

Winneshiek County Ordinance Changes to Accompany Sections 714 & 715

(1) p. 404.90 Solar Access Space

Replace existing definition with:

That airspace above all parcels within the District necessary for a solar collector to access solar energy. Any future improvement, vegetation or tree located on a neighboring parcel shall not cast a shadow upon any solar collector located within said parcel greater than the shadow cast by a hypothetical vertical wall ten (10) feet high located along the property line between said parcels between the hours of 9:30 a.m. and 3:30 p.m., Central Standard Time on December 21. Existing improvement(s), tree(s), or other vegetation that cast a shadow upon a solar collector at the time of installation of said solar collector shall be allowed to remain.

(2) p. 43 Conditional Use Table

(a) Strike “Commercial towers: microwave, radio, television, and wind turbines. Also any commercial alternative energy source used to generate electricity (biomass, solar, etc.)”

(b) Add 3 categories to the table. All 3 categories will require Conditional Use Permits in the following Zoning Districts: A-1, A-2, C-1, C-2, M-1, M-2

(i) Commercial towers: microwave, radio, and television

(ii) Commercial renewable energy systems: solar, wind, biomass, etc.

(iii) Personal large wind energy conversion systems (PL-WECS)

(3) p. 77 702.13 Permitted Encroachments

Strike “solar systems”; the remainder of the permitted encroachments remain as they are:

“The following shall be considered as permitted encroachments in any yard:

Posts, off-street open parking spaces, ~~solar systems~~, flues, leaders, sills,…”

714 RENEWABLE SOLAR ENERGY SYSTEMS (SES)

714.1 Purpose

The purpose of this section 714 is to facilitate the construction, installation and operation of Solar Energy Systems (SES) in a manner that promotes local renewable energy production and economic development while protecting property values and ensuring the protection of the public health, safety and welfare. Renewable Solar Energy Systems enhance grid reliability and reduce peak power demands.

714.2 Definitions

(1) Active Solar System: A system of devices for the collection and use of sunlight to generate electricity or to store and circulate heat.

(2) Community Solar Energy System (CSES): A solar energy system developed by a utility or other third party that typically allows community members to subscribe to the project, to produce electricity for retail sales delivering it over its own distributive network.

(3) Concentrating Solar Thermal (CST) Devices: Devices, such as mirrors and lenses, that collect and concentrate radiation from the sun to transform it into high-temperature thermal energy which can be for heating and cooling, heat for processing, material treatments, electricity production, or chemical processes.

(4) Ground-Mounted System: A system where a rack(s) of panels is mounted on concrete posts or poles anchored in the ground and are wired or plumbed to an adjacent home or structure.

(5) Personal Solar Energy System (PSES): A SES that generates power primarily for use on the property on which it is constructed. Often referred to as distributive generation and the owner as a distributive generator.

(6) Photovoltaic (PV) Cells: Semiconductors which generate electricity whenever light strikes them; generally grouped on panels.

(7) Solar Access Space: That airspace above all parcels within the District necessary for a solar collector to access solar energy. Any future improvement, vegetation or tree located on a neighboring parcel shall not cast a shadow upon any solar collector located within said parcel greater than the shadow cast by a hypothetical vertical wall ten (10) feet high located along the property line between said parcels between the hours of 9:30 a.m. and 3:30 p.m., Central Standard Time on December 21. Existing improvement(s), tree(s), or other vegetation that cast a shadow upon a solar collector at the time of installation of said solar collector shall be allowed to remain.

(8) Solar Collector: A device, structure or a part of a device or structure for which the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical or electrical energy.

(9) Solar Easement: An easement created to protect a solar project from encroachment by adjacent properties which would shade panels. See Iowa Code §564A.

(10) Solar Energy: Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.

(11) Solar Energy System (SES): Solar collectors, controls, energy storage devices, heat pumps, heat exchangers, and other materials, hardware or equipment necessary to the process by which solar radiation is collected, converted into another form of energy, stored, protected from unnecessary dissipation, and distributed. Solar energy systems include solar thermal, photovoltaic and concentrated solar.

(12) Solar Farm Energy System (SFES): A commercial facility that converts sunlight into electricity, whether by photovoltaic (PV), concentrating solar thermal devices (CST), or other conversion technology for the primary purpose of wholesale sales of generated electricity.

(13) Solar Panel:

(a) A grouping of photovoltaic cells used to generate electricity directly from sunlight. A grouping of these panels is called an array.

(b) A panel circulating water or other liquid through tubes to collect, transfer and store the sun's heat for domestic hot water and building heat.

(14) Solar Storage Battery: A device that stores energy from the sun and makes it available in an electrical form.

(15) Solar Storage Unit: A component of a solar energy device that is used to store solar-generated electricity or heat for later use.

(16) Solar Thermal Energy System (STES): A system that directly heats water or other liquids using sunlight. The heated liquid is used for such purposes as space heating and cooling, domestic hot water, and heating pool water.

(17) Structure-Mounted Solar Energy System: A system where photovoltaic panels or solar thermal panels are mounted on racks attached to the roof or side-walls of a building. Panels can be flush-mounted or angled for optimal sun exposure.

714.3 Personal Solar Energy System (PSES)

Administration

Personal Solar Energy Systems provide electrical power for on-site use by the owner and shall be considered an accessory use to a principal permitted use in any zoning district. Construction of a PSES shall require a building permit if it is ground mounted. Such system may be connected to the electrical grid when the parcel on which the system is installed also receives electrical power supplied by a utility company. Excess electrical power generated and not presently needed for on-site use may be used by the utility company in accordance with the Iowa Administrative Code, Section 199, Chapter 15.11(5) on net metering.

The applicant must be the landowner(s) of the property of the proposed PSES. If the PSES does not meet all requirements, the applicant may apply for a variance to be granted by the Board of Adjustment.

Required Information

The applicant(s) requesting the building permit will provide the following information to the Zoning Administrator:

- (1) Name, address and contact information of applicant(s).
- (2) Plot plan sketch indicating: (a) property lines and physical dimensions of the subject property, (b) location and types of existing major structures on the property, (c) location of the proposed solar panels, (d) the right-of-way of any public road that is contiguous with the property.
- (3) Solar system specifications including (a) manufacturer and model of solar panels and inverters, (b) kW rating, (c) mounting system, (d) solar storage units, if applicable.
- (4) Electric solar energy system components must have an Underwriters Laboratory (UL) certification or approved equivalent.
- (5) Any additional information required by the Zoning Administrator.

General Requirements

- (1) Ground-mounted PSES height shall not be greater than twenty (20) feet at maximum tilt of the solar panel(s) in any zoning district.
- (2) Structure-mounted PSES height shall not be greater than the allowable height of any structure within the zoning district in which the PSES is to be installed.
- (3) Setbacks: PSES shall meet the setback requirements for accessory structures in the zoning district where the PSES is located.

(4) On-site battery storage shall be reported to the Winneshiek County Emergency Management Coordinator.

(5) Building Codes: All county, state, and national construction codes shall be followed.

714.4 Solar Thermal Energy System (STES)

Administration

Solar Thermal Energy Systems provide heated fluids for on-site use by the owner and shall be considered an accessory use to a principal permitted use in any zoning district. Construction of a STES shall require a building permit if it is ground-mounted.

The applicant must be the landowner(s) of the property of the proposed STES. If the STES does not meet all requirements, the applicant may apply for a variance to be granted by the Board of Adjustment.

Required Information

The applicant(s) requesting the building permit will provide the following information to the Zoning Administrator:

- (1) Name, address and contact information of applicant(s).
- (2) Plot plan sketch indicating: (a) property lines and physical dimensions of the subject property, (b) location and types of existing major structures on the property, (c) location of the proposed solar thermal energy system and proposed pipelines to the structure utilizing the STES (d) the right-of-way of any public road that is contiguous with the property.
- (3) Solar thermal energy system specifications including (a) manufacturer and model of solar panels, (b) mounting system.
- (4) Electric solar energy system components must have an Underwriters Laboratory (UL) certification or approved equivalent.
- (5) Any additional information required by the Zoning Administrator.

General Requirements

- (1) Ground-mounted STES height shall not be greater than twenty (20) feet at maximum tilt of the solar panel(s) in any zoning district.
- (2) Structure-mounted STES height shall not be greater than the allowable height of any structure within the zoning district in which the STES is to be installed.
- (3) Setbacks: STES shall meet the setback requirements for accessory structures in the zoning district where the STES is located.

(4) Building codes: All county, state, and national construction codes shall be followed.

714.5 Community Solar Energy System (CSES) and Solar Farm Energy System (SFES)

Administration

Community Solar Energy Systems and Solar Farm Energy Systems are allowed by Conditional Use Permit in zoning districts A-1, A-2, C-1, C-2, M-1, M-2.

The applicants must be the landowner(s) of the property, lessee(s), and the project owner(s), as applicable, of the proposed CSES or SFES.

Conditional Use Permit Requirements

- (1) Names, addresses and contact information of the landowner(s), lessee(s), developer(s) and project owner(s), as applicable, and a listing of all CSES and SFES owned or operated by said developer. The application shall designate the entity who will be the construction permit holder.
- (2) Landowner applicants must provide a deed or other proof of ownership of the property. The developer applicants must provide a lease or other agreement with the landowner applicants.
- (3) Surveyed legal description, boundaries and total acreage of proposed CSES or SFES project.
- (4) Map to scale of existing conditions of the property including (a) contour lines at ten (10) foot intervals, (b) existing vegetation, (c) existing drainage and permanent water areas, (d) existing structures and wells on the property.
- (5) Map to scale of proposed CSES or SFES including (a) placement of all modules including GPS coordinates of the center of the project area, (b) layout and size of all structures on the property, (c) setback lines, (d) feeder lines and other utility lines, both buried and above ground, (e) interconnection points with existing electrical grid, (f) existing easements, (g) roadways.
- (6) Description of the project: (a) number of modules, (b) manufacturer, (c) mounting type, (d) system height, (e) system capacity, (f) total land area covered by the system, (f) information about associated facilities such as but not limited to substations, feeder lines, solar storage batteries, or other solar storage units.
- (7) CSES or SFES shall conform to applicable industry standards, including those from the Underwriters laboratory (UL) and Federal Aviation Administration (FAA). All applicable county, state, and national construction and electrical codes shall be followed.
- (8) Decommissioning Plan as specified at the end of this section.

(9) Plan for assurance of decommissioning financing as specified at the end of this section.

(10) Documentation of easement locations acquired for solar energy systems and associated facilities including easements to assure solar access space from adjacent property owners, as specified in Iowa Code 564A, for the life of the project. In the event that solar access space easement(s) are not accepted by the parties involved, the Board of Adjustment will serve as the Solar Regulatory Board per Iowa Code 564A.

(11) Compliance with all siting and location regulations specified as a General Requirement.

(12) An Emergency Response Plan filed with the Winneshiek County Emergency Management Coordinator.

(13) Any additional information required by the Zoning Administrator and/or Board of Adjustment.

Construction of a CSES or SFES shall not commence until the Conditional Use Permit has been approved by the Board of Adjustment and a Decommissioning Performance Bond has been delivered to the Auditor.

General Requirements

(1) Height of solar panel(s) shall not exceed twenty (20) feet at maximum tilt of the solar panel(s).

(2) Setbacks

(a) The setbacks shall be a minimum of fifty (50) feet from the property lines which form the outside perimeter of a CSES or SFES project area and one hundred (100) feet from a residence that is a part of the CSES or SFES project area. However, to the extent that a written waiver is permitted, the Board of Adjustment may reduce the standard setbacks and separation requirements if the intent of this Ordinance would be better served thereby; and if the participating or adjoining property owner affected by the reduced setback or separation completes a written waiver recorded with the Winneshiek County Recorder.

(b) CSES or SFES to be built on more than one parcel, and parcels are abutting, a zero (0) side or rear setback shall be permitted to the property line in common with the abutting parcel(s).

(c) Solar panels shall be at least two hundred (200) feet from a residence that is not part of the CSES or SFES project area.

(d) Solar panels shall be eighty (80) feet from State rights-of-way and sixty (60) feet from County rights-of-way.

(3) Screening: A landscape buffer may be required to be installed and maintained during the life of the operation. Determination of screening requirements will be made by the

Board of Adjustment as part of the review and approval process and will be based on adjacent or nearby surrounding land uses and topography.

(4) Fencing: A security fence of at least six (6) feet in height but no greater than eight (8) feet shall enclose the CSES or SFES. The security fence must be equipped with a minimum of one gate and locking mechanism on the primary access side. Security fences, gates and warning signs must be maintained in good condition until the solar installation is dismantled and removed from the site.

(5) Lighting: If lighting is provided for the CSES or SFES, lighting shall be shielded and downcast such that the light does not project directly onto the adjacent parcels nor into the night sky.

(6) Signage: All CSES or SFES shall provide the following at all locked entrances: (a) a visible "High Voltage" warning sign, (b) name(s) and phone number(s) for the electric utility provider, (c) name(s) and phone number(s) for the site operator, (d) the facility's 911 address, (e) a lock box with keys as needed.

(7) Utility connections: Reasonable efforts shall be made to place all utility connections from the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions or requirements.

(8) Outdoor storage: Only the outdoor storage of materials, vehicles, and equipment that directly support the operation and maintenance of the CSES or SFES shall be allowed.

(9) Endangered species and wetlands: Applicant shall seek natural resource consultation with the Winneshiek County Conservation Board and the Iowa Department of Natural Resources.

(10) Ground cover, buffer areas and weed control: Ground around and under solar arrays and in project site buffer areas shall be planted and maintained in perennial vegetated cover and meet the following standards:

(a) Top soils shall not be removed during development, unless part of a remediation effort.

(b) Soils shall be planted and maintained in perennial vegetation to prevent erosion, manage runoff, and build soil. Seeds should include a mix of grasses and wildflowers, ideally native to the region of the project site that will result in a short stature prairie with a diversity of forbs or flowering plants that bloom throughout the growing season. Blooming shrubs may be used in the buffer areas as appropriate for visual screening.

(c) Seed mixes and maintenance practices should be consistent with the recommendations made by qualified natural resource professionals such as those from the Iowa Department of Natural Resources, County Soil and Water Conservation District, or USDA Natural Resources Conservation Service.

(d) Applicant must present an acceptable weed control plan for property inside and outside fenced area for the entire property to be in compliance with Iowa's Noxious Weed

Law, chapter 317 of the Iowa Code. The operating company during the operation of the project must maintain the fence and adhere to the weed control plan.

(11) Waste: All solid wastes, whether generated from supplies, equipment parts, packaging, operation or maintenance of the CSES or SFES, shall be removed from the site and disposed of in an appropriate manner. All hazardous waste generated by the operation shall be removed from the site immediately and disposed of in a manner consistent with all local, state, and federal requirements.

(12) Road use agreements: All routes on county roads that will be used for the construction and maintenance purposes shall be identified on the site plan. All routes for either ingress or egress shall be shown. The CSES or SFES developer must complete and provide a pre-construction baseline survey to determine existing road conditions for assessing potential future damage due to development-related traffic. The developer shall provide a road repair plan to ameliorate any and all damage, installation, or replacement of roads that might be required by the developer. The developer shall provide a letter of credit or surety bond in an amount and form approved by the appropriate highway authority official(s) when warranted. The provision of this subsection shall be subject to the approval of the Winneshiek County Engineer.

(13) Soil erosion and sediment control: The applicant agrees to conduct all roadwork and other site development work in compliance with a National Pollutant Discharge Elimination System (NPDES) permit as required by the Iowa Department of Natural Resources and comply with requirements as detailed by local jurisdictional authorities during the plan submittal. If subject to NPDES requirements, the applicant must submit the permit for review and comment, and an erosion and sediment control plan before beginning construction. The plan must include both general "best management practices" for temporary erosion and sediment control (both during and after construction), and permanent drainage and erosion control measures to prevent both damage to local roads/adjacent areas and sediment-laden runoff into waterways.

(14) Stormwater management plan: For the purposes of pollutant removal, stormwater rate and runoff management, flood reduction and associated impacts, the applicant shall provide a detailed storm water management plan with analysis of pre- and post-development stormwater runoff rates for review by local jurisdictional authorities.

(15) Administration and enforcement: In order to conduct an inspection to validate compliance with the building permit or conditional use permit, the Zoning Administrator shall make an appointment with the applicant to enter the property in question. The applicant may escort the Zoning Administrator and any other necessary personnel. Failure to provide access shall be deemed a violation of this Ordinance.

Discontinuation and Decommissioning

A CSES or SFES shall be considered a discontinued use after the project is terminated, or after one (1) year without production of energy unless a plan is developed and submitted to the Zoning Administrator

outlining the steps and schedule for returning the CSES or SFES to service. Once a developer/owner has determined that the facility will no longer be used, the developer/owner must notify the County Zoning Administrator of the intent to stop using the facility and to decommission the facility in accordance with the agreed-upon Decommissioning Plan.

All CSES or SFES panels, arrays, fencing, underground cables, and accessory facilities shall be removed to a depth of six (6) feet within six (6) months of discontinued use.

Discontinued use does not apply to the pre-construction or construction period and shall be measured from the initial commercial energy production and operation of the CSES or SFES. If, however, the CSES or SFES construction permit is revoked, the project will be designated a discontinued use, and construction shall be removed to a depth of six (6) feet below ground level and the surface restored within six (6) months of the permit revocation.

(1) Decommissioning Plan: Each CSES or SFES shall have a Decommissioning Plan outlining the anticipated means and cost of removal at the end of its serviceable life or upon becoming a discontinued use. The plan shall include:

- (a) The anticipated life of the CSES or SFES installation.
- (b) The anticipated manner in which the project will be decommissioned, including how the project will be disconnected from the grid.
- (c) The anticipated site restoration actions to restore the site to the same general topography that existed prior to construction of the facility including grading, top-soiling, re-seeding, and weed control according to USDA Natural Resources Conservation Service (NRCS) or County Soil and Water Conservation District (SWCD) technical recommendations. Upon decommissioning the landowner may choose to retain service drives, waterways and/or drainage installed as part of the solar project. Additionally, while the landowner may require the property to be returned to its former use, such as pasture or cropland, the landowner can also choose to retain the vegetative cover and require any remaining open ground to be seeded to the same.
- (d) The estimated decommissioning costs in current dollars calculated by a professional engineer licensed in the State of Iowa or other qualified third-party professional approved by the Board of Adjustment, which includes the basis for estimates of net costs for decommissioning the site (decommissioning costs less salvage value) and a mechanism for calculating and notifying the County of adjusted costs over the life of the project.
- (e) The entity(s) financially responsible for carrying out the requirements of the Decommissioning Plan and maintaining the Decommissioning Performance Bond.

The County reserves the right to verify that adequate decommissioning terms are contained in the landowner's lease or easement.

The County reserves the right to enter the property during decommissioning with notification of the landowner.

(2) Decommissioning Performance Bond: The project owner or financially responsible entity shall continuously maintain a surety bond for the life of the CSES or SFES in an amount no less than the total estimated net removal and restoration costs as determined by the Decommissioning Plan. Said bond

shall be made out to Winneshiek County and be filed in the Auditor's office. Said bond must be in place prior to the beginning of the CSES or SFES construction, and must remain in effect until decommissioning is completed as verified by the landowner and the County.

The Decommissioning Performance Bond and Decommissioning Plan shall be reviewed every five (5) years by the project owner, the financially responsible entity, the landowner, the Zoning Administrator, the Assistant County Attorney who serves as legal counsel for the Zoning Commission, and the bonding company. The Zoning Administrator shall call the review meeting, chair the proceedings and keep a record of decisions made. Necessary adjustments shall be made at that time and remain in effect until the next review or decommissioning, whichever occurs first.

715 RENEWABLE WIND ENERGY CONVERSION SYSTEMS (WECS)

715.1 Purpose

The purpose of this section 715 is to facilitate the construction, installation and operation of Wind Energy Conversion Systems (WECS) in a manner that promotes local renewable energy production and economic development while protecting property values and ensuring the protection of the public health, safety and welfare. Renewable Wind Energy Conversion Systems enhance grid reliability and reduce peak power demands.

715.2 Definitions

- (1) **Blade:** An element of a wind turbine which acts as a part of an airfoil assembly, thereby extracting through rotation, kinetic energy directly from the wind.
- (2) **Commercial Wind Energy Conversion System (C-WECS):** A wind energy conversion system that is intended to produce electricity for distribution into the electric grid or for sale as retail electric power to local consumers.
- (3) **Feeder Line:** Any power line that carries electrical power from one or more wind turbines or individual transformers associated with individual wind turbines to the point of interconnection with the electrical power grid.
- (4) **Meteorological Tower:** Those towers which are erected primarily to measure wind speed and direction plus other data relevant to siting and operating a WECS.
- (5) **Nacelle:** A cover housing that houses all of the generating components in a wind turbine, including the generator, gearbox, drive train, and brake assembly.
- (6) **Personal Large Wind Energy Conversion System (PL-WECS):** A wind energy conversion system which has a rated capacity of one hundred (100) kilowatts or more intended to produce electricity primarily for use on-site by agricultural, educational, medical, commercial, industrial, or similar entities.
- (7) **Personal Small Wind Energy Conversion System (PS-WECS):** A wind energy conversion system which has a rated capacity of up to one hundred (100) kilowatts intended to produce electricity primarily for use on-site.
- (8) **Project Area:** The geographic area encompassing all components of a PL-WECS or C-WECS project.
- (9) **Rotor:** The portion of the WECS, typically consisting of blades, shafts and hubs that rotate in response to wind and convert the motion into electrical energy.
- (10) **Rotor Diameter:** The diameter of the circle described by the wind turbine's moving rotor blades.

(11) Substation: An electrical facility designed to collect and modify electrical energy produced by the wind turbines for the purpose of supplying the electrical energy to transmission lines.

(12) Total Height (of WECS): The height above ground level, reached by the rotor blade at its highest point or any other part of the WECS that is higher.

(13) Tower: The vertical structure that supports the electrical generator, nacelle, rotor blades, and/or meteorological equipment.

(14) Tower Foundation: The tower support structure, below grade, that supports the entire weight of the wind turbine.

(15) Tower Height: The height above grade of the fixed portion of the tower, excluding the electrical generator, nacelle, rotor blades, and/or meteorological equipment.

(16) Wind Energy Conversion System (WECS): An electrical generating facility comprised of one or more wind turbines and accessory facilities, including, but not limited to: power lines, transformers, substations and meteorological towers that operate by converting the kinetic energy of wind into electrical energy. The energy may be used on-site or distributed into the electrical grid.

(17) Wind Turbine: Any piece of electrical generating equipment that converts the kinetic energy of blowing wind into electrical energy using airfoils, blades, or similar devices to capture the wind.

715.3 Personal Small Wind Energy Conversion Systems (PS-WECS)

Administration

Personal Small Wind Energy Conversion Systems (PS-WECS) shall be considered an accessory use to a principal permitted use in any zoning district. Construction of a PS-WECS shall require a building permit. Such system may be connected to the electrical grid when a parcel on which the system is installed also receives electrical power supplied by a utility company. Excess electrical power generated and not presently needed for on-site use may be used by the utility company in accordance with the Iowa Administrative Code, Section 199, Chapter 15.11(5) on net metering.

The applicant(s) must be the landowner(s) of the property of the proposed PS-WECS. If the PS-WECS does not meet all requirements, the applicant may apply for a variance to be granted by the Board of Adjustment.

Required Information

The applicant(s) requesting the building permit will provide the following information to the Zoning Administrator:

- (1) Name, address and contact information of applicant(s).

(2) Plot plan sketch indicating: (a) property lines and physical dimensions of the subject property, (b) location and types of existing major structures on the property, (c) location of the proposed wind turbine(s), (d) the right-of-way of any public road that is contiguous with the property, (e) any overhead utility lines.

(3) Wind turbine specifications including (a) manufacturer and model, (b) rotor diameter, (c) total height, (d) tower type (freestanding or guyed).

(4) Certification to AWEA 9.1-2009; or IEC 61400-1, 61400-12, or 61400-11; or comparable certification for small wind turbines.

(5) Any additional information required by the Zoning Administrator.

General Requirements

(1) PS-WECS must be less than 100kW.

(2) Setback: (a) total height of the WECS from road rights-of-way, utility lines and property lines, unless a variance waiving property line setback is obtained, (b) no setback specified from dwellings or structures on applicant's property.

(3) The rated sound level of the WECS shall not be greater than fifty-five (55) dBA.

(4) The color and finish shall be non-reflective and in a neutral, non-obtrusive color.

(5) No artificial lighting except that required by the FAA.

(6) Any tower climbing apparatus shall be removed from lowest ten (10) feet of tower.

(7) Signage: Appropriate warning signage required: Danger, High Voltage. All other signage prohibited except for manufacturer identification.

(8) Control equipment must be enclosed and secured from unintentional access.

(9) All wiring must be underground unless the landowner can demonstrate the need for an overhead line. An overhead line may be approved by variance by the Board of Adjustment.

(10) PS-WECS must comply with Airport Overlay Zone regulations.

715.4 Personal Large Wind Energy Conversion Systems (PL-WECS)

Administration

Personal Large Wind Energy Conversion Systems (PL-WECS) shall be considered an accessory use to a principal permitted use in zoning districts A-1, A-2, C-1, C-2, M-1, M-2. Construction of a PL-WECS shall require a Conditional Use Permit. Such system may be connected to the electrical grid when a

parcel on which the system is installed also receives electrical power supplied by a utility company. Excess electrical power generated and not presently needed for on-site use may be used by the utility company in accordance with the Iowa Administrative Code, Section 199, Chapter 15.11(5) on net metering.

The applicant(s) must be the landowner(s) of the property and developer(s), if applicable, of the proposed PL-WECS.

Conditional Use Permit Requirements

- (1) Names, addresses and contact information of the property owner(s).
- (2) Property owner applicants must provide a deed or other proof of ownership of the property.
- (3) Surveyed legal description, boundaries and total acreage of proposed WECS project.
- (4) Map to scale of the property including (a) contour lines at ten (10) foot intervals, (b) existing vegetation, (c) existing drainage and permanent water areas, (d) existing structures and wells, (e) proposed placement of the wind turbine(s) with GPS coordinates, (f) setback lines, (g) utility lines, both buried and above ground, (h) interconnection points with existing electrical grid, (i) any existing easement(s).
- (5) General description of the project including (a) approximate nameplate generating capacity of the WECS, (b) proposed equipment manufacturer(s) and proposed installer(s), (c) type of wind turbine(s) including tower height, rotor diameter, and total height, (d) 911 address of the WECS.
- (6) Location of bluffs, public lands, public waterways including wetlands, towns, public buildings, dwellings, and active cemeteries within one thousand five hundred (1,500) feet of the proposed WECS.
- (7) Acoustic analysis when determined necessary by the Zoning Administrator.
- (8) Location of all known communications towers/facilities within two (2) miles of the proposed WECS and verification that the WECS will not interfere with any existing commercial and/or public communication system.
- (9) Federal Aviation Administration (FAA) permit application.
- (10) A map identifying roads and bridges to be used to haul the proposed WECS to the property.
- (11) WECS proposed to be connected to the public electric utility must provide evidence that the utility was contacted regarding the applicant's intent to make the connection from the proposed WECS. Additional information may be required.

12) Certification from a professional engineer(s) or other qualified professional(s) regarding (a) safety of the design, specifications, and compatibility of the tower structure with the rotors and other components of the conversion system(s), (b) safety of the footing design and materials supporting the tower(s). The standard for certification shall be good engineering practices and compliance with this Ordinance.

(13) A Decommissioning Plan.

(14) Compliance with all siting and location regulations specified as a General Requirement.

(15) Any additional information required by the Zoning Administrator and/or Board of Adjustment.

General Requirements

(1) Setbacks: The following setbacks and separation requirements shall apply to all wind turbines and meteorological towers in the project area. All setbacks shall be measured from the center point of the base of the wind turbine tower or the meteorological tower, as applicable. The Board of Adjustment may reduce the standard setbacks and separation requirements only if the adjoining property owner(s) affected by the reduced setback or separation completes a written waiver recorded with the Winneshiek County Recorder.

All other structures shall comply with the applicable setbacks as defined by the base zoning district.

Minimum setback distance for wind turbines and meteorological towers shall be:

(a) The greater of two (2) times Total Height, or one thousand (1,000) feet from: dwellings and active schools, hospitals, churches, and public libraries.

(b) 1.1 times Total Height from: public road rights-of-way, railroad rights-of-way, above-ground utility electric power lines, public communication lines, and property lines. Wind turbines and meteorological towers that are located on land adjacent to property under the same ownership may have the property line setback requirement waived.

(c) One thousand five hundred (1,500) feet from: incorporated municipality city limits.

(d) One thousand three hundred twenty (1,320) feet from: Bluff Impact Zone.

(e) One thousand (1,000) feet from: active cemeteries, public lands, and public waterways.

Compliance with FAA guidelines shall be followed for airport approach and clearance around VOR (VHF omnirange beacon) and DVOR (Doppler VHF omnirange beacon) stations.

The Board of Adjustment may waive setback requirements for property lines of adjoining property owners, private electrical power lines of 15kV or less, private telephone service lines, active cemeteries, public lands, public waterways, and incorporated municipality city

limits upon consultation and written consent of the private or public entity(s) involved. Setback requirements for public lands and public waterways may be waived only after preliminary review with the Iowa Department of Natural Resource (IDNR) and the Winneshiek County Conservation Board to identify sensitive environmental and wildlife habitat concerns near such public lands and waterways.

(2) Safety

(a) The lowest fifteen (15) feet above ground level of wind turbine towers and meteorological towers shall not be climbable.

(b) All access doors to wind turbines and meteorological towers and electrical equipment shall be locked when not being serviced to prevent unauthorized access.

(c) For all guyed towers, visible and reflective objects, such as plastic sleeves, reflectors or tape, shall be placed on the guy wire anchor points and along the outer and innermost guy wires up to a height of twelve (12) feet above the ground. Visible fencing shall be installed around anchor points of guy wires. The property owner must sign a notarized acknowledgement and consent form allowing construction of the turbine and guyed wires without fencing as required in this Ordinance to be presented to the Board of Adjustment.

(3) Signage: Each tower or entrance to any enclosure fence shall have visible signage indicating (a) the Owner's company name and/or logo and the phone number, (b) name and phone number of contact person in case of emergency, (c) "High Voltage" warning, (d) 911 address of the parcel on which the wind turbine is located.

All other signage on the wind turbine is prohibited except for reasonable identification of the manufacturer, owner or operator of the PL-WECS sites.

(4) Color and finish

(a) Wind turbines shall be painted white or grey. Finishes shall be matte or non-reflective.

(b) The design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the PL-WECS to the natural setting and existing environment.

(5) Lighting: PL-WECS sites shall not be artificially lighted, except to the extent required by the Federal Aviation Administration (FAA) or other applicable authority or for nighttime repairs or maintenance.

(6) Noise level: Sound generated by WECS shall not greater than fifty-five (55) dBA when measured at any dwelling or active school, hospital, church, or public library on an abutting property existing on date of approval of the CUP. If noise level is exceeded, it must be reduced to ambient noise level measured at the exterior of the above mentioned buildings. A base level

ambient noise measurement is done when the wind at the project site is sufficient to allow turbine operation with wind no greater than thirty (30) mph at the measurement location.

(7) Road use agreements: Winneshiek County Engineer shall approve all routes on county roads that will be used for the construction and maintenance purposes of the WECS. All road and bridge damage caused while transporting components of the WECS during construction or maintenance/repair will be the liability of the owner of the WECS.

Decommissioning

A wind turbine shall be removed within six (6) months after it has not generated electricity for a continuous period of twelve (12) months. A time extension may be granted by the Zoning Administrator when good faith efforts to repair the wind turbine can be demonstrated.

All PL-WECS and accessory facilities shall be removed to a depth of six (6) feet below ground level and the surface restored.

715.5 Commercial Wind Energy Conversion Systems (C-WECS)

Administration

The establishment and operation of a Commercial Wind Energy Conversion System (C-WECS) is allowed by Conditional Use Permit in zoning districts A-1, A-2, C-1, C-2, M-1, M-2.

The applicants must be the landowner(s) of the property, lessee(s), developer(s), and the project owner(s), as applicable, of the proposed C-WECS.

Conditional Use Permit Requirements

- (1) Names, addresses and contact information of all landowner(s), lessee(s), developer(s), and project owner(s), as applicable, of the proposed C-WECS and a listing of all C-WECS owned or operated by said developer. The application shall designate the entity who will be the construction permit holder.
- (2) Landowner applicants must provide a deed or other proof of ownership of the property. The developer applicants must provide a lease or other agreement with the landowner applicants.
- (3) Surveyed legal description, boundaries, and total acreage of the proposed WECS project.
- (4) Map to scale of existing conditions of the property including (a) contour lines at ten (10) foot intervals, (b) existing vegetation, (c) existing drainage and permanent water areas, (d) existing structures and wells on the property.
- (5) Map to scale of the proposed WECS including (a) placement of all wind turbines including GPS coordinates of each turbine, (b) layout and size of all structures on the lot, (c) setback lines,

- (d) feeder lines and other utility lines, both buried and above ground, (e) interconnection points with existing electrical grid, (f) existing easements, (g) roadways.
- (6) General description of the project including (a) approximate nameplate generating capacity of the WECS, (b) proposed equipment manufacturer(s), (c) type(s) of wind turbines, (d) number of wind turbines.
- (7) Tower height, rotor diameter, and total height of all wind turbines.
- (8) Location of bluffs, public lands, public waterways including wetlands, towns, public buildings, dwellings, and active cemeteries within one thousand five hundred (1,500) feet of proposed WECS.
- (9) Identification of significant migratory patterns and nesting areas for birds and bats and identification of endangered species within one (1) mile. A qualified professional such as a wildlife biologist, shall conduct a habitat and migration route study, as part of the siting approval application process, to determine if the installation of WECS(s) will have a substantial adverse impact on these animals.
- (10) Location of all known communications towers/facilities within two (2) miles of the proposed WECS.
- (11) A qualified third party acoustical analysis demonstrating compliance with siting and location regulations of noise and lack of interference with any existing commercial and/or public communication systems.
- (12) Federal Aviation Administration (FAA) permit application.
- (13) Certification from a professional engineer or other qualified professional regarding the safety of the design, specifications, and compatibility of the tower structure with the rotors and other components of the conversion systems. The standard for certification shall be good engineering practices and compliance with this Ordinance.
- (14) Certification from a professional engineer or other qualified professional for the footing design and materials for the tower(s).
- (15) A map from the hauling company identifying roads and bridges to be used to haul the proposed WECS to the property.
- (16) WECS proposed to be connected to the public electric utility must provide evidence that the utility was contacted regarding the applicant's intent to make the connection from the proposed WECS. Additional information may be required.
- (17) Decommissioning Plan as specified at the end of this section.
- (18) Plan for assurance of decommissioning financing as specified at the end of this section.

(19) An Emergency Response Plan filed with the Winneshiek County Emergency Management Coordinator.

(20) Compliance with all siting and location regulations specified as a General Requirement.

(21) Any additional information required by the Zoning Administrator and/or Board of Adjustment.

Construction of a C-WECS shall not commence until the Conditional Use Permit has been approved by the Board of Adjustment and a Decommissioning Performance Bond has been delivered to the Auditor.

General Requirements

(1) Setbacks: The following setbacks and separation requirements shall apply to all wind turbines and meteorological towers in the project area. All setbacks shall be measured from the center point of the base of the wind turbine tower or the meteorological tower, as applicable. The Board of Adjustment may reduce the standard setbacks and separation requirements only if the adjoining property owner(s) affected by the reduced setback or separation completes a written waiver recorded with the Winneshiek County Recorder.

All other structures shall comply with the applicable setbacks as defined by the base zoning district.

Minimum setback distance for wind turbines and meteorological towers shall be:

(a) The greater of two (2) times Total Height, or one thousand (1,000) feet from: dwellings and active schools, hospitals, churches, and public libraries.

(b) 1.1 times Total Height from: public road rights-of-way, railroad rights-of-way, above-ground utility electric power lines, public communication lines, and property lines. Wind turbines and meteorological towers that are located on land adjacent to property under the same ownership may have the property line setback requirement waived.

(c) One thousand five hundred (1,500) feet from: incorporated municipality city limits.

(d) One thousand three hundred twenty (1,320) feet from: Bluff Impact Zone.

(e) One thousand (1,000) feet from: active cemeteries, public lands, and public waterways.

Compliance with FAA guidelines shall be followed for airport approach and clearance around VOR (VHF omnirange beacon) and DVOR (Doppler VHF omnirange beacon) stations.

The Board of Adjustment may waive setback requirements for property lines of adjoining property owners, private electrical power lines of 15kV or less, private telephone service lines, active cemeteries, public lands, public waterways, and incorporated municipality city limits upon consultation and written consent of the private or public entity(s) involved. Setback requirements for public land and public waterways may be waived only after preliminary review

with the Iowa Department of Natural Resource (IDNR) and the Winneshiek County Conservation Board to identify sensitive environmental and wildlife habitat concerns near such public lands and waterways.

(2) Safety:

- (a) The lowest fifteen (15) feet above ground level of wind turbine towers and meteorological towers shall not be climbable.
- (b) All access doors to wind turbines, meteorological towers and electrical equipment shall be locked when not being serviced to prevent unauthorized access.
- (c) For all guyed towers, visible and reflective objects, such as plastic sleeves, reflectors or tape, shall be placed on the guy wire anchor points and along the outer and innermost guy wires up to a height of twelve (12) feet above the ground. Visible fencing shall be installed around anchor points of guy wires. The property owner must sign a notarized acknowledgement and consent form allowing construction of the turbine and guyed wires without fencing as required in this Ordinance to be presented to the Board of Adjustment.
- (d) All communication and feeder lines equal to or less than 34.5 kV in capacity and wiring between wind turbines and the C-WECS substation shall be underground. If the developer can demonstrate the need for an overhead line and the acceptance of land owners for this line, such option may be approved by the Board of Adjustment.

(3) Signage:

- (a) Each tower or entrance to any enclosure fence shall have visible signage indicating (i) the Owner's company name and/or logo and the phone number, (ii) name and phone number of contact person in case of emergency, (iii) "High Voltage" warning.
- (b) The 911 rural address of each wind turbine or grouping of multiple wind turbines shall be placed at each wind turbine site and/or the entry points of access roads as per the Winneshiek County 911 rural addressing signage requirements.
- (c) All other signage on the wind turbine is prohibited except for reasonable identification of the manufacturer, owner or operator of the C-WECS sites.

(4) Color and finish:

- (a) Wind turbines shall be painted white or grey. Finishes shall be matte or non-reflective.
- (b) The design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the C-WECS to the natural setting and existing environment.

(5) Lighting:

(a) C-WECS sites shall not be artificially lighted, except to the extent required by the Federal Aviation Administration (FAA) or other applicable authority or for nighttime repairs/maintenance.

(b) Lighting, including lighting intensity and frequency of strobe, shall adhere to, but not exceed, requirements established by FAA permits and regulations. Red strobe lights are preferred for nighttime illumination to reduce impacts on migrating birds. Red pulsating lights should be avoided. Exception may be made for meteorological towers, where concerns exist relative to aerial spray applicators.

(c) Where feasible to do so, aircraft detection lighting systems (ADLS) shall be used (i) to reduce the impact of nighttime lighting on nearby residents, communities, and migratory birds and (ii) to extend the life expectancy of obstruction lighting, all in accordance with FAA regulations.

(6) Noise level: Sound generated by C-WECS shall not be greater than fifty-five (55) dBA when measured at any dwelling or active school, hospital, church, or public library on an abutting property existing on date of approval of the CUP. If noise level is exceeded, it must be reduced to ambient noise level measured at the exterior of the above mentioned buildings. A base level ambient noise measurement is done when the wind at the project site is sufficient to allow turbine operation with wind no greater than thirty (30) mph at the measurement location.

(7) Outdoor storage: Only the outdoor storage of materials, vehicles, and equipment that directly support the operation and maintenance of the WECS shall be allowed.

(8) Waste: All solid wastes, whether generated from supplies, equipment parts, packaging, operation or maintenance of the WECS shall be removed from the site and disposed of in an appropriate manner. All hazardous waste generated by the operation shall be removed from the site immediately and disposed of in a manner consistent with all local, state and federal requirements.

(9) Road use agreements: All routes on roads in the county that will be used for the construction and maintenance purposes shall be identified on the site plan. All routes for either ingress or egress shall be shown. The C-WECS developer must complete and provide a pre-construction baseline survey to determine existing road conditions for assessing potential future damage due to development-related traffic. The developer shall provide a road repair plan to ameliorate any and all damage, including installation or replacement of roads that might be required of the developer. The developer shall provide a letter of credit or surety bond in an amount and form approved by the appropriate authority(s) when warranted. The provision of this subsection shall be subject to the approval of the Winneshiek County Engineer.

(10) Soil erosion, sediment control and stormwater management: The applicant shall conduct all roadwork and other site development work in a manner that controls soil erosion and stormwater runoff.

Discontinuation and Decommissioning

A C-WECS shall be considered a discontinued use after a continuous period of twelve (12) months without energy production, unless a plan is developed and submitted to the Zoning Administrator outlining the steps and schedule for returning the C-WECS to service. Once a developer/owner has determined that the facility will no longer be used, the developer/owner must notify the County Zoning Administrator of the intent to stop using the facility and to decommission the facility in accordance with the agreed-upon Decommissioning Plan.

All C-WECS and accessory facilities shall be removed to a depth of six (6) feet below ground level and the surface restored within six (6) months of discontinued use.

Discontinued use does not apply to the pre-construction or construction period and shall be measured from the initial commercial energy production and operation of the C-WECS. If, however, the C-WES construction permit is revoked, the C-WES project will be designated a discontinued use, and construction shall be removed to a depth of six (6) feet below ground level and the surface restored within six (6) months of the permit revocation.

(1) Decommissioning Plan: Each C-WECS shall have a Decommissioning Plan outlining the anticipated means and cost of removing the C-WECS at the end of its serviceable life or upon becoming a discontinued use. The plan shall include:

(a) The anticipated life of the C-WECS installation.

(b) The anticipated manner in which the project will be decommissioned, including how the project will be disconnected from the grid.

(c) The anticipated site restoration actions to restore the site to the same general topography that existed prior to construction of the facility including grading, top-soiling, and weed control according to USDA Natural Resources Conservation Service (NRCS) or County Soil and Water Conservation District (SWCD) technical recommendations. Upon decommissioning the landowner may choose to retain service drives, waterways and/or drainage installed as part of the WCES project. Additionally, while the landowner may require the property to be returned to its former use, such as pasture or cropland, the landowner can also choose to retain the vegetative cover and require any remaining open ground to be seeded to the same.

(d) The estimated decommissioning costs in current dollars calculated by a professional engineer licensed in the State of Iowa or other qualified third-party professional approved by the Board of Adjustment, which includes the basis for estimates of net costs for decommissioning the site (decommissioning costs less salvage value) and a mechanism for calculating and notifying the County of adjusted costs over the life of the project.

(e) The entity(s) financially responsible for carrying out the requirements of the Decommissioning Plan and maintaining the Decommissioning Performance Bond.

The County reserves the right to verify that adequate decommissioning terms are contained in the landowner's lease or easement.

The County reserves the right to enter the property during decommissioning with notification of the landowner.

(2) Decommissioning Performance Bond: The project owner or financially responsible entity shall continuously maintain a surety bond for the life of the C-WECS in an amount no less than the total estimated net removal and restoration costs as determined by the Decommissioning Plan. Said bond shall be made out to Winneshiek County and be filed in the Auditor's office. Said bond must be in place prior to the beginning of the C-WECS construction, and must remain in effect until decommissioning is completed as verified by the landowner and the County.

The Decommissioning Performance Bond and Decommissioning Plan shall be reviewed every five (5) years by the project owner, the financially responsible entity, the landowner, the Zoning Administrator, the Assistant County Attorney who serves as legal counsel for the Zoning Commission, and the bonding company. The Zoning Administrator shall call the review meeting, chair the proceedings, and keep a record of decisions made. Necessary adjustments shall be made at that time and remain in effect until the next review or decommissioning, whichever occurs first.