

# WIND ENERGY COMMITTEE

## WIND ENERGY PROPOSED AMENDMENTS

**ARTICLES XII F FARMING ZONE, XXIV II INTENSE INDUSTRIAL ZONE, AND XXV IP INDUSTRIAL PARK ZONE** shall all be amended to include a new permitted use listing as follows: Wind farms as regulated in Article XXX, Section 6.

A **WIND FARM** definition will be inserted into Article XXXIII definitions as follows:

Wind Farm: A wind farm is a collection of interconnected wind energy conversion systems, and their related facilities, used to generate electricity for wholesale and retail markets. A Wind Energy Conversion System ("WECS") means all necessary devices that together convert wind energy into electricity and deliver that electricity to a utility's transmission lines, including but not limited to the rotors, nacelles, wind turbine generators, WECS towers, electrical components, WECS foundations, transformers, and electrical cabling from the WECS towers to the Substation(s), switching stations, meteorological towers, communications facilities, and other required facilities and equipment, as related to a WECS Project. This section governs the siting of WECSs and Substations that generate electricity to be sold to wholesale or retail markets, except that owners of WECSs with an aggregate generating capacity of 3 megawatts or less who locate the WECSs on their own property may be governed by the provisions for small wind energy systems provided a variance can be obtained to allow an increase in capacity above 100 kilowatts. **A wind farm is also known as a wind park and/or a WECS Project.**

A new section will be added to ARTICLE XXX PERFORMANCE STANDARDS as follows:

### SECTION 6 WIND FARMS

#### A PURPOSE AND INTENT

The purposes of this section are to assure that any development and production of wind-generated electricity in Delaware County is safe and effective, to facilitate economic opportunities for local residents, and to promote the supply of wind energy in support of Indiana's alternative energy resources potential and other such economic development tools. The intent is to provide a regulatory scheme for construction and operation of wind farms in the county whereby, subject to reasonable restrictions, the regulations set forth herein are intended to preserve the health and safety of the public.

#### B GENERAL DEFINITIONS

1. "Financial Assurance" means reasonable assurance from a credit-worthy party, examples of which include a surety bond, trust instrument, cash escrow, or irrevocable letter of credit or combinations thereof.
2. "Operator" means the entity responsible for the day-to-day operation and maintenance of the WECS(s), including any third party subcontractors.

3. "Owner" means the entity or entities with an equity interest in the WECS(s), including their respective successors and assigns. Owner does not mean (i) the property owner from whom land is leased for locating the WECS (unless the property owner has an equity interest in the WECS); or ii) any person holding a security interest in the WECS(s) solely to secure an extension of credit, or a person foreclosing on such security interest provided that after foreclosure, such person seeks to sell the WECS(s) within one year of such event.
4. "Professional Engineer" means a qualified individual who is licensed as a professional engineer in any state in the United States.
5. "Primary Structure" means, for each property, the structure that one or more persons occupy the majority of time on that property for either business or personal reasons. Primary Structure includes structures such as residences, commercial buildings, hospitals, and day care facilities. Primary Structure excludes structures such as hunting sheds, storage sheds, pool houses, unattached garages and barns.
6. "Substation" means the apparatus that connects the electrical collection system of the WECS(s) and increases the voltage for connection with the utility's transmission lines.
7. "Switching Station" shall be an apparatus/structure in the system similar to a substation but not necessarily increasing voltage into the grid.
8. "WECS Project" means the collection of WECSs and Substations as specified in the application for a wind farm pursuant to this Section.
9. "WECS Tower" means the support structure to which the nacelle and rotor are attached, free standing or guyed structure that supports a wind turbine generator.
10. "WECS Tower Height" means the distance from the rotor blade at its highest point to the top surface of the WECS foundation.
11. "Wind Turbine Generator" means any device that converts wind energy into electrical energy.

## C APPLICATION REQUIREMENTS

Prior to the construction of any wind farm facility, the Applicant shall obtain approval for the following: (1.) an Application for a Wind Farm, (2) Variance(s) if applicable, and (3) all applicable local, state and federal permits including a Building Permit from the Delaware County Building Commissioner. The Delaware County Geographic Information System is available and may be used to provide required information such as contours, structures, wetlands, parcel lines, etc.

### 1. Application for a Wind Farm

The Application shall be filed with the Delaware-Muncie Metropolitan Plan Commission staff for approval and shall include the following items:

- a. A Wind Farm WECS Project summary, including: (1) a general description of the project, including its approximate name plate generating capacity; the potential equipment manufacturer(s), type(s) of WECS(s), number of wind turbine generator(s), and name plate generating capacity of each wind turbine generator; the maximum height of the WECS tower(s) and maximum diameter of the wind turbine generator(s) rotor(s); the means of interconnecting with the electrical grid; and the location of the project; and (2) a description of the Applicant, Owners, and Operator, including their respective business structures; their names, addresses and phone numbers; their overall role in the proposed project; and documentation of land ownership or legal control of the property on which the WECS is proposed to be located.
- b. A topographic map of the project site and the surrounding area which shall encompass an area at least a quarter mile radius from the proposed project site with contours of not more than five foot intervals.
- c. A site plan(s) at an appropriate scale showing: the proposed location of the wind farm including planned locations of each WECS tower; distances pertaining to all applicable setback requirements; WECS access roads; Substations; electrical cabling; and ancillary equipment. In addition, the site plan shall show: primary structures within one quarter of one mile of any wind turbine generator; property lines, including identification of adjoining property owners; public roads; location of all above-ground utility lines within the wind farm site; recognized historic or heritage sites as noted by the Division of Historic Preservation and Archeology of the Indiana Department of Natural Resources; and any wetlands based upon the National Wetland Inventory Mapping. If any WECS tower is within two hundred (200) feet of a wetland as shown on the National Wetland Inventory, a wetland delineation prepared in accordance with the applicable U. S. Army Corps of Engineer requirements and guidelines shall be required.
- d. Location of all existing underground utility lines located within the wind farm site based on public records available from IN One Call.
- e. A transportation plan showing how vehicles would access the WECS sites and describing the impacts of the proposed energy project on the local and regional road system during construction and operation.
- f. A fire protection plan for construction and operation of the facility.
- g. Proof of correspondence and cooperation with wildlife agencies. The Applicant shall provide written documentation that he/she is in direct correspondence and cooperation with the U.S. Fish and Wildlife Service, the Indiana DNR and the local SWCD and as applicable has incorporated recommended mitigation measures into the Project.
- h. Any other item reasonably requested by Plan Commission Staff.

In determining whether to approve the Application, the staff shall determine whether the Application satisfies all conditions and standards set forth herein, and make written findings thereof. It is the responsibility of the owner or operator listed in the application to inform the staff of all changes in ownership and operation during the life of the project.

The approval for a wind farm shall be valid for a period of three (3) years, after which the approval shall terminate and be of no further force or effect if construction in earnest of the approved wind farm has not commenced. A new application may be submitted at any time.

The fee for the Application shall be payable at the time of submission of the Application. The fee shall be two thousand, five hundred dollars (\$2,500) plus two hundred dollars (\$200) per WECS tower. The Application fee shall be used to defray the costs associated with review of the Application, including professional fees and expenses as applicable.

## 2. Application for Building Permit

a. Once an application has been approved by the staff as meeting the requirements set forth herein, the Applicant may apply to the Delaware County Building Commissioner for a Building Permit for each WECS tower. The Applicant shall provide the following information to the Building Commissioner prior to the issuance of a Building Permit:

- 1) A site layout plan showing the following: property lines including identification of adjoining properties; the location, including latitude and longitude, of each individual WECS tower; access roads; substations; the location of all above-ground utility lines; the location all underground utility lines, based on public records available from IN One Call; the location of all public roads abutting and/or traversing the proposed site; the location of all primary structures within one quarter (1/4) mile of all proposed WECS towers; and distances from each WECS tower to each setback requirement
- 2) Dimensional representation of the structural components of the tower construction including the base and footings.
- 3) Schematic of electrical systems associated with the WECS(s) including all existing and proposed electrical connections.
- 4) Manufacturer's specifications and installation and operation instructions or specific WECS design information.
- 5) Certification by a registered professional engineer that the tower's design is sufficient to withstand wind load requirements for structures as defined by the Uniform Building Code in effect for the State of Indiana and that the foundation and tower design of the wind turbine generator(s) is within accepted professional standards, given local soil and climate conditions. All wind turbine generators shall be new equipment commercially available. Used, experimental or proto-type equipment still in testing may be approved if satisfactory evidence is provided.
- 6) A noise profile verifying compliance with the noise provisions set forth herein.
- 7) Necessary recorded access easements and necessary recorded utility easements.

- 8) Written documentation from the participating landowner(s) authorizing the placement of the WECS tower on the landowner's property.
- 9) A fully executed setback waiver agreement, if applicable, signed by non-participating landowners for adjoining properties.
- b. Each WECS tower shall require a Building Permit. The fee for each Building Permit shall be \$2,000.00, which shall be used to defray the costs of professional services, as well as any other expenses associated with the issuance of a WECS tower Building Permit. The permit fee is intended to be inclusive covering the tower, any foundation, and any appurtenant facilities such as equipment structures.

#### D AGREEMENTS, PLANS AND PERMITS OTHER THAN BUILDING PERMITS

Prior to the issuance of any Building Permit, the following agreements, plans and permits are required:

1. A Federal Aviation Administration permit and written documentation of consultation and cooperation with the Delaware County Airport Authority.
2. A Decommissioning Plan that is formulated between the County and the Applicant, Owner, and/or Operator to ensure that the wind farm is properly decommissioned. At a minimum, the Plan shall include provisions dealing with the following:
  - a. Assurance that the facilities are properly decommissioned upon the end of the project life or facility abandonment. Applicant's obligations with respect to decommissioning shall include removal of all physical material pertaining to the project improvements to a depth of forty-eight (48) inches beneath the soil surface, and restoration of the area occupied by the project improvements to as near as practicable to the same condition that existed immediately before construction of such improvements. Prior to issuance of a building permit, the Applicant shall provide a contractor cost estimate for demolition and removal of the WECS Project and will provide financial assurance in an amount at least equal to said demolition and removal contractor cost estimate, through the use of a bond, letter of credit or other security acceptable to the County, for the cost of decommissioning each tower to be constructed under that building permit, which security shall be released when such tower is properly decommissioned as determined by the Delaware County Building Commissioner. In the event of abandonment by the owner or operator, the Applicant will provide an affidavit to the Delaware County Building Commissioner representing that all easements for wind turbines shall contain terms that provide financial assurance, including access to the salvage value of the equipment, for the property owners to ensure that facilities are properly decommissioned within eighteen (18) months of expiration or earlier termination of the WECS Project.
  - b. All WECS shall be considered a discontinued use after one (1) year without energy production, unless a plan is developed and submitted to the County Commissioners outlining the steps and schedule for returning the WECS to service.

- c. The Applicant's, Owner's, or Operator's failure to materially comply with any of the above provisions shall constitute a default under this Ordinance.
  - d. Prior to implementation of the existing County procedures for the resolution of such default(s), the appropriate County body shall first provide written notice to the Owner and Operator, setting forth the alleged default(s). Such written notice shall provide the Owner and Operator a reasonable time period, not to exceed sixty (60) days, for good faith negotiations to resolve the alleged default(s).
  - e. If the County determines in its discretion, that the parties cannot resolve the alleged default(s) within the good faith negotiation period, removal obligations shall be completed by the owner or by the County at the owner's expense.
3. A Drainage Agreement that is formulated between the County and the Applicant, Owner, and/or Operator to ensure that all damages to waterways, drainage ditches, field tiles, or any other drainage infrastructure caused by the construction or maintenance of the WECS is completely repaired to near original condition and so as not to impede the natural flow of water, that crop and field tile damages are addressed, and that all repairs are completed within a reasonable amount of time.
  4. An Economic Development Agreement that is formulated between the County and the Applicant, Owner, and/or Operator to capitalize on economic development opportunities.
  5. A Stormwater and Erosion Control Plan and Permit is required and should include assurances that reasonable dust and erosion control measures will be followed during construction and operation of the WECS Project and a re-vegetation plan for restoring areas temporarily disturbed during construction, developed in consultation with the Delaware County Stormwater Management Department.
  6. A Drainage Plan and Permit is required for the construction of each individual WECS tower unless a waiver is granted by the Delaware County Commissioners indicating no significant increase in run-off will occur and no new storm drain facilities are needed.
  7. If applicable, septic and well permits must be issued by the Delaware County Health Department and/or the State of Indiana Department of Public Health prior to a Building Permit.
  8. A driveway/access permit is required for each new access road to connect to a public county road.
  9. A Road Use and Maintenance Agreement that is formulated between the County and the Applicant, Owner, and/or Operator and that, at a minimum, includes the following provisions:
    - a. An Applicant, Owner, or Operator proposing to use any county road(s), for the purpose of transporting WECS or substation parts and/or equipment for construction, operation, or maintenance of the WECS(s) or substation(s), shall identify all such public roads.

- b. Any proposed routes that will be used for construction and maintenance purposes shall be identified. If the route includes a public road, it must be approved by the Delaware County Commissioners. The Delaware County Highway Superintendent, the County Engineer or a mutually acceptable third party engineer to be paid for by the Applicant shall conduct a pre-construction baseline survey to determine existing road conditions for assessing potential future damage.
- c. Any road damage caused by the construction of the WECS Project equipment, the installation and operation of same, or the removal of same, must be repaired so as to meet the applicable county standards. The Commissioners may require remediation of road repair upon completion of the WECS Project. Further, a corporate surety bond in an amount to be determined by a Professional Engineer shall be required by the Commissioners to insure the County that future repairs are completed to the satisfaction of the applicable unit of local government. The cost of bonding is to be paid by the Applicant.
- d. Newly constructed WECS access roads may not impede the flow of water.

## E CONDITIONS AND STANDARDS

### 1. Design Safety Certification

WECSs shall conform to applicable industry standards. The applicant shall submit certificate(s) of design compliance that wind turbine manufacturers have obtained from Underwriters Laboratories, Det Norske Veritas, Germanishcher Lloyd Wind Energy, or an equivalent third party.

### 2. Controls and Brakes

All wind turbine generator(s) shall be equipped with a redundant braking system. This includes both aerodynamic over speed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a failsafe mode. Stall regulation shall not be considered a sufficient braking system for over speed protection.

### 3. Electrical Components

- a. All electrical components of the WECS shall conform to applicable local, state, and national codes, and relevant national and international standards.
- b. Electrical Collection Cables

All electrical collection cables between each wind turbine generator(s) shall be located underground unless they are located on public or utility rights-of-way or with prior County approval. All collection cables that are buried should be at a depth of forty-eight (48) inches or as negotiated with the land owner until the same reaches the property line or a substation adjacent to a property line.

### 4. Color

In addition to all applicable FAA requirements, towers and blades shall be white, gray or another unobtrusive color. All finishes shall be matte or non-reflective.

#### 5. Warnings

- a. A reasonably visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and Substations.
- b. Visible, reflective, colored objects, such as flags, reflectors, or tape shall be placed on the anchor points of guy wires and along the guy wires up to a height of not less than fifteen (15) feet from the ground.

#### 6. Climb Prevention

All WECS tower designs must include features to deter climbing or be protected by anti-climbing devices such as:

- a. Fences with locking portals at least six feet high; or
- b. Anti-climbing devices fifteen (15) feet vertically from the base of the WECS tower.
- c. Locked WECS tower doors.

#### 7. Blade Clearance

The minimum distance between the ground and any protruding blade(s) utilized on a wind turbine generator shall be fifteen (15) feet, as measured at the lowest point of the arc of the blades. The minimum distance shall be increased as necessary to provide for vehicle clearance in locations where over-sized vehicles might travel.

#### 8. Noise and Vibration

At no point within two hundred (200) feet of a primary structure may the sound pressure levels from a wind turbine generator exceed the following sound levels. Sound levels shall be measured with an octave band analyzer or sound level meter and associated filter manufactured in compliance with standards prescribed by the American National Standards Institute (ANSI). This standard shall supersede any noise standard(s) set forth in any other Delaware County ordinance.

Octave Bands for Delaware County in Hertz (Hz), per ANSI	Maximum Permitted Sound Level (in decibels) Measured 200' from edge of any primary structure
63	75
125	70
250	65
500	59
1,000	53
2,000	48
4,000	44
8,000	41



## 9. Utility Interconnection

The WECS Project, if interconnected to a utility system, shall meet the requirements for interconnection and operate as set forth in the electrical utility's then-current service regulations applicable to WECS.

## 10. Waste Management

All solid waste whether generated from supplies, equipment, parts, packaging, construction, or operation or maintenance of the facility, including old parts and equipment, shall be removed from the site in a timely manner consistent with industry standards and in accordance with all Federal, state and local laws. All hazardous waste generated by the construction, operation and/or maintenance of the facility, including but not limited to lubricating materials, shall be handled, stored, transported and disposed of in a manner consistent with all local, state and Federal laws, rules and regulations.

## 11. Lighting

Except with respect to lighting required by the FAA, all lighting shall be shielded so that no glare extends substantially beyond any WECS structure.

## 12. Compliance with Additional Regulations

Nothing in this Ordinance is intended to preempt other applicable state and federal laws and regulations.

## 13. Setbacks

- a. No WECS, including guyed wire anchors, shall be constructed in any dedicated public easement or dedicated public right-of-way without prior written authorization from the Delaware County Commissioners.
- b. Installation of any WECS tower may not be nearer than three hundred fifty (350) feet or 1.1 times the WECS tower height, whichever is greatest, to any non-participating land owner's (i.e. a landowner with which the Applicant has not entered into a lease or easement) property lines, public roadway, railroad right-of-way, overhead electrical transmission or distribution lines, or underground utility lines. Distance shall be measured from the center of the foundation at the base of the tower. New structures built adjacent to wind power facilities shall maintain these same minimum setback requirements. Non-participating landowners within the WECS Project area may waive property line setbacks with written approval from all landowners sharing such property line.
- c. Except as provided herein, the setback distance from any existing or occupied residence shall be a minimum one thousand (1,000) feet. Distance shall be measured at the time of application for building permits from the center of the foundation at the base of the tower. A turbine with a capacity of 1.0 MW or less may be placed as near as six hundred (600) feet from an occupied residence with the prior written approval of the owner of the residence.

- d. The setback distance for the WECS tower will be two thousand (2,000) feet from any platted subdivision and from any incorporated city or town. Distance shall be measured from the center of the foundation at the base of the WECS tower to the closest Corporate Limit and/or subdivision boundary line. No WECS tower shall be constructed in the Muncie Urbanized Area.
- e. No WECS tower, including guyed wire anchors, shall be constructed in any FA Flood Area Zone, in any wetland area or in any 100 Year Floodplain. The setback distance for the WECS tower shall be a minimum two thousand (2,000) feet from the centerline of a river.

## F OPERATIONS AND MAINTENANCE

### 1. Maintenance Inspection

- a. The Owner or Operator of the WECS must submit, on an annual basis, a summary of the operation and maintenance reports to the County. In addition to the above annual summary, the Owner or Operator must furnish such operation and maintenance reports as the County reasonably requests.
- b. Any physical modification to the WECS that alters the mechanical load, mechanical load path, or major electrical components shall require recertification. Like-kind replacements shall not require re-certification. Prior to making any physical modification (other than a like-kind replacement), the owner or operator shall confer with the Building Commissioner to determine whether the physical modification requires recertification.
- c. The Delaware County Building Commissioner, along with licensed third party professionals retained by the County for the specific purpose of conducting inspections of the WECS shall have the right, at any reasonable time and with sufficient prior notice, to accompany the owner or operator, or his agent, on the premises where a WECS has been constructed, to inspect all parts of said WECS installation and to require that repairs or alterations be made to protect the public's health and safety. The owner or operator of a WECS may retain a licensed third party professional engineer familiar with WECS systems to prepare and submit to the Delaware County Building Commissioner a written report which addresses the repairs or alterations requested, and which suggests alternate methods for addressing the concerns or provides evidence that said repairs or alterations are unnecessary, within thirty (30) days after receiving notice from the Delaware County Building Commissioner that repairs or alterations are requested, or within a longer period of time mutually acceptable to both parties. The Delaware County Building Commissioner will consider any such written report and determine whether the repairs or alterations should be made as originally requested or as suggested in the written report. In the event of a dispute between the Delaware County Building Commissioner staff and the owner or operator, or a third party professional engineer retained by them, as to the repairs or alterations which are required, the decision of the Building Commissioner shall be final.

- d. Inspections, at a fee to be determined from time to time by the Delaware-Muncie Metropolitan Plan Commission and paid by the Applicant, may be made by the Delaware County Building Commissioner, or by a qualified inspector for equipment of this type selected by the Delaware County Building Commissioner, no more than once annually to certify the safety and maintenance of the WECS and accessory structures.

## 2. Interference

If, after construction of the WECS, the Owner or Operator receives a written complaint related to interference with local broadcast residential television, telecommunication, communication or microwave transmissions, the Owner or Operator shall take reasonable steps to respond to mitigate the interference.

## 3. Coordination with Local Fire Department

- a. The Applicant, Owner or Operator shall submit to the local fire department a copy of the site plan.
- b. Upon request by the local fire department, the Owner or Operator shall cooperate with the local fire department to develop the fire department's emergency response plan.
- c. Nothing in this section shall alleviate the need to comply with all other applicable fire laws and regulations.

## G DECLARATION OF PUBLIC NUISANCE

Any WECS declared to be unsafe by the Delaware County Building Commissioner by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, damage or abandonment is hereby declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition or removal in accordance with the approved Decommissioning Plan.

## H LIABILITY INSURANCE

The Owner or Operator of the WECS(s) shall maintain a current general liability policy covering bodily injury and property damage and name Delaware County as an additional insured with limits of at least two million dollars (\$2,000,000) per occurrence and five million dollars (\$5,000,000) in the aggregate with a deductible of no more than five thousand dollars (\$5,000).