

ORDINANCE NO. 2017-482

AN ORDINANCE AMENDING THE ZONING ORDINANCES OF THE CITY OF INDEPENDENCE, IOWA, BY ADDING PROVISIONS PERTAINING TO WIND TURBINES.

BE IT ENACTED by the City Council of Independence, Iowa:

SECTION 1. SECTION MODIFIED. The Independence Planning & Zoning Ordinance is amended by inserting the following new chapter:

CHAPTER 3  
SECTION 3.24  
WIND TURBINES

- |                               |                                     |
|-------------------------------|-------------------------------------|
| 3.24 (1) Purpose              | 3.24 (6) Requirements and Standards |
| 3.24 (2) Definitions          | 3.24 (7) Other Applicable Standards |
| 3.24 (3) Applicability        | 3.24 (8) WECS Permit Process        |
| 3.24 (4) Procedures           | 3.24 (9) Release of Liability       |
| 3.24 (5) District Regulations |                                     |

**3.24 (1) PURPOSE.** This Chapter establishes regulations for the installation and operation of Wind Energy Conversion Systems (WECS) within the City of Independence. The purpose of this regulation is to promote the safe, effective, and efficient use of wind energy conversion systems to reduce the on-site consumption of utility-supplied electricity. In addition, this ordinance provides a permitting process for wind energy systems to ensure compliance with the provisions of the requirements and standards established or referenced herein. The provisions of this ordinance shall not guarantee wind rights or establish access to the wind.

**3.24 (2) DEFINITIONS.**

1. "WECS" shall mean Wind Energy Conversion System. That is, 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 and/or distributed into the electrical grid.
2. "Aggregated Project" shall mean projects that are developed and operated in a coordinated fashion, but which have multiple entities separately owning one or more of the individual WECS within the larger project. Associated infrastructure such as power lines and transformers that service the facility may be owned by a separate entity but also included as part of the aggregated project.
3. "Commercial WECS" shall mean a WECS of equal to or greater than one-hundred (100) kilowatts in total name plate generating capacity.
4. "Non-Commercial WECS" shall mean a WECS of less than one-hundred (100) kilowatts in total name plate generating capacity.
5. "Fall Zone" shall mean the area, defined as the furthest distance from the tower base, in which a guyed tower could collapse in the event of a structural failure. This area is commonly similar to the total height of the structure.
6. "Tower Height" shall mean the height above grade of the fixed portion of the tower, excluding the wind turbine itself.
7. "Total Height" shall mean the height above grade to the rotor blade at its highest point.

8. "Feeder Line" shall mean 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 electric power grid, in the case of interconnection with the high voltage transmission systems the point of interconnection shall be the substation serving the WECS.
9. "Meteorological Tower" shall mean those towers which are erected primarily to measure wind speed and directions plus other data relevant to site WECS. Meteorological towers do not include towers and equipment used by airports, the Iowa Department of Transportation, or other similar applications to monitor weather conditions.
10. "Micro-WECS" shall mean WECS of one (1) kilowatt name plate generating capacity or less and utilizing supporting towers of forty (40) feet or less.
11. "Nacelle" shall mean the key components of the wind turbine, including the gearbox, yaw system, and electrical generator.
12. "Property line" shall mean the boundary line of the area over which the entity applying for a WECS permit has legal control for the purposes of installation of a WECS. This control may be attained through fee title ownership, easement, or other appropriate contractual relationship between the project developer and landowner.
13. "Rotor diameter" shall mean the diameter of the circle described by the moving rotor blades.
14. "Substation" shall mean any electrical facility designed to convert electricity produced by wind turbines to a voltage greater than thirty-five thousand (35,000) volts (35 kilovolts) for interconnection with high voltage transmission lines. High voltage transmission lines shall be located outside of the road right of way.
15. "Tower" shall mean the tower of a wind turbine which shall include the vertical structures that support the electrical generator, rotor blades, or meteorological equipment.
16. "Transmission Line" shall mean those electrical power lines that carry voltages of at least sixty-nine thousand (69,000) volts (69 kilovolts) and are primarily used to carry electric energy over medium to long distances rather than directly interconnecting and supplying electric energy to retail customers.
17. "Public conservation lands" shall mean land owned in fee title by City, County, State, or Federal agencies and managed specifically for conservation purposes, including but not limited to State Wildlife Management Areas, State Parks, State Scientific and Natural Areas, Federal Wildlife Refuges, Hunting Preserve, and Waterfowl Production Areas. For the purpose of this Chapter, public conservation lands will also include lands owned in fee title by non-profit conservation organizations. Public conservation lands do not include private lands upon which conservation easements have been sold to public agencies or non-profit conservation organizations.
18. "Wind turbine" shall mean any piece of electrical generating equipment that converts the kinetic energy of blowing wind into electrical energy through the use of airfoils or similar devices to capture the wind.

**3.24 (3) APPLICABILITY.** It shall be unlawful to construct, erect, install, alter, or locate any WECS within the city limits of Independence and being authorized by the Independence City Council in a public hearing.

**3.24 (4) PROCEDURES.**

1. Applications for a WECS Permit shall be made on a permit application to the City of Independence.

2. No WECS or wind turbine shall be constructed, erected, converted, installed, reconstructed, enlarged, located, relocated, structurally altered, or otherwise developed including the placement of additional buildings and appurtenances without obtaining a zoning placement permit and being in full compliance with the terms of this section and other applicable codes, regulations, and policies adopted by the City, County, State, or Federal Government.
3. Rezoning or map amendment shall be applied for and reviewed under the procedures established in this Ordinance, except where noted below. Reasonable fees shall be charged for rezoning per parcel or tract of land as well as a fee for each tower included in the application. Said fees shall be determined by the City of Independence Zoning Department.
4. The application for all WECS shall include the following information:
  - a. The name(s) and address of the project applicant.
  - b. The name of the project owner.
  - c. The legal description of the site where development is planned.
  - d. Evidence that the applicant is the owner of the property where development is planned or written approval of the property owner authorizing the applicant to make application for the WECS.
  - e. A preliminary description of the project including: number, type, name plate generating capacity, tower height, rotor diameter, and total height of all wind turbines and means of interconnecting with the electrical grid.
  - f. Preliminary site layout, including the location of property lines, wind turbines, electrical wires, interconnection points with the electrical grid, and all related accessory structures. The site layout shall include distances and be drawn to scale or include accurate dimensions with aerial photos or drawings.
5. The building permit (after zoning approval) for the Commercial WECS shall include:
  - a. Final site plan.
  - b. Final legal description.
  - c. Engineer's certification.
  - d. The latitude and longitude of individual wind turbines.
  - e. A U.S. Geological Survey topographical map, or map with similar data, or the property and surrounding area, including any other WECS within ten (10) rotor diameters of the Proposed WECS.
  - f. Location of wetlands, scenic, and natural areas [including bluffs] within one thousand three-hundred twenty (1,320) feet of the proposed WECS. [dependent on DNR/Iowa Code]
  - g. An acoustical analysis.
  - h. Federal Aviation Administration (FAA) Permit Application.
  - i. Location of all known Communications Towers within two (2) miles of the proposed WECS.
  - j. Discontinuation and Decommissioning Plan.

- k. Description of potential impacts on nearby WECS and wind resources on adjacent properties.
6. In addition to the rezoning fee, the applicant must also file a bond in an amount determined by the Independence City Council. Said Bond shall be from a surety company authorized to do business in the State of Iowa and Buchanan County. The bond shall be conditioned that the applicant under this section will pay to the City any and all damages caused to the streets, highways, and bridges, by applicant.
  7. Aggregated Projected Procedures: Aggregated Projects may jointly submit a single application and be reviewed under joint proceedings, including notices, hearings, reviews, and as appropriate, approvals.

**3.24 (5) DISTRICT REGULATIONS.**

1. WECS may be permitted as a Principal Permitted in any of the zoning districts, as set forth in the City of Independence zoning ordinance long as bulk requirements and setback requirements are addressed. Said bulk requirements are shown in Table 1 below.
2. Setbacks: Substations and Accessory Facilities
  - a. Minimum setback standards for substations, feeder lines, and fences shall be consistent with the standards for accessory structures established in the City of Independence Zoning Ordinance.
  - b. Substation setbacks:
    - i. Ten (10) feet, structure setback from road right-of-way located wholly outside the right-of-way.
    - ii. Property lines ten (10) feet; structure setback from property lines; side yard.

**Table 1.**

**WECS Setback Requirements: Wind Turbines and Meteorological Towers**

	<b>Wind Turbine – Non-Commercial Micro WECS</b>	<b>Wind Turbine – Non-Commercial WECS</b>	<b>Wind Turbine – Commercial WECS</b>	<b>Meteorological Towers</b>
<b>Property Lines</b>	1.1 times the total height or the distance of the fall zone as certified by a professional engineer plus 10 feet.	1.1 times the total height or the distance of the fall zone as certified by a professional engineer plus 10 feet.	1.25 times the total height.	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.
<b>Neighboring Dwellings<sup>1</sup></b>	1,000 feet. This setback requirement may be reduced by the Zoning Administrator subject in maintaining adequate health	1,000 feet.	1,200 feet.	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.

<sup>1</sup> The setback for dwelling shall be reciprocal in that no dwelling shall be constructed within one-thousand two-hundred (1,200) feet of a commercial wind turbine; unless a release of liability is received from the WECS.

	and safety requirements or waived by the dwelling occupant or owner.			
<b>Road Rights-of-Way<sup>2</sup></b>	The distance of the fall zone as certified by a professional engineer plus 10 feet or 1.1 times the total height.	The distance of the fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.	1.1 times the height may be reduced for minimum maintenance roads.	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.
<b>Other Rights-of-Way (Railroads, grasslands, or hunting preserve)</b>	The lesser of 1.1 times the total height or the fall by a professional engineer plus 10 feet.	The lesser of 1.1 times the total height or the distance of the fall zone as certified by a professional engineer plus 10 feet.	The lesser of 1.1 times the total height or the distance as certified by a professional engineer plus 10 feet.	The fall zone, as certified by a professional engineer plus 10 feet or 1/1 times the total height.
<b>Public conservation lands managed as grasslands, or hunting preserve</b>	600 feet or 20 yards.	600 feet or 200 yards.	600 feet or 200 yards.	600 feet or 200 yards.
<b>Wetlands</b>	NA	NA	NA	NA
<b>Other structures</b>	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.
<b>Other existing WECS</b>	NA	NA	To be determined through cup review based on: relative size of the existing and proposed WECS, alignment of the WECS relative to the predominate winds, topography, extent of the wake interference impacts on existing WECS, other setbacks required waived for multiple turbine projects including aggregated projects.	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height. Extent of wake interference impacts on existing WECS shall be considered.

<sup>2</sup> The setback shall be measured from future rights-of-way if a planned change or expanded right-of-way is known.

### 3.24 (6) REQUIREMENTS AND STANDARDS.

1. Safety Design Standards
  - a. Engineering Certification: For all WECS, the manufacturer's engineer or another qualified engineer shall certify that the turbine, foundation, and tower design of the WECS is within accepted professional standards, given local soil and climate conditions.
  - b. Clearance: Rotor blades or airfoils must maintain at least thirty (30) feet of clearance between their lowest point and the ground.
  - c. Warnings: For all commercial WECS, a sign or signs shall be posted on the tower, transformer, and substation warning of high voltage.
2. Height Standard
  - a. Total height – Non-Commercial WECS shall have a total height of less than two hundred (200) feet.
  - b. Total Height must also be in compliance with all municipal airport ordinances within Buchanan County or adjoining counties. This shall include, but not be limited to, the Independence Municipal Airport Ordinance.
  - c. Commercial WECS shall be in compliance with Section 3.24 (6) (2)(b), above, as well as all setback requirements as outlined in Table 1.
3. Meteorological towers may be guyed.
4. Color and Finish: All wind turbines and towers that are part of a commercial WECS shall be white, grey, or another non-obtrusive color. Blades may be black in order to facilitate deicing. Finishes shall be matte or non-reflective. Exceptions may be made for metrological towers, where concerns exist relative to aerial spray applicators.
5. Lighting: Lighting, including lighting intensity and frequency of strobe, shall adhere to but not exceed requirements established by Federal Aviation Administration permits and regulations. Red strobe lights are preferred for night-time illumination to reduce impacts on migrating birds. Red pulsating incandescent lights should be avoided. Exceptions may be made for metrological towers, where concerns exist relative to aerial spray applicators.
6. Other Signage: All signage on site shall comply with Sign Regulations of the City of Independence Ordinance. The manufacturer's or owner's company name and/or logo may be placed upon the nacelle or base of the WECS.
7. Feeder Lines: All communications and feeder lines, equal to or less than thirty-four and one-half (34.5) kilovolts in capacity, installed as part of a WECS shall be buried where reasonable feasible.
8. Waste Disposal: Solid and hazardous waste, including but not limited to crates, packaging materials, damaged or worn parts, as well as used oils and lubricants, shall be removed from the site promptly and disposed of in accordance with all applicable local, state, and federal regulations.
9. Impact on Public Infrastructure: Reimbursement of all costs related to excessive wear and tear to any public infrastructure such as, but not limited to, City roads and bridges, and to any highway system, storm water management related improvements and or/public utilities that are caused by the construction, maintenance, or removal of any WECS shall be reimbursed to the affected local government. A determination shall be made by the City Council after consultation of an engineer hired by the City with the costs billed to those owning the WECS or applicable official to establish if excessive wear and tear or damage has occurred and to

estimate the costs of repair for said work. Any damage to any haul routes, as determined by the Engineer, shall be reimbursed to the local government affected and shall be billed to the corporation or company owning said WECS to be paid within forty-five (45) days of issuance and may be subject to late charges, interest, or penalties as allowed by law. All haul routes shall be reviewed and approved by the City on use of any City roads prior to construction, maintenance, or removal of any WECS. In order to review proposed haul routes and/or work locations, WECS manufacturer(s) or owner(s) and/or their contractors shall contact the City a minimum on one (1) month prior to starting any work in the City. In addition, the applicant must also file a bond in an amount determined by the City Council. Said bond shall be from a surety company authorized to do business in the State of Iowa and the City of Independence. The bond shall be conditioned that the applicant under this section will pay to the City any all damages caused to the streets, highways, and bridges, by applicant.

10. Discontinuation and Decommissioning: A WECS shall be considered discontinued after one (1) year without energy production, unless a plan is developed and submitted to the City of Independence Zoning Administrator outlining the steps and schedule for returning the WECS to service.
  - a. All WECS and accessory facilities shall be removed to a depth of seven (7) feet including footing and foundations within one-hundred eighty (180) days of the discontinuation of use.
  - b. Each Commercial WECS shall have a decommissioning plan outlining the anticipated means and cost of removing each WECS at the end of their serviceable life or upon becoming discontinued.
  - c. The cost estimates associated with a decommissioning plan shall be made by a competent party; such as a professional engineer, a contractor capable of decommissioning WECS, or such other person with suitable expertise or experience with decommissioning WECS.
  - d. The decommissioning plan shall identify the financial resources that will be available to pay for the decommissioning and removal of the WECS accessory facilities.
  - e. The City of Independence will require financial security in the form of a cash escrow, and irrevocable letter of credit or a performance bond to ensure that decommissioning of a Commercial WECS or Non-Commercial WECS is completed as required in this procedure.

### **3.24 (7) OTHER APPLICABLE STANDARDS.**

1. Noise: The noise level measured at the property line of the property on which the WECS has been installed shall not exceed sixty (60) decibels (dBA). In the event of an alleged nuisance, the City of Independence shall request that the decibel level be determined by the Iowa Department of Natural Resources.
2. Electrical codes and standards: All WECS and accessory equipment and facilities shall comply with the National Electrical Code and other applicable standards.
3. Federal Aviation Administration: All WECS shall comply with FAA standards and permits, including the Independence Municipal Airport Ordinance and International Building Code.
4. Building Code: All WECS shall comply with the ICC Code adopted by the City of Independence.
5. Interference: The applicant(s) shall minimize or mitigate interference with electromagnetic communications, such as radio, telephone, microwaves, or television signals caused by any WECS. The applicant(s) shall notify all communication tower operators within two (2) miles of

the proposed WECS location upon application to the City of Independence for permits. No WECS shall be constructed so as to interfere with the City of Independence, Buchanan County, or Iowa Department of Transportation microwave transmissions.

6. A WECS Permit may be revoked any time the WECS does not comply with the rules and regulations set forth in this ordinance of WECS Permit. The revocation of the WECS Permit requires the WECS to be physically removed within one-hundred eighty (180) days.

**3.24 (8) WECS PERMIT PROCESS.** All WECS Permit applications shall be approved by the Independence City Council after recommendation for Independence Planning and Zoning Commission following the standards and procedures as set forth in the City of Independence Zoning Ordinance.

**3.24 (9) RELEASE OF LIABILITY.** The City of Independence shall be fully released of any liability associated with any WECS built within the city limits of Independence, Iowa.

**SECTION 2. SEVERABILITY CLAUSE.** If any section, provision or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

**SECTION 3. WHEN EFFECTIVE.** This ordinance shall be in effect from and after its final passage, approval and publication as provided by law.

**PASSED AND APPROVED** by the City Council of Independence, Iowa, on this 13<sup>h</sup> day of March, 2017.

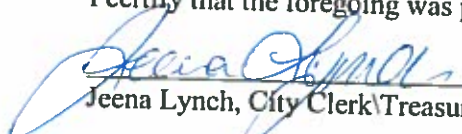
  
\_\_\_\_\_  
Bonita Davis, Mayor of the City of Independence, IA

ATTEST:

  
\_\_\_\_\_  
Jeena Lynch, City Clerk/Treasurer of the City of Independence, IA

First Reading: February 13, 2017  
Second Reading: February 27, 2017  
Third Reading: March 13, 2017

I certify that the foregoing was published as Ordinance No.2017-482 on the 18<sup>th</sup> day of March, 2017.

  
\_\_\_\_\_  
Jeena Lynch, City Clerk/Treasurer