposed corridor of sufficient width to enable the commission to evaluate the factors addressed in North Dakota Century Code section 49-22-09.
 4. Discuss the factors in North Dakota Century Code section 49-22-09 to aid the commission's evaluation of the proposed route.
 5. Discuss the utilities policies and commitments to limit the environmental impact of its facilities, including copies of board resolutions and management directives.
 6. Identify and map the criteria that led to the proposed route location within the designated corridor.

7. The criteria to be evaluated must include all of the following:
 - 110 exclusion areas
 - 111 avoidance areas
 - 112 selection criteria
 - 113 policy criteria
 - 114 design construction limitations
 - 115 economic considerations
8. Discuss the relative value of each criteria and how the proposed corridor location was selected giving consideration to all criteria and how the location, construction, and operation of the facility will affect each criteria.
9. Discuss the general mitigative measures that will be taken to minimize adverse impacts that result from a route location in the proposed corridor and the construction and operation of the facility.
10. List the qualifications of the people in the various disciplines that contributed to the corridor location study.

8. Maps.

1. Map the criteria that led to the proposed route location within the designated corridor and the location of any new associated facilities. Several different criteria may be shown on each map depending on the map scale and the density and nature of the criteria.
 2. Include an 8 ½ by 11 black and white map suitable for newspaper publication depicting the site area.
9. A power purchase agreement shall be provided no later than six months after approval of the permit. The applicant's failure to provide such an agreement within six months renders the permit void where no extension has been granted by the County.
 10. An interconnection agreement for connection to the electrical grids that serve North Dakota (Midcontinent Independent Systems Operator ("MISO") and Southwest Power Pool ("SPP")).

c. Discuss present and future natural resource development in the area.

d. Fees. The permit fee is _____.

- e. Public Hearing. A public hearing shall be conducted by the Planning and Zoning Commission concerning the Permit Application, and shall analyze the site location, needs of the operation and company employees regarding roads, housing, community facilities, and county and community facilities. Following the public hearing, the Planning and Zoning Commission shall make a recommendation on the Permit Application to the Board of County Commissioners. The Board of County Commissioners shall then issue a decision on the Permit Application.
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