

Item# 15B

**City of Carson City
Agenda Report**

Date Submitted: June 23, 2009

Agenda Date Requested: July 2, 2009

Time Requested: 15 minutes

To: Mayor and Board of Supervisors

From: Public Works - Planning Division

Subject Title: Action to adopt Bill No. 113, on second reading, Ordinance No.____ an ordinance amending the Carson City Municipal Code Title 18 Zoning, Chapter 18.03, Definitions, Section 18.03.010, Words and Terms Defined, to modify the definition of "Wind Energy/Conversion Facility" to "Wind Energy Conversion System, Private Use" and to add a definition for "Wind Machine"; and amending the Carson City Municipal Code Title 18 Zoning, Chapter 18.05, General Provisions, by adding Section 18.05.080, Private Use Wind Energy Conversion Systems to set forth specific standards and criteria for these systems, and other matters properly related thereto. (ZCA-08-127)

Summary: The proposed ordinance would create standards for the placement and use of small wind turbines for personal use in all areas of Carson City, including residential and commercial areas. Small wind turbines are only for personal use to offset the cost of electricity to a home or business. There are currently no specific standards for such devices in the Carson City Municipal Code.

Type of Action Requested:

- Resolution
- Formal Action/Motion
- Ordinance-Second Reading
- Other (Specify)

Does This Action Require A Business Impact Statement: Yes No

Planning Commission Action: Recommended approval on May 27, 2009 by a vote of 5 ayes, 0 nays and 2 absent.

Prior Board Action:: Introduced Bill No. 113 on June 18, 2009 with a vote of 4 ayes and 0 nays and 1 absent.

Recommended Board Action: I move to adopt Bill No. 113, on second reading, Ordinance No.____, an ordinance amending the Carson City Municipal Code Title 18 Zoning, Chapter 18.03, Definitions, Section 18.03.010, Words and Terms Defined, to modify the definition of "Wind Energy/Conversion Facility" to "Wind Energy Conversion System, Private Use" and to add a definition for "Wind Machine"; and amending the Carson City Municipal Code Title 18 Zoning, Chapter 18.05, General Provisions, by adding Section 18.05.080, Private Use Wind Energy Conversion Systems to set forth specific standards and criteria for these systems, and other matters properly related thereto, based on the findings contained in the staff report.

Explanation for Recommended Board Action: The Board of Supervisors, pursuant to Carson City Municipal Code, is required to take final action on all code amendments. See the attached staff report for more explanation.

Applicable Statute, Code, Policy, Rule or Regulation: 18.02.075 Zoning Code Amendments

Fiscal Impact: N/A

Explanation of Impact: N/A

Funding Source: N/A

Alternatives: 1) Refer back to staff and Planning Commission for further review
2) Deny

Supporting Material: 1) Ordinance
2) Staff Memo

Prepared By: Janice Brod, Management Assistant V

Reviewed By: _____
(Planning Division Director)
_____ (Signature)
_____ (Public Works Director)
_____ (City Manager)
_____ (District Attorney's Office)

Date: 6/23/09
Date: 6.23.09
Date: 6/24/09
Date: 6-23-09

Board Action Taken:

Motion: _____ 1) _____ Aye/Nay
2) _____

(Vote Recorded By)

BILL NO. ____

ORDINANCE NO. 2009-_____

AN ORDINANCE AMENDING CARSON CITY MUNICIPAL CODE TITLE 18, ZONING, CHAPTER 18.03, DEFINITIONS, SECTION 18.03.010, WORDS AND TERMS DEFINED, TO MODIFY THE DEFINITION OF "WIND ENERGY/CONVERSION FACILITY" TO "WIND ENERGY CONVERSION SYSTEM, PRIVATE USE" AND TO ADD A DEFINITION FOR "WIND MACHINE"; AND AMENDING THE CARSON CITY MUNICIPAL CODE TITLE 18 ZONING, CHAPTER 18.05, GENERAL PROVISIONS, BY ADDING SECTION 18.05.080, PRIVATE USE WIND ENERGY CONVERSION SYSTEMS, TO SET FORTH SPECIFIC STANDARDS AND CRITERIA FOR THESE SYSTEMS; AND OTHER MATTERS PROPERLY RELATED THERETO.

Fiscal effect: None

THE BOARD OF SUPERVISORS OF CARSON CITY DO ORDAIN:

SECTION I:

That the Carson City Municipal Code Chapter 18.03 (Definitions), Section 18.03.010 (Words and Terms Defined) is hereby amended, in part, as follows:

Wind Energy/~~Facility~~ Conversion System, Private Use ~~[Facility means a machine or facility that converts the kinetic energy in the wind into a useable form]~~ means a system consisting of a wind turbine, tower, and associated control or conversion electronics for the purpose of providing electrical power to a lawful principle use. A system having a rated capacity of 10 kilowatts (kW) or less for residential use or 100 kW or less for non-residential uses shall be considered a private use system for the purposes of the regulations. These systems are considered accessory uses in all zoning districts.

Wind Machine. The individual component of a Wind Energy Conversion System that converts kinetic energy from the wind into electrical energy, independent of the electrical conductors, electrical storage system, electrical metering, or electrical inverters.

SECTION II:

That the Carson City Municipal Code, Chapter 18.05 (General Provisions) is hereby amended as follows:

Chapter 18.05 GENERAL PROVISIONS

Sections:

- 18.05.005 Applicability.
- 18.05.010 Parking.
- 18.05.015 Trash, refuse and recycled material storage.
- 18.05.020 Landscaping.
- 18.05.025 Temporary construction containers.

- 18.05.030 Trailers, mobilehomes, recreational vehicles, commercial coaches and storage containers.
- 18.05.035 Watchman's quarters.
- 18.05.040 Heliports.
- 18.05.045 Home occupation.
- 18.05.050 Accessory farm structures.
- 18.05.055 Accessory structures.
- 18.05.060 Accessory use.
- 18.05.065 Uses required to be within a structure.
- 18.05.075 Manufactured home installation within a single-family zoning district.
- 18.05.080 Private Use Wind Energy Conversion Systems

SECTION III:

That Carson City Municipal Code Section 18.05.080 (Private Use Wind Energy Conversion Systems) is hereby added, as follows:

18.05.080 Private Use Wind Energy Conversion Systems. In order to balance the need for clean, renewable energy resources with the protection of the health, safety and welfare of the community, the purpose of this section is to regulate private use wind energy conversion systems (WECS) for the production of electricity for use on the subject site and for net metering through the power company.

1) Applicability and Definition.

- a. **Private Use Wind Energy Conversion Systems (WECS).** A private use wind energy conversion system consists of a wind turbine, tower, and associated control or conversion electronics for the purpose of providing electrical power to a lawful principle use. A system having a rated capacity of 10 kilowatts (kW) or less for residential use or 100 kW or less for non-residential uses shall be considered a private system for the purposes of these regulations. Not more than one machine shall be allowed per parcel of land when the size of the parcel is less than one acre in size. WECS are considered accessory uses as stated in CCMC 18.03.010 (Words and Terms Defined), Accessory Building or Accessory Structure and Accessory Use, and are allowed in all zoning districts.
- b. **Wind Machine.** The individual component of a Wind Energy Conversion System that converts kinetic energy from the wind into electrical energy, independent of the electrical conductors, electrical storage system, electrical metering, or electrical inverters. This term shall include the towers or supporting structures.
- c. **Building Code(s).** All codes, ordinances, policies and procedures, and standards adopted and enforced by the Carson City Building Division.
- d. **Fire Code(s).** All codes, ordinances, policies and procedures, and standards adopted and enforced by the Carson City Fire Department.
- e. **FAA.** The use of this acronym shall denote the Federal Aviation Administration, or any other applicable authority that regulates air safety within the Carson City jurisdiction.

f. Private use wind energy conversion systems shall be allowed as accessory uses in all Public zoning districts without the requirement of Special Use Permit approval provided the system meets all other requirements of this section.

g. All proposed Private Use Wind Energy Conversion Systems located within the Carson City Historic District must receive review and approval from the Historic Resources Commission, in addition to any other required approvals, prior to submission of a building permit.

2) **Standards.** All Wind Energy Conversion Systems are subject to and must comply with the following provisions of this section:

a. **Location.** A minimum parcel size of one acre is required for the placement of any horizontal axial wind turbine. Vertical axial wind turbines are permitted on any parcel. No part of a wind energy conversion system shall be located within or over drainage, utility or other established easements.

b. **Number per parcel.** A maximum of one wind machine per parcel is permitted on parcels less than one acre in size; a maximum of one wind machine per acre is permitted on parcels greater than one acre in size.

c. **Setbacks.** Minimum setbacks for private use wind machines shall be:

i) A minimum of 1.1 times the total extended height from the project property lines adjacent to a residential, Conservation Reserve or Agricultural zoning district.

ii) Guy wire anchors may not extend closer than 10 feet from any property line.

iii) A 10 foot minimum setback from any part of the machine, rotors or guy wires to the property line of any other non-residential zoning district.

iv) Wind machines shall not be located within the front yard setback nor within the street-side setback of any parcel of land in residential zoning districts.

d. **Height.** The maximum total extended height of Wind Energy Conversion Systems is 60 feet.

i) Tower Height shall mean the height above adjacent grade of the fixed portion of the tower, excluding the wind turbine itself.

ii) Total Extended Height shall mean the height above adjacent grade to a blade tip at its highest point of travel and including any other portion of the Wind Energy Conversion System.

e. **Lighting.** Wind system towers shall not be artificially lighted unless required, in writing, by the Federal Aviation Administration (FAA) or other applicable authority that regulates air safety. Where the FAA requires lighting, the lighting shall be the lowest intensity allowable under FAA regulations; the fixtures shall be shielded and directed to the greatest extent possible to minimize glare and visibility from the ground; and no strobe lighting shall be permitted, unless expressly required by the FAA.

f. **Access.** All wind machine towers must comply with the following provisions:

- i) The tower shall be designed and installed so that there shall be no exterior step bolts or a ladder on the tower readily accessible to the public for a minimum height of 12 feet above the ground. For lattice or guyed towers, sheets of metal or wood or other barrier shall be fastened to the bottom tower section such that it cannot readily be climbed; and
 - ii) All ground-mounted electrical and control equipment shall be labeled or secured to prevent unauthorized access.
- g. **Rotor Safety.** Each wind machine shall be equipped with both manual and automatic controls to limit the rotational speed of the blade within the design limits of the rotor. An external, manual shut-off switch shall be included with the installation. The minimum distance between the ground and any protruding blades utilized on a private wind machine shall be 10 feet as measured at the lowest point of the arc of the blades.
- h. **Noise.** All wind machines shall comply with the noise requirements in this section. These levels, however, may be exceeded during short-term events such as utility outages and severe wind storms. A manufacturer's sound report shall be required with a building permit application.
 - i) No wind machine or combination of wind machines on a single parcel shall create noise that exceeds a maximum of 25 decibels (dBA) at any property line where the property on which the wind machine is located or the abutting property is one acre or less or a maximum of 50 decibels (dBA) at any other property line. Measurement of sound levels shall not be adjusted for, or averaged with, non-operating periods. Any wind machine(s) exceeding these levels shall immediately cease operation upon notification by Carson City and may not resume operation until the noise levels have been reduced in compliance with the required standards and verified by an independent third party inspector, approved by Carson City, at the property owner's expense. Upon review and acceptance of the third party noise level report, Carson City will allow operation of the affected wind machine(s). Wind Energy Conversion System(s) unable to comply with these noise level restrictions shall be shut down immediately and removed upon notification by Carson City, after a period established by Carson City.
 - ii) Sound below 20 Hertz. No wind machine or combination of wind machines shall be operated so that impulsive sound below 20 Hertz adversely affects the habitability or use of any off-site dwelling unit, hospital, school, library or nursing home.
- i) **Aesthetics and Maintenance.**
 - i) Appearance. Wind machines, unless subject to any applicable standards of the FAA, shall be a non-reflective, non-obtrusive color such as tan, sand, gray, black or similar colors. Galvanized steel or metal is acceptable for the support structures. Any painting or coating shall be kept in good repair for the life of the wind machine. In addition, any changes to the approved color shall result in notification by Carson City that the affected wind machine(s) shall cease operation until a color correction has been made. If the affected wind machine(s) are not repainted, using an approved color, within the period established by Carson City, the owner shall remove the affected Wind Energy Conversion System(s).

- ii) Electrical Wires. All electrical wires leading from the tower to electrical control facilities shall be located underground.
 - iii) Maintenance. Wind machines shall be maintained in good repair, as recommended by the manufacturer's scheduled maintenance or industry standards, and shall be free from rust.
 - j. Signs/Labels. The only advertising sign allowed on the wind machine shall be a manufacturer's label, not exceeding one square foot in size, located on the generator housing.
 - k. Compliance with FAA Regulations. All wind machines shall comply with applicable FAA regulations, including any necessary approvals for installations.
 - l. Ice Throw. The potential ice throw or ice shedding from the proposed wind machine shall not cross the property lines of the site.
 - m. Certified Safe. Evidence shall be submitted with a building permit application that the wind machine has been constructed in accordance with accepted industry standards and certified safe.
- 3) Repair and Removal of Wind Machines. Any wind machine found to be unsafe by an official of the Carson City Building Division shall immediately cease operation upon notification by Carson City and shall be repaired by the owner to meet federal, state, and local safety standards or be removed within six months. Wind machines that are not operated for a continuous period of 12 months shall be removed by the owner of the wind machine.
- a. When a wind machine is removed from a site, all associated and ancillary equipment, batteries, devices, structures or support(s) for that system shall also be removed. For the purposes of this section, non-operation shall be deemed to include, but shall not be limited to, the blades of the wind machine remaining stationary so that wind resources are not being converted into electric or mechanical energy, or the wind machine is no longer connected to the public utility electricity distribution system.
- 4) Mounting of Wind Machines. Attachment of the wind machine, including any support or structural components, to any building or structure shall be in strict compliance with regulations of the Carson City Building Division.
- 5) Compliance with Regulations.
- a. All systems shall comply with applicable fire and building codes.
 - b. All standards are absolute. Once wind machines are permitted, the owners have the option of compliance with the standards or discontinuation of operations. If the operation of the wind machine(s) does not comply with the provisions of this article, the operator shall promptly take all measures necessary to comply with these regulations, including, but not limited to, discontinued operation of one or more wind machines.
 - c. Variations to the regulations and standards of this section may only be permitted by special use permit, approval of which shall be pursuant to Title 18, Section 18.02 (Special Use Permits).

SECTION IV:

No other provisions of Title 18 of the Carson City Municipal Code are affected by this ordinance.

PROPOSED on _____, 2009.

PROPOSED BY Supervisor _____

PASSED _____, 2009.

VOTE:

AYES:

NAYS:

ABSENT:

ROBERT L. CROWELL, Mayor

ATTEST:

ALAN GLOVER, Clerk-Recorder

This ordinance shall be in force and effect from and after the _____ day of the month of _____ of the year 2009.