

Section 720: Wind Energy Conversion System Ordinance

A. Purpose and Intent

1. Purpose

The Purposes of this ordinance are to:

- a. To ensure that the development and production of wind-generated electricity in Huntington County is safe and effective;
- b. To support and facilitate economic opportunities for local residents that are consistent with public health, safety and general welfare; and
- c. To promote the effective and efficient use of WECS that will promote the supply of wind energy in support of Indiana's alternative energy sources potential.

2. Intent

It is the intent of the Wind Energy Conversion Systems (WECS) chapter to provide basic siting regulations to properly allow commercial and private WECS placement throughout Huntington County. Siting is subject to reasonable restrictions, these regulations are intended to preserve the health and safety of the citizens of Huntington County, Indiana.

B. Applicability

The provisions of this ordinance are applicable to those zoning districts that allow Wind Energy Conversion Systems (WECS) as permitted uses or as uses requiring Board of Zoning Appeals approval and governs the siting of WECS that generate electricity to be sold to wholesale or retail markets, or that generate electricity for private use.

C. Compliance Required

No applicant shall construct, operate, locate, or enlarge a Wind Energy Conversion System (WECS) within Huntington County without having fully complied with the provisions of this chapter.

D. Conflict with Other Ordinances

Nothing of this chapter shall preempt other applicable state and federal laws of regulations, including compliance with all Federal Aviation Administration (FAA) rules and regulations. All WECS shall comply with the notification requirements of the FAA. This chapter and the regulations contained within shall not interfere with, abrogate, or annul any other ordinance, rule or regulation, statute or other provision of law. In the event that any provision of the regulations contained within this chapter impose restrictions different from any other ordinance, rule of regulation, statute or other provision of law, then the provisions that are more restrictive and/or impose a higher standard shall govern WECS.

E. Severability Clause

Should any section, subsection, paragraph, subparagraph, clause, word, or provision of this chapter be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the chapter as a whole or any part thereof other than the part so declared to be unconstitutional or invalid.

F. District Regulations

1. Open Space Districts

Non-Commercial WECS allowed by Variance of Use only

Distance from a property line, measured from the center of the WECS to the property line	1.1 times the total height (where the blade tip is at its highest point) for non-participating landowners.
Distance from a residential dwelling unit, measured from the center of the WECS to the nearest corner of the structure	1.1 times the total height (where the blade tip is at its highest point)
Distance from any rights-of-way, measured from the center of the WECS to the edge of the rights-of-way	1.1 times the total height (where the blade tip is at its highest point), provided that the distance is not less than the required yard setback prescribed for that district
Distance from conservation lands, measured from the center of the WECS to the nearest point of the conservation land in question	One thousand (1,000) feet
Distance to the Little River, measured from the center of the WECS to the shoreline	One half (1/2) of a mile
Distance to the Wabash River, measured from the center of the WECS to the shoreline	One half (1/2) of a mile
Distance to the Huntington Reservoir, measured from the center of the WECS to the shoreline	One half (1/2) of a mile
Distance to the Salamonie Reservoir, measured from the center of the WECS to the shoreline	One half (1/2) of a mile

Commercial WECS allowed by Variance of Use only

Distance from a property line, measured from the center of the WECS to the property line	1.1 times the total height (where the blade tip is at its highest point) for non-participating landowners.
Distance from a residential dwelling unit, measured from the center of the WECS to the nearest corner of the structure	One thousand (1,000) feet for non-participating landowners. Setback shall be reciprocal for future construction of dwellings
Distance from any rights-of-way, measured from the center of the WECS to the edge of the rights-of-way	1.1 times the total height (where the blade tip is at its highest point), provided that the distance is no less than three hundred and fifty (350) feet
Distance from conservation lands, measured from the center of the WECS to the nearest point of the conservation land in question	One thousand five hundred (1,500) feet
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Distance from incorporated limits of a municipality, measured from the center of the WECS to the corporate limits	One thousand five hundred (1,500) feet

Adjoining property owners within any the shadow flicker and blade glint zone shall be involved the citizen participation plan process in order to mitigate any impacts caused by the construction of any WECS structure.

2. Agricultural Districts

Non-Commercial WECS allowed by Special Exception only

Distance from a property line, measured from the center of the WECS to the property line	1.1 times the total height (where the blade tip is at its highest point) for non-participating landowners.
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3. Residential Districts

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5. Industrial Districts

Non-Commercial WECS is a Special Exception

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G. Safety Design and Installation Standards

1. Equipment Type

- a. All turbines shall be constructed of commercially available equipment specifically designed for WECS construction and operation.
- b. Meteorological towers may be guyed
- c. Experimental or proto-type equipment still in testing which does not fully comply with industrial standards, may be approved by the Board of Zoning Appeals

2. Industrial Standards and Other Regulations

All WECS shall conform to applicable industrial designs and standards, as well as all local, state and federal regulations. An applicant and/or developer shall submit certificates of design compliance to the Huntington Countywide Department of Community Development prior to issuance of a Location Improvement Permit or Building Permit.

3. Controls and Brakes

- a. All WECS shall be equipped with a redundant breaking system. This includes both aerodynamic over speed controls and mechanical breaks. Stall regulations shall not be considered as a sufficient braking system for over speed protection.
- b. All mechanical brakes shall be operated in a fail-safe mode.

4. Electrical Components

- a. All electrical components of the WECS shall conform to applicable local, state and federal electrical codes.
- b. All electrical collection cables between each WECS shall be located underground wherever possible.
- c. All transmission lines that are buried should be at a depth consistent with or greater than local utility and telecommunication underground lines standards or as negotiated with the land owner or the land owner's designee until the same reach the property line or a substation adjacent to the property line
- d. All buried electrical and service lines shall be properly marked, located and/or mapped.

5. Color and Finish

- a. All wind turbines and towers that are part of a WECS shall be white, grey, or another non-obtrusive color
- b. All blades shall be white, grey, or another non-obtrusive color. Blades may be black in order to facilitate deicing.
- c. All finishes shall be matte or non-reflective.

6. Warnings

- a. For all Commercial WECS, signage shall be posted on the tower, transformer and substation warning of high voltage. Signs with emergency contact information shall also be posted on the turbine or at other suitable points.
- b. For all guyed towers, one of the following warning mechanisms shall be used for each anchor point:
 1. Visible and reflective objects, such as flags, plastic sleeves, reflectors, or tape placed on the anchor points of guy wires and along the innermost guy wires up to eight (8) feet above the ground.
 2. Visible fencing not less than four (4) feet in height installed around anchor points of guy wires.

- c. The following notices shall be clearly visible on all non-commercial WECS and Micro-WECS towers and accessory facilities/structures:
 - 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 WECS 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 shall be clearly labeled.
 - d. Consideration shall be given to paint aviation warning on all meteorological towers.
 - e. Locations of all WECS shall provide GPS locations to the Huntington Countywide Department of Community Development and the Huntington Municipal Airport.
7. Climb Prevention
- All commercial WECS tower designs 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 WECS tower; or
 - c. Locked WECS tower doors.
8. Blade Clearance
- The minimum distance between the ground and any protruding blades utilized on all commercial WECS shall be twenty-five (25) feet, as measured at the lowest point of the arc of the blades. The minimum distance between the ground and any protruding blades utilized on any other WECS shall be a minimum of fifteen (15) feet, as measured at the lowest point of the arc of the blades, provided the rotor blade does not exceed twenty (20) feet in diameter. In either instance, the minimum distance shall be increased if necessary to provide for vehicular clearance in locations where over-sized vehicles might travel.
9. Lighting
- a. All lighting, including lighting intensity and frequency of strobes, shall adhere to but not exceed requirements established by the Federal Aviation Administration permits and regulations
 - b. Except with respect to lighting required by the Federal Aviation Administration, lighting may require shielding so that no glare extends substantially beyond any WECS structure.
10. Materials Handling, Storage and Disposal
- a. All solid wastes whether generated from supplies, equipment, parts, packaging, operation or maintenance of the facility, including old parts and equipment related to the construction, operation and/or maintenance of any WECS shall be removed from the site properly and disposed of in accordance with all local, state and federal laws.
 - b. All hazardous materials or waste related to the construction, operation and/or maintenance of any WECS shall be handled, stored, transported and disposed of in accordance with all applicable local, state and federal laws.
11. Vibration Control
- a. Non-commercial WECS shall not cause vibrations through the ground which are perceptible beyond the property lines of the parcel in which the WECS is located.
 - b. Commercial WECS shall not cause vibration through the ground which is perceptible beyond one thousand (1,000) feet from the base of the WECS.

12. Shadow Flicker and Blade Glint Zone

Shadow flicker and blade glint zones for both non-commercial and commercial WECS shall not encroach into public road rights-of-way causing potential traffic safety concerns. These zones will be determined as the area in which shadow flicker and blade glint occur during day light hours.

H. Other Applicable Standards

1. Guyed Wire Anchors

No guyed wire anchors shall be allowed within any required road right-of-way setback.

2. Sewer and Water

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

3. Noise and Vibration

The noise level of all WECS shall be no greater than sixty (60) decibels measured from the nearest residence. This level may only be exceeded during short-term events such as utility outages and/or severe wind storms. All other noise and vibration shall be in compliance with all local, state and federal regulations.

4. Utility Interconnection

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

5. Signage

Signage shall comply with all signage regulations and standards contained within the Huntington County Zoning Ordinance.

6. Feeder Lines

With the exception of minimum setback distances, feeder lines shall be installed as part of any WECS shall not be considered an essential service. To wit, all communications and feeder lines installed as part of any WECS shall be buried underground wherever possible. The placement of overhead lines shall be subject to Development Plan Review. All underground lines shall be properly recorded and shall be properly marked, located and/or mapped

7. 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.

I. Operation and Maintenance

1. Physical Modifications

Any substantial physical modification proposed and/or made to any WECS shall require approved Location Improvement Permit or Building Permit and receive a Certificate of Occupancy upon completion. Like-kind replacements shall require receipt of a Certificate of Occupancy. Prior to making any physical modification or structural changes and/or improvements, the owner or operator shall confer with the Huntington Countywide Department

of Community Development to determine whether the physical modification or structural changes and/or improvements require permits or a Certificate of Occupancy.

2. Interference

Prior to any construction of a WECS in Huntington County, a communications study to minimize the interference of public serving utilities shall be completed. If necessary, the applicant, owner and/or operator shall mitigate any interference to these public serving utilities and/or signals caused by any WECS. If a written complaint is received by the Huntington Countywide Department of Community Development and/or owner/operator indicating signal interference is occurring, the owner/operator shall take reasonable steps to mitigate said interference. If an complaint is not mitigated for a known signal interference within ninety (90) days, appropriate action may be taken from the Huntington Countywide Department of Community Development which could result in requiring the WECS to become inactive.

3. Declaration of Public Nuisance

Any WECS structure declared to be unsafe by the Huntington County Building Commissioner or by the Huntington Countywide Department of Community Development by reasons of inadequate maintenance, inadequate structural components, dilapidation, obsolescence, fire hazard, damage or abandonment shall be declared a public nuisance and shall be repaired, rehabilitated, demolition or removed in accordance with the approved decommissioning plan.

J. Decommissioning Plan

Prior to receiving an Improvement Location Permit or Building Permit, or prior to the granting of any approvals under this chapter, the County and the applicant, owner and/or operator shall prepare a decommissioning plan for commercial grade WECS. Said plan will outline the anticipated costs and means of removing a WECS at the end of its serviceable lifespan or upon becoming a discontinued or abandoned structure to ensure that the WECS is properly decommissioned and removed.

1. Content of Decommissioning Plan

A decommission plan shall include the following:

a. Assurance

A written assurance from the owner and/or operator stating the WECS facility will be properly decommissioned upon the project life, discontinuation of the use, or in the event that the facility is abandoned shall be on file with Huntington County.

b. Cost Estimates

An owner and/or operator shall provide contractor cost estimates for the demolition and removal of a facility should the WECS become discontinued or abandoned. The submittal of cost estimates shall be figured by a competent party that is either an engineer, a contractor with expertise in the decommissioning process or a contractor that is performing the decommission of a WECS.

c. Financial Assurance

Financial assurances shall be given to Huntington County that are equal to the demolition and removal of all structures and equipment and may consist of either the use of a bond or letter of credit. The bond or letter of credit will only be released upon the time the tower is properly decommissioned as determined by the Huntington Countywide Department of Community Development.

2. Discontinuation and Abandonment

a. Discontinuation

WECS shall be considered as being discontinued after one (1) year without energy production occurring. An owner and/or operator may submit a plan extending the period that a WECS is not producing energy that provides the steps and timeline to bring the WECS back into energy production.

b. Abandonment by Owner or Operator

At the time that an owner and/or operator decides to abandon a WECS, an affidavit will be provided to Huntington County that ensures the property will be properly decommissioned within one (1) year of the time of abandonment. The affidavit shall also include the necessary financial assurances and access to salvage values of tower, structures and/or equipment.

3. Removal

The applicant, owner and/or operator's obligations of decommissioning a site or operation shall include the removal of all physical material to a minimum depth of four (4) feet and provide appropriate backfill to the site. This removal shall occur within one (1) calendar year from the date that the site or operation is discontinued or abandoned with restoration of the ground to as near as practicable pre-construction condition. The removal process shall occur by the applicant, owner and/or operator or by Huntington County at the applicant, owner and/or operator's expense.

4. Written Notices

Huntington County shall, prior to implementation of the decommissioning regulations contained within this ordinance, provide a written notice to the owner and/or operator that sets forth the concerns and/or violations occurring on the property. The written notice shall provide the owner and/or operator a reasonable time period not exceeding sixty (60) days to resolve any violations or to provide a plan which includes a timeline to bring the property and operation into compliance with this ordinance.

5. Costs Incurred by the County

At such time that Huntington County removes a tower and/or structures in accordance to the decommissioning plan and provisions contained within this ordinance, the county may sell the salvage materials to defray the costs of removal. Any additional costs incurred by Huntington County for the removal of a tower and/or structures shall result in the county calling on the bond or letters of credit as contained within the decommissioning plan. By approval of an Improvement Location Permit or Building Permit, the applicant, owner and/or operator grants approval to Huntington County to enter the property and remove a tower and/or structures in accordance with the terms contained within the decommissioning plan and the provisions of this ordinance.

K. Liability Insurance

The owner or operator of any WECS shall maintain a current general liability policy covering bodily injury or property damage and may be required to name Huntington County as an additional insured with dollar amount limits per occurrence, in the aggregate, and a deductible, which is suitable to Huntington County.

L. Application Procedures

1. Contact Information

Contact information which includes the names, addresses, and phone numbers of the applicants, owners, and operators shall be submitted with the application to the Huntington Countywide Department of Community Development. Any changes to ownership will be submitted to the Huntington Countywide Department of Community Development in order to maintain proper contact and property information with respect to the operation of the WECS.

2. Legal Description

The legal description, property address (if applicable), and general location of the WECS project will be submitted with the application to the Huntington Countywide Department of Community Development.

3. Project Description

A WECS project description shall include the following information on each proposed wind turbine:

- a. Number of turbines;
- b. Type;
- c. Name plate generating capacity;
- d. Tower height
- e. Rotor diameter;
- f. Total height;
- g. Anchor base;
- h. The means of interconnecting with the electrical grid;
- i. The potential equipment manufacturers; and
- j. All related accessory structures

4. Site Plan

A site plan for the proposed WECS project shall be drawn to scale, including distances and certified by a registered land surveyor or professional engineer. All drawings shall be at a scale not smaller than one inch equals fifty feet (1"=50') with a scale of one inch equals thirty feet (1"=30') being preferred. Any other scale must be approved by the Executive Director of the Huntington Countywide Department of Community Development. No individual sheet or drawing shall exceed twenty-four inches by thirty-six inches (24" x 36").

5. Engineering Certification

For all WECS to be constructed within Huntington County, the manufacturer's engineer or another qualified registered professional engineer shall certify, as part of the local Improvement Location Permit or Building Permit application, that the turbine, foundation and tower design of the WECS is within accepted professional standards, given local soil and climate conditions. An engineering analysis of the tower showing compliance with the applicable regulations and certified by a licensed professional engineer shall also be submitted. The analysis shall be accompanied by standard drawings of the wind turbine structure, including the tower, base, and footings.

6. Proof of Correspondence with Wildlife Agencies

For the purposes of preventing harm to migratory birds in compliance with the Migratory Bird Treaty Act, the applicant shall provide written documentation that he/she is in direct correspondence with the U.S. Fish and Wildlife Services and the Indiana Department of Natural Resources.

7. Proof of Correspondence with Huntington Municipal Airport

For the purposes of protecting pre-established flight patterns, the applicant shall provide written documentation that he/she is in direct correspondence with the Huntington Municipal Airport.

8. Citizen Participation Plan

Every application for construction of a WECS shall include a citizen participation plan which must be implemented and completed prior to the Board of Zoning Appeals public hearing. Interested parties to be invited to this process shall include, but not be limited to, all persons with a legal interest in property adjoining the site in which the WECS is to be located, the President of any home owners association or neighborhood association that is adjoining the site in which the WECS is located, and staff of the Huntington Countywide Department of Community Development. At a minimum, the citizen participation plan shall include the following:

- a. A listing, including the name and mailing address, of which interested parties may be affected by the application
- b. How those interested parties will be notified of the application
- c. How those interested parties will be provided an opportunity to discuss the application and express any concerns, issues, or ideas they have regarding the application. At least one meeting between the applicants and interested parties is required
- d. List of those interested parties who participated
- e. Dates and locations of all meetings where interested parties are invited to discuss the application
- f. Summary of concerns, issues, comments, suggestions, or ideas presented to the applicants
- g. Summary of how the applicant will address comments provided
- h. Summary of those comments provided that the applicant is unwilling or unable to address, and why

M. Aggregated Project Applications

Aggregated projects may jointly submit a single application and be reviewed under joint proceedings, including notices, hearing, and review and as appropriate, approvals. Each tower and related equipment shall be required to obtain separate Location Improvement Permits or Building Permits.

N. Fees

1. Improvement Location Permits or Building Permits

The following fees shall apply for Improvement Location Permits or Building Permits:

Permit for tower construction: non-commercial	\$50.00 per tower
Permit for accessory structures: non-commercial	\$30.00 per structure
Electrical permit: non-commercial	\$20.00 per tower/structure
Permit for tower construction: commercial	\$500.00 per tower

Permit for accessory structures: commercial	\$100.00 per structure
Electrical permit: commercial	\$250.00 per tower/structure

2. Board of Zoning Appeals

The following fees shall apply for Board of Zoning Appeals:

Per tower	\$150.00
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3. Development Plan Review

The following fees shall apply for Development Plan Review:

Per tower	\$150.00
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4. Violations

The following fees shall apply in addition to remediation of noted violations:

Construction without BZA approval	\$250.00 for non-commercial \$1,000.00 for commercial
Construction without obtaining permits	\$250.00 for non-commercial \$1,000 for commercial
Missed or skipped inspections	\$100.00 per missed/skipped inspection
Violations to Development Plan approval	\$250.00 per violation

O. Pre-Construction Requirements

Prior to issuance of a Local Improvement Permit or Building Permit, the Huntington Countywide Department of Community Development requires the following information be submitted with the Board of Zoning Appeals and Development Plan Review applications:

1. Citizen Participation Plan
2. FAA Permit Application
3. Written “Non-objection” letter from the Huntington Municipal Airport
4. Decommissioning Plan
5. Drainage Plan – approved and signed by the Huntington County Surveyor’s Office
6. Road Use and Maintenance Agreement – approved and signed by the Huntington County Highway Department
7. Erosion Control Plan
8. Utility Plan
9. Final Site Plan
10. Avoidance and Mitigation of Damages to Public Infrastructure – approved and signed by the Huntington County Commissioners
11. Microwave study and analysis
12. Avian study and analysis

P. Construction Requirements

During the construction process, the owner and/or applicant shall adhere to the following construction requirements:

1. Dust Control

Reasonable dust control measures shall be required by Huntington County during the construction of Commercial WECS. Best management practices for dust control will be filed by the owner and/or applicant with the Huntington County Department of Community Development.

2. Drainage

Reasonable storm water management plans shall be filed with the Huntington Countywide Department of Community Development and will be reviewed by the Huntington County Surveyor, and when necessary reviewed by the Huntington County Drainage Board for all Commercial WECS.

3. Erosion Control

Reasonable erosion control measures shall be required by Huntington County during the construction of Commercial WECS with a plan stating the management practices to be used for erosion control filed with the Huntington Countywide Department of Community Development.

Q. Post-Construction Requirements

1. Road Repairs

Any road, road rights-of-way, and areas adjacent to road rights-of-way damaged during the construction and/or decommissioning processes of a WECS shall be repaired to the satisfaction of the Huntington County Highway Superintendent. Prior to the issuance of a Certificate of Occupancy or Release of Decommissioning, the Huntington County Highway Superintendent shall inspect the road network impacted by the construction and/or decommissioning and provide the Huntington Countywide Department of Community Development written approvals.

2. Drainage Repairs

Any County Regulated Drain, public or private drainage tile, or other drainage infrastructure (natural or man-made) damaged during the construction and/or decommissioning process of a WECS shall be repaired to the satisfaction of the Huntington County Drainage Board or other suitable and appropriate commission. Prior to the issuance of a Certificate of Occupancy or Release of Decommissioning, the Huntington County Drainage Board or other suitable and appropriate commission shall inspect the drainage network impacted by the construction and/or decommissioning and provide the Huntington Countywide Department of Community Development written approvals.

3. As-Built Plans

Upon completion of the WECS, exact measurements of the location of all utilities and structures erected on site shall be provided to the Huntington Countywide Department of Community Development prior to the issuance of a Certificate of Occupancy.

4. Change in Ownership

It shall be the responsibility of the owner and/or operator listed in the application to inform the Huntington Countywide Department of Community Development of any change in

ownership and operation during the life of the project, including the sale or transfer of ownership or operation.

R. Definitions

Aerodynamic Noise – A noise that is caused by the flow of air over and past the blades of a WECS.

Ambient Noise – Intermittent noise events that are not considered as background noise unless they were present for at least 90% of the time.

Ampacity – The current carrying capacity of conductors or equipment in Amperes.

Ampere – The basic unit measuring the quantity of electricity.

Anemometer – A device for measuring the speed and direction of the wind.

Background Noise – Sounds that would normally be present at least 90% of the time.

Blade Glint – The intermittent reflection of the sun off the surface of the blades of a single or multiple WECS.

Broadband Noise – The ‘swishing’ or ‘whooshing’ sound emitted as a function of a WECS operation.

Cultural Resources – The structural and cultural evidence of the history of human development including both prehistoric and historic archeological resources as well as ethnographic and ethnic resources.

Ethnographic Resources – The material important to the heritage of a particular ethnic or cultural group which may be encountered as sub-surface deposits or as surface trails, sites, artifacts or structures.

High Voltage Electrical Termination – Connecting of conductors to a device or system where the voltage exceeds 600 volts.

Ice Throw – Accumulated frozen moisture or ice buildup on the rotor and/or blade of a WECS that is or can be thrown during normal spinning or rotation.

Impermissible Interference – The blockage of wind from a WECS or system for which a permit has been granted under this ordinance during a use period if such blockage is by any structure or vegetation on property, an owner of which was notified in advance by certified mail or delivered by hand of any property which the applicant proposed to be restricted by the permit. Impermissible interference does not include: 1) blockage by a narrow protrusion, including but not limited to a pole or wire, which does not substantially block the wind from a WECS; 2) blockage by any structure constructed, under construction or for which a building permit has been applied for before the date the last notice was mailed or delivered; and 3) blockage by any vegetation planted before the date the last notice was mailed or delivered.

Impulsive Noise – Short acoustical impulses or thumping sounds, which vary in amplitude and are caused by the interaction of wind turbine blades with distributed air flow around the tower of downwind WECS.

Inoperable – A WECS shall be determined inoperable if it has not generated power within the preceding calendar year.

Livestock Facility – A confinement area designed specifically for raising, controlling, feeding, and providing care to livestock animals.

Low Frequency Noise – An ongoing debilitation sound emitted during periods of turbulence as the blades are buffeted by changing winds that can cause structural vibrations.

Measurement Point (MP) – Location where sound and/or vibration measurements are taken such that no significant obstruction blocks sound and vibration from the site.

Mechanical Noise – Sound produced as a byproduct of the operation of the mechanical components of a WECS that is also known as a ‘tonal noise’ which are distinct and tend to be more noticeable at the same relative loudness of other types of noises.

Meteorological Tower – Used for the measurement of wind speed and direction, also known as a MET tower or wind test tower.

Nacelle – The enclosure located at the top of a WECS tower that houses the gearbox, generator and other equipment.

Noise – Any unwanted sound.

Paleontological Resources – The fossilized remains or trace evidence of prehistoric plants, animals, or very ancient humans preserved in soil or rock.

Prehistoric Archaeological Resources – The materials relating to prehistoric human occupation and use of an area which are usually associated with Euro-American exploration and settlement of an area and the beginning of a written historical record.

Project Area – All of the properties within the project boundary and within a one-mile radius beyond the project boundary of a proposed or approved WECS project.

Project Boundary – A continuous line which encompasses all WECS and related equipment to be used in association with a WECS project.

Related Equipment – Transformers, tower, electrical conductors, termination points, switches, fences, substations and any other equipment to operate a WECS.

Sensitive Environmental Area – Wildlife preservation areas, or an identified habitat for wildlife species, or other designated area as identified by the county, state, or federal authorities.

Sensitive Receptor – Places that are likely to be more sensitive to the exposure of the noise or vibration generated by a WECS including but not limited to: schools, day-cares, hospitals, parks, residential developments and neighborhoods, places of worship, and elderly care facilities.

Shadow Flicker – The effect when the blades of an operating WECS pass between sun and an observer, casting a readily observable, moving shadow on the observer and his/her immediate environment.

Shadow Flicker and Blade Glint Zone – The land area that falls within the setback for shadow flicker and blade glint.

Total Height – The distance between the ground at normal grade and the highest point of the installed WECS which would be the tip of the blade when the blade is in full vertical position.

Turbine – A wind driven machine that converts wind energy into electrical power.

Wetland – An area of land which regularly persists in a wet state, or as, otherwise defined by the Indiana Department of Natural Resources.

Wind Energy Conversion System (WECS) – All related transformers, electrical conductors, substations, and connection points to transmission or distribution lines.

Wind Tower Test – The tower on which meteorological equipment is located to measure wind speed, direction, strength, etc. for the purpose of evaluating a potential WECS site.

Windmill – A wind-driven machine that does not produce electricity.