

**DRAFT WIND SYSTEMS ORDINANCE**  
**4/20/2011**

**1.0 Purpose**

The purpose of this ordinance is to establish minimum requirements and regulations for the placement, construction, and modification of large wind energy systems, small wind energy systems, minor wind energy systems and wind metering towers and equipment as defined herein, while promoting the safe, effective, and efficient use of such systems.

**2.0 Definitions**

**Abandoned:** A wind energy system or project shall be considered abandoned when, once installed fails to operate for 24 months.

**Height:** The height of a wind turbine measured from natural grade to the tip of the rotor blade at its highest point.

**Large Wind Energy System:** All equipment, machinery, and structures utilized in connection with the conversion of wind to electricity. This includes, but is not limited to, storage, electrical collection and supply equipment, transformers, service and access roads, and one or more wind turbines, which has a rated nameplate capacity greater than 100 kilowatts (kW).

**Meteorological Tower (Met tower):** A temporary tower, housing or supporting wind measuring equipment for the purpose of establishing the viability of the wind generated energy by measuring and monitoring wind velocity, direction, shear, duration, intensity, and regularity.

**Minor Wind Energy System:** A wind energy conversion system consisting of one wind turbine and tower and associated control and/or conversion electronics which have a rated capacity of less than twenty (20) kilowatts and providing wind generated electrical power to be used primarily for on site consumption.

**Rated Nameplate Capacity:** The maximum rated output of electric power production equipment. This output is typically specified by the manufacturer with a “nameplate” on the equipment rated in Watts (W) or British Thermal Units (BTUs).

**Small Wind Energy System:** All equipment, machinery, and structures utilized in connection with the conversion of wind to electricity. This includes, but is not limited to, storage, electrical collection and supply equipment, transformers, service and access roads, and one or more wind turbines, which has a rated nameplate capacity of 100 kW or less.

**Permit Granting Authority:** The permit granting authority shall be the board of County Commissioners. The board of County Commissioners may, at their discretion, designate the planning board, or zoning administrator as the permit granting authority, as

designated by zoning ordinance or by law for the issuance of permits, or by this section for the issuance of permits to construct and operate small wind energy systems.

**Special Use Permit:** A permit provided by the permitting authority for nonconforming small wind systems (e.g. a small wind system that does not meet the criteria for small wind systems set forth by this ordinance).

**Zoning:** Ordinances and bylaws adopted by a county to regulate the use of land, buildings, and structures to the full extent of the independent constitutional powers of states to protect the health, safety, and general welfare of its present and future inhabitants.

**Zoning administrator:** A person designated by the board of planning and zoning commissioners to assume certain duties of said board.

### **3.0 General Requirements – Minor Wind Energy System**

#### **3.1 Design Standards**

##### **3.1.1 Height**

The height of minor wind energy systems shall not exceed 100 feet in height.

##### **3.1.2 Setbacks**

Small wind energy systems shall be set back at a distance equal to 110% of the total height of system from all overhead utility lines, property lines, and public roads or public rights-of-ways.

##### **3.1.3 Setback Waivers**

The building inspector may reduce the minimum setback distance if written permission is granted by permit granting authority, or with a signed agreement from abutting neighbor(s), on the condition that public right-of-ways and power lines are not impacted by the location.

##### **3.1.4 Minimum Blade Height**

The minimum height of the lowest extent of a turbine blade shall be 15 feet above the ground.

##### **3.1.5 Color and Finish**

The wind energy system shall be a neutral color that blends with the environment.

##### **3.1.6 Lighting**

Minor wind energy systems shall be lighted only if required by the Federal Aviation Administration. Obstacle Collision Avoidance Systems shall be used to minimize the time lights remain on when they are required; subject

to FAA approval. Lighting of other parts of the minor wind energy system shall be limited to that required for safety and operational purposes.

### **3.1.7 Signage and Advertising**

Signs and advertising shall be restricted to reasonable identification of the manufacturer, operator of the minor wind energy system, utility, and safety signs.

### **3.1.8 Access**

No tower shall have a climbing apparatus within 10 feet of the ground. All access doors or access ways to towers and electrical equipment shall be inaccessible by the public.

### **3.1.9 Sound**

The minor wind energy system and associated equipment shall not exceed 60 dBA as measured from the nearest neighboring inhabitable structure.

## **3.2 Siting Conditions and Property Maintenance**

### **3.2.1 Land Clearing, Soil Erosion, and Habitat Impacts**

If the permitting granting authority adopts standards for land clearing, soil erosion control, and habitat impact mitigation and/or habitat reclamation, by ordinance or resolution, those same standards shall apply.

### **3.2.2 Minimum Lot Size**

Minimum lot size for minor wind energy systems shall be determined pursuant to the setback requirements of this ordinance. Section 3.1.2.

### **3.2.3 System Conditions**

The applicant shall maintain the minor wind energy system in good condition. Maintenance shall include, but not be limited to, painting, mechanical/electrical repairs, structural repairs, and security measures.

### **3.2.4 Removal and Decommissioning Requirements**

Any minor wind energy system, which has reached the end of its useful life or has been abandoned, shall be removed. A minor wind energy system shall be considered abandoned when it fails to operate for 24 months. Upon a Notice of Abandonment issued by the Building Inspector, the minor wind energy system owner will have 60 days to provide sufficient evidence that the system has not been abandoned, or the Permit Granting Authority shall have the authority to enter the owner's property and remove the system at the owner's expense.

## **3.3 Permit Granting Authority Issued Permits**

### **3.3.1 Building Permits**

Minor wind energy systems shall be constructed as provided in this section by first obtaining a building permit from the appropriate Permit Granting Authority. Primary demand for power produced by minor wind energy systems herein must be on site consumption.

### **3.3.2 Modifications**

Any physical modification to an existing and permitted wind energy system that materially alters the size and/or type of wind turbines or other equipment shall require a permit modification under this ordinance. Replacement of an already permitted turbine with a similar size and height will not require a permit modification.

### **3.3.3 Expiration**

A permit issued pursuant to this ordinance shall expire if: (a) the minor wind energy system is not installed and functioning within 24 months from the date the permit is issued; or (b) the minor wind energy system is abandoned.

### **3.3.4 Violations**

It is unlawful for any person to construct, install, or operate a minor wind energy system that is not in compliance with this ordinance or with any condition contained in a building permit issued pursuant to this ordinance.

### **3.3.5 Administration and Enforcement**

- (a) This ordinance shall be administered and enforced by the Building Inspector or other official as designated by the Permit Granting Authority.
- (b) The Building Inspector may enter any property for which a building permit has been issued under this ordinance to conduct an inspection to determine whether the conditions stated in the permit have been met.

### **3.3.6 Penalties**

Any person who fails to comply with any provision of this ordinance or a building permit issued, pursuant to this ordinance, shall be subject to enforcement and penalties as allowed by applicable law.

## **3.4 Compliance with Laws, Ordinances, and Regulations**

The construction and operation of all such proposed small wind energy systems shall be consistent with all applicable local, state, and federal requirements, including all applicable safety, construction, environmental, electrical, communications, and FAA aviation requirements.

## **4.0 General Requirements – Small Wind System**

### **4.1 Design Standards**

#### **4.1.1 Height**

The height of small wind energy systems shall not exceed 200 feet in height without prior approval from the permit granting authority.

#### **4.1.2 Setbacks**

Small wind energy systems shall be set back at a distance equal to 110% of the total height of system from all inhabited structures, overhead utility lines, property lines, and public roads or public rights-of-ways.

#### **4.1.3 Setback Waivers**

The building inspector may reduce the minimum setback distance if written permission is granted by permit granting authority, or with a signed agreement from abutting neighbor(s), on the condition that public right-of-ways and power lines are not impacted by the location.

#### **4.1.4 Minimum Blade Height**

The minimum height of the lowest extent of a turbine blade shall be 30 feet above the ground.

#### **4.1.5 Color and Finish**

The wind energy system shall be a neutral color that blends with the environment.

#### **4.1.6 Lighting**

Small wind energy systems shall be lighted only if required by the Federal Aviation Administration. Obstacle Collision Avoidance Systems shall be used to minimize the time lights remain on when they are required; subject to FAA approval. Lighting of other parts of the small wind energy system shall be limited to that required for safety and operational purposes.

#### **4.1.7 Signage and Advertising**

Signs and advertising shall be restricted to reasonable identification of the manufacturer, operator of the small wind energy system, utility, and safety signs.

#### **4.1.8 Access**

No tower shall have a climbing apparatus within 10 feet of the ground. All access doors or access ways to towers and electrical equipment shall be inaccessible by the public.

#### **4.1.9 Sound**

The small wind energy system and associated equipment shall not exceed 60 dBA as measured from the nearest neighboring inhabitable structure.

### **4.2 Siting Conditions and Property Maintenance**

#### **4.2.1 Land Clearing, Soil Erosion, and Habitat Impacts**

If the permitting granting authority adopts standards for land clearing, soil erosion control, and habitat impact mitigation and/or habitat reclamation, by ordinance or resolution, those same standards shall apply. If the Permit Granting Authority does not adopt more specific standards, the following shall apply. Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation, and maintenance of the small wind energy system and is otherwise prescribed by applicable laws, regulations, and ordinances. Once the system is operational, any land that has been disturbed and is not necessary for the functioning of the system shall be reclaimed with natural vegetation immediately. Soil erosion is to be mitigated by the use of silt fencing, the captured product of which can be used in the vegetation reclamation.

#### **4.2.2 Minimum Lot Size**

Small wind energy systems that are less than 80 feet in height may be constructed on lots one acre or less. If the small wind energy system is greater than 80 feet in height, the system must be constructed on a lot greater than one acre.

#### **4.2.3 System Conditions**

The applicant shall maintain the small wind energy system in good condition. Maintenance shall include, but not be limited to, painting, mechanical/electrical repairs, structural repairs, and security measures.

#### **4.2.4 Removal and Decommissioning Requirements**

Any small wind energy system, which has reached the end of its useful life or has been abandoned, shall be removed. A small wind energy system shall be considered abandoned when it fails to operate for 24 months. Upon a Notice of Abandonment issued by the Building Inspector, the small wind energy system owner will have 60 days to provide sufficient evidence that the system has not been abandoned, or the Permit Granting Authority shall have the authority to enter the owner's property and remove the system at the owner's expense.

#### **4.2.5 Reclamation**

Once the system has been removed the owner is then responsible for land reclamation using the natural vegetation that was removed or disturbed upon construction of the project. To the greatest extent possible, the land shall be fully returned to its natural state within five years of the removal and decommissioning of the project.

### **4.3 Permit Granting Authority Issued Permits**

#### **4.3.1 Building Permits**

Small wind energy systems shall be constructed as provided in this section by first obtaining a building permit from the appropriate Permit Granting Authority. Demand for the power produced by wind energy systems herein must be demonstrated prior to issuance of any building permit. Demand should be demonstrated by providing the Permit Granting Authority with a contract for sale of the power produced or a memorandum of understanding between the applicant and a buyer or demonstration that a majority of the power produced will be used by the applicant or some other reasonable form demonstrating demand.

#### **4.3.2 Modifications**

Any physical modification to an existing and permitted wind energy system that materially alters the size and/or type of wind turbines or other equipment shall require a permit modification under this ordinance. Replacement of an already permitted turbine with a similar size and height will not require a permit modification.

#### **4.3.3 Conditional Use Permits (CUP)**

A conditional use permit may be granted in the case where a proposed small wind energy system or project does not satisfy the standard criteria of the building permit set forth under this ordinance. The applicant must then seek review and petition the Permit Granting Authority for a Conditional Use Permit. This CUP variance from the standard building permit criteria will only be applicable to that specific non-conforming project.

#### **4.3.4 Expiration**

A permit issued pursuant to this ordinance shall expire if: (a) the small wind energy system is not installed and functioning within 24 months from the date the permit is issued; or (b) the small wind energy system is abandoned.

#### **4.3.5 Violations**

It is unlawful for any person to construct, install, or operate a small wind energy system that is not in compliance with this ordinance or with any condition contained in a building permit issued pursuant to this ordinance. Small wind energy systems installed prior to the adoption of this ordinance are exempt.

#### **4.3.6 Administration and Enforcement**

- (c) This ordinance shall be administered and enforced by the Building Inspector or other official as designated by the Permit Granting Authority.
- (d) The Building Inspector may enter any property for which a building permit has been issued under this ordinance to conduct an inspection

to determine whether the conditions stated in the permit have been met.

#### **4.3.7 Penalties**

Any person who fails to comply with any provision of this ordinance or a building permit issued, pursuant to this ordinance, shall be subject to enforcement and penalties as allowed by applicable law.

#### **4.4 Compliance with Laws, Ordinances, and Regulations**

The construction and operation of all such proposed small wind energy systems shall be consistent with all applicable local, state, and federal requirements, including all applicable safety, construction, environmental, electrical, communications, and FAA aviation requirements.

### **5.0 General Requirements – Large Wind Energy Systems and Projects**

#### **5.1 Design Standards**

##### **5.1.1 Height**

The Height of large wind energy systems shall not exceed 450 feet in height without prior approval from the Permit Granting Authority.

##### **5.1.2 Setbacks**

Large wind energy systems shall be set back a distance equal to 110% of the total height of system from all inhabited structures, overhead utility lines, property lines, and public roads or public rights-of-ways.

##### **5.1.3 Setback Waivers**

The building inspector may reduce the minimum setback distance if written permission is granted by the Permit Granting Authority.

##### **5.1.4 Minimum Blade Height**

The minimum height of the lowest extent of a turbine blade shall be 30 feet above the ground surface.

##### **5.1.5 Color and Finish**

The large wind energy system shall be a neutral color that blends with the environment.

##### **5.1.6 Lighting**

Large wind energy systems and projects shall be lighted only if required by the Federal Aviation Administration. Obstacle Collision Avoidance Systems shall be used to minimize the time lights remain on when they are required; subject to FAA approval. Lighting of other parts of the large wind energy system shall be limited to that required for safety and operational purposes.

### **5.1.7 Signage and Advertising**

Signs and advertising shall be restricted to reasonable identification of the manufacturer, operator of the large wind energy system, utility, and safety signs.

### **5.1.8 Access**

No tower shall have a climbing apparatus that is external of the pole, within 10 feet of the ground. All access doors or access ways to towers and electrical equipment shall be kept locked for safety purposes.

### **5.1.9 Sound**

The large wind energy system and associated equipment shall not exceed 60 dBa as measured from the nearest neighboring inhabitable structure.

## **5.2 Siting Conditions and Property Maintenance**

### **5.2.1 Land Clearing, Soil Erosion, and Habitat Impacts**

If the permitting granting authority adopts standards for land clearing, soil erosion control, and habitat impact mitigation and/or habitat reclamation, those same standards shall apply. If the Permit Granting Authority does not have previously prescribed standards, the following shall apply.

Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation, and maintenance of the large wind energy system and as otherwise prescribed by applicable laws, regulations, and ordinances. Once the system is operational, any land that has been disturbed and is not necessary for the functioning of the system shall be reclaimed with natural vegetation immediately. Soil erosion is to be mitigated by the use of silt fencing, the captured product of which can be used in the vegetation reclamation.

### **5.2.2 Minimum Lot Size**

Large wind energy systems that are less than 80 feet in height may be constructed on lots one acre or less. If the large wind energy system is greater than 80 feet in height, the system must be constructed on a lot greater than one acre.

### **5.2.3 System Conditions**

The applicant shall maintain the large wind energy system and/or project in good condition. Maintenance shall include, but not be limited to, painting, structural repairs, and security measures.

### **5.2.4 Removal and Decommissioning Requirements**

Any large wind energy system and/or project, which has reached the end of its useful life or has been abandoned, shall be removed. A large wind energy system shall be considered abandoned when it fails to operate for

24 months. Upon a Notice of Abandonment issued by the Building Inspector, the large wind energy system owner will have 60 days to provide sufficient evidence that the system has not been abandoned, or the Permit Granting Authority shall have the authority to enter the owner's property and remove the system at the owner's expense.

#### **5.2.5 Reclamation**

Once the system has been removed the owner is then responsible for land reclamation using the natural vegetation that was removed or disturbed upon construction of the project. To the greatest extent possible, the land shall be fully returned to its natural state within five years of the removal and decommissioning of the project.

### **5.3 Permit Granting Authority Issued Permits**

#### **5.3.1 Building Permits**

Large wind energy systems shall be constructed as provided in this section by first obtaining a building permit from the appropriate Permit Granting Authority. Permit applications for project expansions shall be based on the total nameplate capacity including the existing project. Demand for the power produced by wind energy systems herein must be demonstrated prior to issuance of any building permit. Demand should be demonstrated by providing the Permit Granting Authority with a contract for sale of the power produced or a memorandum of understanding between the applicant and a buyer or demonstration that a majority of the power produced will be used by the applicant or some other reasonable form demonstrating demand.

#### **5.3.2 Modifications**

Any physical modification to an existing and permitted wind energy system that materially alters the size and/or type of wind turbines or other equipment shall require a permit modification under this ordinance. Replacement of an already permitted turbine with a similar size and height will not require a permit modification.

#### **5.3.3 Conditional Use Permits (CUP)**

A conditional use permit may be granted in the case where a proposed large wind energy system or project does not satisfy the standard criteria of the building permit set forth under this ordinance. The applicant must then seek review and petition the Permit Granting Authority for a Conditional Use Permit. This CUP variance from the standard building permit criteria will only be applicable to that specific non-conforming project.

#### **5.3.4 Expiration**

A permit issued pursuant to this ordinance shall expire if: (a) the large wind energy system is not installed and functioning within 24 months from the date the permit is issued; or (b) the large wind energy system is abandoned.

### **5.3.5 Violations**

It is unlawful for any person to construct, install, or operate a large wind energy system that is not in compliance with this ordinance or with any condition contained in a building permit issued pursuant to this ordinance. Large wind energy systems installed prior to the adoption of this ordinance are exempt.

### **5.3.6 Administration and Enforcement**

- (a) This ordinance shall be administered and enforced by the Building Inspector or other official as designated by the Permit Granting Authority.
- (b) The Building Inspector may enter any property for which a building permit has been issued under this ordinance to conduct an inspection to determine whether the conditions stated in the permit have been met.

### **5.3.7 Penalties**

Any person who fails to comply with any provision of this ordinance or a building permit issued, pursuant to this ordinance, shall be subject to enforcement and penalties as allowed by applicable law.

## **5.4 Compliance with Laws, Ordinances, and Regulations**

The construction and operation of all such proposed large wind energy systems shall be consistent with all applicable local, state, and federal requirements, including all applicable safety, construction, environmental, electrical, communications, and FAA aviation requirements.

## **6.0 General requirements – Temporary Meteorological Towers (Met towers)**

### **6.1 Permitted Use by Rule**

Met tower installations shall be considered a permitted use in all zoning districts where the following criteria are met.

- (1) Applicants shall submit the following information to the Permit Granting Authority prior to commencing any installation or construction:
  - a. A site plan drawn at an appropriate scale with the following information:
    - i. The perimeter and dimensions of the property;
    - ii. The names and locations of all streets, roads, or highways on or contiguous to the property;

- iii. The locations of all easements or rights-of-way on the property;
- iv. The names and locations of all rivers, streams, or waterways on or contiguous to the property;
- v. The use, location, and dimension of all structures on the property (include distance from all proposed structures to the property lines);
- vi. A scale; and
- vii. A north arrow.

(2) In addition to other applicable provisions set forth in these regulations, approval of met tower applications shall be subject to the following requirements:

- a. All necessary zoning certificates and building permits shall be applied for and issued, and all structural reviews shall be completed by the Permit Granting Authority prior to construction.
- b. The met tower shall be constructed in conformity with all applicable FAA regulations and all FAA notices and approvals shall be received and submitted to the Permit Granting Authority prior to any construction.
- c. Applicants shall furnish evidence that applicable rights-of-way have been granted for access to the met tower across any private, state, or BLM lands. For BLM right-of-way grants, applicants may furnish a copy of the signed BLM Right-of-way grant application together with evidence that applicable fees have been tendered to the BLM.
- d. The met tower shall be in place for a period not exceeding three years. Applicants shall provide the Permit Granting Authority with 90 days prior written notice of removal of the tower.
- e. In the event the applicant desires to relocate the met tower, the applicant shall receive prior written approval from the Permit Granting Authority and furnish coordinates for the new tower location.
- f. If the applicant desires to extend the tower usage period, a request for an extension must be submitted in writing 90 days prior to the expiration of this permit to the Permit Granting Authority for consideration.
- g. The met tower shall not physically obstruct or encumber any road, power line, or pipeline easement.