

## 6.4) Alternate Energy Systems Siting Regulations

### 6.4.1) Purpose: The purposes of this Chapter are to:

- a) Assure that any development and production of wind and solar-generated electricity in Rush County is safe and effective;
- b) Facilitate economic opportunities for local residents; and
- c) Promote the supply of wind and solar energy in support of Indiana's alternative energy sources potential and other such economic development tools.

6.4.2) **Intent:** It is the intent of the Alternate Energy Systems (AES) siting regulations to provide a regulatory scheme for the construction and operation of AES in the county; subject to certain restrictions contained within. These regulations are intended to preserve the health and safety of the public.

6.4.3) **Applicability.** The provisions of this Chapter are applicable to those districts that allow Wind Energy Systems (WES) and Solar Energy Systems (SES), govern the siting of WES and SES that generate electricity to be sold to wholesale/retail markets, or that generate electricity for private use.

6.4.4) **Prohibition.** No applicant shall construct, operate, or locate an alternate energy system (AES) within Rush County without having fully complied with the provisions of this Chapter. New applications for WES and SES after October 2019 have an overall height restriction of 200 feet maximum (including blades).

6.4.5) **Conflict with Other Regulations:** Nothing in this Chapter is intended to preempt other applicable state and federal laws or regulations, including compliance with all Federal Aviation Administration rules and regulations, and shall comply with the notification requirements of the FAA. Nor are they intended to interfere with, abrogate, or annul any other ordinance, rule, or regulation, statute or other provision of law. In the event that any provision of these regulations imposes

restrictions different from any other ordinance, rule, regulation, statute, or provision of law, the provisions that are more restrictive or that imposes higher standards shall govern.

**6.4.6) DEFINITIONS**

- a) **AES PROJECT**: means the collection of WES or SES as specified in the siting approval application.
- b) **APPLICANT**: means the entity or person who submits to the Executive Director an application for the siting of any AES or thereafter operates or owns an AES.
- c) **FINANCIAL ASSURANCE**: Financial assurance means cash escrow with the County.
- d) **OPERATOR**: means the entity responsible for the day-to-day operation or maintenance of the AES, including any third party subcontractors.
- e) **OWNER**: means the entity or entities with an equity interest in the AES, including their respective successors and assigns. Owner does not mean (i) the property owner from who the land is leased for locating the AES (unless the property owner has an equity interest in the AES); or (ii) any person holding a security **interest in the AES** 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 AES within one year of such event.
- f) **PROFESSIONAL ENGINEER**: means a qualified individual who is licensed as a professional engineer in any state in the United States and approved by the APC Executive Director.
- g) **PRIMARY STRUCTURE**: means, for each property, the structure that one (1) or more persons occupy the majority of the time on that property for either business or personal reasons. Primary Structure includes, but is not limited to, structures such as residences, commercial buildings, hospitals, day care facilities, hunting sheds, storage sheds, pool houses, unattached garages and barns.

- h) PRIMARY VOLTAGE** – A.C. voltage at which power is distributed or transmitted by a public electrical utility (i.e. starting at 2400 volts and up).
- i) SECONDARY VOLTAGE** – Low voltage a.c. supplying one ultimate user (ie. Under 600 volts).
- j) SOLAR ENERGY SYSTEM** – (“**SES**”) A system that converts solar radiation into electricity via photovoltaic cells.
- k) SOLAR UNCONDITIONED OUTPUT** – D.C. output not converted to A.C.
- l) WES TOWER**: means the support structure to which the nacelle and rotor are attached, free standing or guyed structure that supports a wind turbine generator.
- m) WES TOWER HEIGHT**: means the distance from the rotor blade at its highest point to the top surface of the WES foundation.
- n) WIND ENERGY SYSTEM (“WES”)**: means all necessary devices that together convert wind energy into electricity, including but not limited to the rotor, nacelle, generator, WES Tower, electrical components, WES foundation, transformer, electrical cabling for the WES Tower to the Substation(s), switching stations, meteorological towers, communications facilities, and other required facilities and equipment, as related to the WES project. References throughout Rush County Zoning Ordinance to Wind Energy Conversion Systems (WECS) are equally defined by the definition of Wind Energy Systems (WES).
- o) Commercial WES**: is defined for the purposes of the Rush County Zoning Ordinance to mean a wind energy system constructed on the property of another by a company or corporation or other entity, whose general intent is to capture wind energy and place it on a public utilities electrical grid. Any company, corporation, or entity that retains ownership of the WES after construction must become a public utility recognized by the Indiana Utilities Regulatory Commission.
- p) Non-Commercial WES**: defined as a wind energy system that is generally smaller than a commercial WES and the primary purpose is to collect wind

energy for purpose of supplying energy to the owners, such as a business, school, or factory, and not connected at primary voltages.

**q) Micro-WES:** defined as a small wind energy system whose general purpose is to provide energy to a residential or small business user such as a farmer or homeowners, and not connected to primary voltages.

**r) Meteorological Towers –** These style WES are defined as Towers to gather wind energy data to determine project feasibility, and not connected to any electrical power grid.

#### **6.4.7) Wind Energy Systems (WES) Siting Regulations**

**a) Height:** Any WES or meteorological tower greater than thirty-five (35) feet in height shall require a special exception use permit. For all WES there is a height limitation of 200 feet.

**b) Horizontal extension:** The furthest horizontal extension of a WES (including guy wires) shall not extend into a required setback by the zoning district or be closer than twelve (12) feet to any primary structure (unless supported by the primary structure), or right-of-way easement for any above-ground telephone, electrical transmission or distribution lines.

**c) Setback Requirements**

1. WES greater than thirty-five (35) feet in height shall have minimum setback distances of 2640 feet from the center of the tower to all property lines.

**d) Safety Design and Installation Standards**

**1. Equipment Type**

- A. All turbines shall be constructed of commercially available equipment
- B. Meteorological towers may be guyed.
- C. Experimental, or proto-type equipment: Experimental or proto-type equipment still in testing which does not fully comply

with industry standards, may be approved by the Board of Zoning Appeals per the variance process established by this Ordinance.

**2. Industry Standards and other Regulations.**

All WES shall conform to applicable industry standards, as well as all local, state and federal regulations. An applicant shall submit certificate(s) of design compliance that wind turbine manufacturers have obtained from Underwriters Laboratories, or an equivalent third party.

**3. Color and Finish.**

A. Wind turbines and towers: All wind turbines, blades and towers that are part of WES shall be white, grey, or another non-obtrusive color.

**4. Signs and Warnings**

A. The following notices shall be clearly visible on all WES facilities:

1. “No Trespassing” signs shall be attached to any perimeter fence.
2. “Danger” signs shall be posted at the height of five (5) feet on WES towers and accessory structures
3. A sign shall be posted on the tower showing an emergency telephone number
4. The manual electrical and/or over-speed shutdown disconnect switch(es) shall be clearly labeled.

B. Meteorological Towers - Consideration shall be given to paint aviation warning on all meteorological towers.

**5. Climb Prevention**

All WES towers exceeding 35 feet shall include features to deter climbing or be protected by anti-climbing devices such as:

- A. Fences with locking portals at least six (6) feet in height; or
- B. Anti-climbing devices fifteen (15) feet vertically from the base of the WES tower; or

C. Locked WES tower doors.

**6. Blade Clearance**

The minimum distance between the ground and any protruding blades(s) utilized on all WES, exceeding the 35 foot height, shall be twenty-five (25) 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.

**7. Lighting**

A. Shielding - lighting may require shielding so that no glare extends substantially beyond any WES structure.

**6.4.8) Other Applicable Standards**

**a)Sewer and water**

All WES facilities shall comply with the existing septic and well regulations as required by the Rush County Health Department and/or the State of Indiana Department of Public Health.

**b)Shadow Flicker**

At no time shall a wind turbine's tower, nacelle, or blades create shadow flicker on any non-participating landowner's property. For the purpose of this section a non-participating landowner shall be defined as a landowner on which a tower does not physically sit.

**c)Noise and Vibration**

The noise level of all WES shall be no greater than thirty-two (32) decibels measured from the nearest property line. This level may only be exceeded during short-term events such as utility outages and/or severe wind storms. All other noise and vibration levels shall be in compliance with all county, state and federal regulations.

**d)Sine wave deviations**

Waveform deviations from WES that occur within the electrical environment of a non-participating residence, must conform to

acceptable parameters within the Information Technology Industry Council (ITIC) curve at the point of common coupling at the residence.

**e) Utility Interconnection**

The WES, if interconnected to a utility system, it shall meet the requirements for interconnection and operate as prescribed by the applicable regulations of the electrical utility, Federal and State regulations, amended from time to time.

**f) Emergency Response**

WES applicant must cooperate with the local fire department to develop an Emergency Response Plan including access for training.

**g) Other Appurtenances**

No appurtenances other than those associated with the wind turbine operations shall be connected to any wind tower except with express, written permission by the Board of Zoning Appeals.

**6.4.9) Operation and Maintenance**

**a) Physical Modifications**

In general, any physical modification to any WES that alters the mechanical load, mechanical load path, or major electrical components shall require re-certification. Like-kind replacements shall not require re-certification. Therefore, prior to making any physical modification, the owner or operator shall confer with the Executive Director for approval and Board of Zoning Appeals to determine whether the physical modification requires re-certification.

**b) Declaration of Public Nuisance**

Any WES thereof declared to be unsafe by the Rush County Executive Director 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.

### **c) Decommissioning Plan**

Prior to receiving an Improvement Location Permit or Building Permit, or siting approval under this Ordinance, the Board of Zoning Appeals and the applicant, County Commissioners, and owner and/or operator shall formulate a decommissioning plan outlining the anticipated means and cost of removing a WES at the end of their serviceable life or upon becoming a discontinued or abandoned use to ensure that the WES is properly decommissioned.

#### **1. Content**

**A decommissioning plan shall include, at a minimum, language to the following:**

A. Assurance: Must provide written assurance and financial assurance based on cost estimates in 6.4.9)c)1B that the facilities will be properly decommissioned upon the project life or in the event that the facility is abandoned.

B. Cost estimates: The applicant shall provide a contractor cost estimate for demolition and removal of the WES facility which cost estimate shall include any offsetting affects of salvage value. The cost estimates shall be made by a competent party: such as a professional engineer, a contractor capable of decommissioning or a person with suitable expertise or experience with decommissioning WES and approved by the Board of Zoning Appeals.

#### **2. Discontinuation and Abandonment**

A. Discontinuation: All WES shall be considered a discontinued use after six (6) months without energy production, unless a plan is developed and submitted to the Executive Director outlining the steps and schedule for returning the WES to service.

B. Abandonment by the owner or operator: In the event of abandonment by the owner or operator, the applicant will provide an affidavit to the Executive Director 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 one (1) year of expiration or earlier termination of the project.

### **3. Removal**

An applicant's obligations shall include removal of all physical material pertaining to the project improvements within three hundred sixty-five (365) days of the discontinuation or abandonment of the facility, and restoration of the project area to as near as practicable the condition of the site immediately before construction of such improvements by the owner, (unless otherwise agreed to by the property owner) or by Rush County at the owner's expense.

### **4. Written Notices**

Prior to implementation of the existing procedures for the resolution of such default(s), the Executive Director shall first provide written notice to the owner and/or operator, setting forth the alleged default(s). Such written notice shall provide the owner and/or operator a reasonable time period not to exceed sixty (60) days, for good faith negotiations to resolve the alleged default(s).

### **5. Costs Incurred by the County**

If the County removes a tower and appurtenant facilities, it may sell the salvage to defray the costs of removal. By approval, the permittee or grantor grants a license to Rush County to enter the property to remove a tower pursuant to the terms of an approved decommissioning plan.

#### **6.4.10) Liability Insurance.**

The owner or operator of any commercial WES shall maintain a current general liability policy covering bodily injury and property damage and shall be required to name Rush County as an additional insured with dollar amount limits per

occurrence in the amount of two million dollars (\$2,000,000) minimum for all WES and an aggregate of five million dollars (\$5,000,000). Proof of liability insurance shall be sent to the Executive Director annually; failure to maintain said insurance shall result in cancellation of the Improvement Location Permit by the Executive Director.

**6.4.11) Application Procedures**

In accord with appropriate zoning district, application shall be made to the Board of Zoning Appeals for a Special Exception. Permits and variances shall be applied for and reviewed under the procedures established by this Ordinance.

**a) Applications for Wind Energy Systems**

In addition to the application requirements listed, applications for all WES shall also include the following information:

1. Demonstration of Energy Need: The primary purpose of the production of energy from a WES shall be to serve an energy need. The applicant(s) shall demonstrate how much energy is needed and how the proposed size and number of the WES fulfills this need. Net-metering may be allowed, but shall not be the primary intent of the WES.
2. Utility Notification: WES shall not be installed until evidence has been given that the affected utility company has been informed and has agreed to accept energy from potentially interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

**6.4.12) Fees**

**ILP - All primary voltage WES (including meteorological towers)**

**\$25,000 per tower**

**ILP – All secondary voltage WES**

**\$3000**

**6.4.13) Pre-Construction Requirements**

Prior to the issuance of any Improvement Location Permit, the following shall be submitted to and reviewed by the Executive Director, who shall certify that the following are in compliance with all applicable regulations:

**a) Decommissioning Plan**

A Decommissioning Plan as prescribed in 6.4.9)c) of this document and financial assurance given according to 6.4.9)c)1A.

**b) Drainage agreement**

The Drainage Agreement must prescribe or reference provisions to address crop and field tile damages in accord with the Rush County Drainage Board.

**c) Erosion Control Plan**

An erosion control plan developed in consultation with the Natural Resources Conservation Services (NRCS), and any storm water quality management plan adopted by the applicable jurisdiction.

**d) Utility Plan**

A utility plan drawn to the same scale as the site plan illustrating the location of all underground utility lines associated with the total WES project shall be submitted to Executive Director. No individual sheet or drawing shall exceed twenty-four inches by thirty-six inches (24" x 36").

**e) Final Site Layout Plan**

Provide a copy of the Final Site Layout Plan illustrating the final location of all that is required in the preliminary site layout plan, as approved by the landowner.

**f) Road Use and Maintenance Agreement**

A Road Use and Maintenance Agreement for all oversized loads must be drafted in accord with the Rush County Highway Superintendent and approved by the Rush County Commissioners. Financial assurances may be required.

**6.4.14) Post-Construction Requirements**

**a) Change in Ownership**

It is the responsibility of the owner or operator listed in the application to inform the Executive Director of all changes in ownership and operation during the life of the project, including the sale or transfer of ownership or operation.

**6.4.15) Refer to each district for allowable use.**

The following shall be added to the Permitted and Special Exception uses in each zoning district as follows:

Secondary voltage connected WES – Special Exception use in all districts

Primary voltage connected WES – Special Exception use allowed in A-3, and A-4

**6.4.16) Solar Energy Systems (SES) Siting Regulations**

**a) Height:** Any SES greater than twenty (20) feet in height oriented at its maximum tilt shall require a special exception use permit. For all SES there is a limitation of overall height of 200 feet.

**b) Setback Requirements**

1. No stand-alone SES under twenty (20) feet in height shall be placed closer than 30 feet from the most restrictive of property lines or Right of Ways.
2. No stand-alone SES over twenty (20) feet in height shall be placed closer than ten (10) times the height of the tallest part from all property lines or Right Of Ways.

**3. Industry Standards and other Regulations.**

All SES shall conform to applicable industry standards, as well as all local, state and federal regulations. An applicant shall submit

certificate(s) of design compliance that solar manufacturers have obtained from Underwriters Laboratories, or an equivalent third party.

**4. Color and Finish.**

A. Finish must be made to minimize glare to surrounding properties

**6.4.17) Other Applicable Standards**

**a) Sewer and water** - All SES facilities shall comply with the existing septic and well regulations as required by the Rush County Health Department and/or the State of Indiana Department of Public Health.

**b) Sine wave deviations** – Waveform deviations from a SES that occur within the electrical environment of a non-participating residence, must conform to acceptable parameters within the Information Technology Industry Council (ITIC) curve at the point of common coupling at the residence.

**c) Utility Interconnection** - The SES, if interconnected to a utility system, it shall meet the requirements for interconnection and operate as prescribed by the applicable regulations of the electrical utility, Federal and state regulations, amended from time to time.

**6.4.18) Operation and Maintenance**

**a) Operator**

Unless otherwise specified through a contract or agreement, the property owner of record will be presumed to be the responsible party for owning and maintaining the Solar Energy System.

**b) Physical Modifications**

In general, any physical modification to any SES that alters the mechanical load, or major electrical components shall require re-certification. Like-kind replacements shall not require re-certification. Therefore, prior to making any physical modification, the owner or operator shall confer with the Executive Director and Board of Zoning

Appeals to determine whether the physical modification requires re-certification.

**c) Declaration of Public Nuisance**

Any SES thereof declared to be unsafe by the Rush County Executive Director 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.

**d) Shadows**

No solar apparatus shall cast an appreciable shadow on surrounding properties solar production facilities.

**e) Easements**

Solar easements are not controlled or arbitrated by Rush County

**f) Decommissioning Plan**

Prior to receiving an Improvement Location Permit or Building Permit, or siting approval under this Ordinance of a primary voltage connected SES, the Board of Zoning Appeals and the applicant, owner and/or operator shall formulate a decommissioning plan outlining the anticipated means and cost of removing a SES at the end of their serviceable life or upon becoming a discontinued or abandoned use to ensure that the SES is properly decommissioned.

**1. Content**

**A decommissioning plan shall include, at a minimum, language to the following:**

A. Assurance: Written assurance that the facilities will be properly decommissioned upon the project life or in the event that the facility is abandoned.

B. Cost estimates: The applicant shall provide a contractor cost estimate for demolition and removal of the SES facility which cost estimate shall include any offsetting effects of salvage value.

The cost estimates shall be made by a competent party: such as a professional engineer, a contractor capable of decommissioning or a person with suitable expertise or experience with decommissioning SES.

## **2. Discontinuation and Abandonment**

A. Discontinuation: All SES shall be considered a discontinued use after six (6) months without energy production, unless a plan is developed and submitted to the Executive Director outlining the steps and schedule for returning the SES to service.

B. Abandonment by the owner or operator: In the event of abandonment by the owner or operator, the applicant will provide an affidavit to the Executive Director representing that all easements for solar collection 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 one (1) year of expiration or earlier termination of the project.

## **3. Removal**

An applicant's obligations shall include removal of all physical material pertaining to the project improvements to no less than a depth of six (6) feet below ground level within three hundred sixty-five (365) days of the discontinuation or abandonment of the facility, and restoration of the project area to as near as practicable the condition of the site immediately before construction of such improvements by the owner, (unless otherwise agreed to by the property owner) or by Rush County at the owner's expense.

## **4. Written Notices**

Prior to implementation of the existing procedures for the resolution of such default(s), the Executive Director shall first provide written notice to the owner and/or operator, setting forth the alleged default(s). Such written notice shall provide the owner and/or

operator a reasonable time period not to exceed sixty (60) days, for good faith negotiations to resolve the alleged default(s).

#### **5. Costs Incurred by the County**

If the County removes a solar plant and appurtenant facilities, it may sell the salvage to defray the costs of removal. By approval, the permittee or grantor grants a license to Rush County to enter the property to remove the solar plant pursuant to the terms of an approved decommissioning plan.

#### **6.4.19) Liability Insurance.**

The owner or operator of any primary voltage connected SES shall maintain a current general liability policy covering bodily injury and property damage and shall be required to name Rush County as an additional insured with dollar amount limits per occurrence dependent upon the scope of the project and must be determined by the Board of Zoning Appeals. Proof of liability insurance shall be sent to the Executive Director annually; failure to maintain said insurance shall result in cancellation of the Improvement Location Permit by the Executive Director.

#### **6.4.20) Application Procedures**

In accord with appropriate zoning district, application shall be made to the Board of Zoning Appeals for a Special Exception. Permits and variances shall be applied for and reviewed under the procedures established by this Ordinance.

##### **a) Applications for Solar Energy Systems**

In addition to the application requirements listed, applications for all SES shall also include the following information:

1. Demonstration of Energy Need: The primary purpose of the production of energy from a SES shall be to serve an energy need. The applicant(s) shall demonstrate how much energy is needed and how the proposed size



and number of the SES fulfills this need. Net-metering may be allowed, but shall not be the primary intent of the SES.

2. Utility Notification: SES shall not be installed until evidence has been given that the affected utility company has been informed and has agreed to accept energy from potentially interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.
3. Compliance with National Electrical Code: The SES shall be accompanied by a certification that the installation conforms to the National Electrical Code.

**6.4.21)**

**Fees**

<b>ILP - Secondary voltage connected SES</b>	<b>\$25 per parcel</b>
<b>ILP – Solar unconditioned output</b>	<b>\$25 per parcel</b>
<b>ILP - Primary voltage connected SES</b>	<b>\$50 first 20 panels</b>
	<b>\$1 per each additional</b>

**6.4.22)**

**Pre-Construction Requirements**

Prior to the issuance of any Improvement Location Permit for primary connected SES, the following shall be submitted to and reviewed by the Executive Director, who shall certify that the following are in compliance with all applicable regulations:

**a) Decommissioning Plan**

A Decommissioning Plan as prescribed in 6.4.18)f)of this Chapter.

**b) Drainage agreement**

The Drainage Agreement must prescribe or reference provisions to address crop and field tile damages in accord with the Rush County Drainage Board.

**c) Erosion Control Plan**

An erosion control plan developed in consultation with the Natural Resources Conservation Services (NRCS), and any storm water quality management plan adopted by the applicable jurisdiction.

**d) Utility Plan**

A utility plan drawn to the same scale as the site plan illustrating the location of all underground utility lines associated with the total SES project shall be submitted to Executive Director.

**e) Final Site Layout Plan**

Provide a copy of the Final Site Layout Plan illustrating the final location of all that is required in the preliminary site layout plan, as approved by the landowner.

**f) Road Use and Maintenance Agreement**

A Road Use and Maintenance Agreement for all oversized loads must be drafted in accord with the Rush County Highway Superintendent and approved by the Rush County Commissioners. Financial assurances may be required.

**6.4.23) Post-Construction Requirements**

**a) Change in Ownership**

It is the responsibility of the owner or operator listed in the application to inform the Executive Director of all changes in ownership and operation during the life of the project, including the sale or transfer of ownership or operation.

**6.4.24) Refer to each district for allowable use.**

The following shall be added to the Permitted and Special Exception uses in each zoning district as follows:

Secondary voltage connected SES – Permitted use in all districts.

Solar Unconditioned output - Permitted use in all districts.

Primary voltage connected SES – Special Exception use allowed in all districts.