Town of Rindge, New Hampshire

Small Wind Energy System Ordinance

Adopted March 12, 2013

Small Wind Energy Systems Ordinance

A. Purpose:

This small wind energy systems ordinance is enacted in accordance with RSA 674:62-66, and the purposes outlined in RSA 672:1-III-a. The purpose of this ordinance is to accommodate small wind energy systems in appropriate locations, while protecting the public's health, safety and welfare. In addition, this ordinance provides a permitting process for small wind energy systems to ensure compliance with the provisions of the requirements and standards established herein.

B. Definitions:

Meteorological tower (met tower). Includes the tower, base plate, anchors, guy wires and hardware, anemometers (wind speed indicators), wind direction vanes, booms to hold equipment for anemometers and vanes, data loggers, instrument wiring, and any telemetry devices that are used to monitor or transmit wind speed and wind flow characteristics over a period of time for either instantaneous wind information or to characterize the wind resource at a given location. For the purpose of this ordinance, met towers shall refer only to those whose purpose are to analyze the environmental factors needed to assess the potential to install, construct or erect a small wind energy system.

Modification. Any change to the small wind energy system that materially alters the size, type or location of the small wind energy system. Like-kind replacements shall not be construed to be a modification.

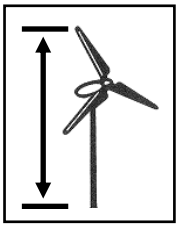
Net metering. The difference between the electricity supplied to a customer over the electric distribution system and the electricity generated by the customer's small wind energy system that is fed back into the electric distribution system over a billing period.

Power grid. The transmission system, managed by ISO New England, created to balance the supply and demand of electricity for consumers in New England.

Shadow flicker. The visible flicker effect when rotating blades of the wind generator cast shadows on the ground and nearby structures causing a repeating pattern of light and shadow.

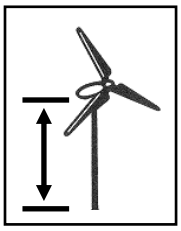
Small wind energy system. A wind energy conversion system consisting of a wind generator, a tower, and associated control or conversion electronics, which has a rated capacity of 100 kilowatts or less and will be used primarily for onsite consumption.

System height. The vertical distance from ground level to the tip of the wind generator blade when it is at its highest point.



Tower. The monopole, guyed monopole or lattice structure that supports a wind generator.

Tower height. The height above grade of the fixed portion of the tower, excluding the wind generator.



Wind generator. The blades and associated mechanical and electrical conversion components mounted on top of the tower whose purpose is to convert kinetic energy of the wind into rotational energy used to generate electricity.

C. Procedure for Review:

1. Conditional Use Permit (CUP): Small Wind Energy Systems require a properly issued CUP from the Planning Board. CUP's shall be granted when, in the opinion of the Planning Board, such application meets the criteria described in Article XII of the Town of Rindge Zoning Ordinance.

2. Building Permit: Small wind energy systems and met towers are an accessory use permitted in all zoning districts where structures of any sort are allowed. No small wind energy system shall be erected, constructed, or installed without first receiving a CUP from the Planning Board and a building permit from the building Department. A new CUP and building permit shall be required for any physical modification to an existing small wind energy system. Met towers that receive a building permit shall be permitted on a temporary basis not to exceed 3 years from the date the building permit was issued.

3. Application: Applications submitted to the Planning Board shall contain a site plan with the following information:

   i) Property lines and physical dimensions of the applicant's property.

   ii) Location, dimensions, and types of existing major structures on the property.

iii) Location of the proposed small wind energy system, foundations, guy anchors and associated equipment.

iv) Tower foundation blueprints or drawings.

v) Tower blueprints or drawings.

vi) Setback requirements as outlined in this ordinance.

vii) The right-of-way of any public road that is contiguous with the property.

viii) Any overhead utility lines.

ix) Small wind energy system specifications, including manufacturer, model, rotor diameter, tower height, tower type, nameplate generation capacity.

x) Small wind energy systems that will be connected to the power grid shall include a copy of the application for interconnection with their electric utility provider.

xi) Sound level analysis prepared by the wind generator manufacturer or qualified engineer.

xii) Electrical components in sufficient detail to allow for a determination that the manner of installation conforms to the NH State Building Code.

xiii) Evidence of compliance or non-applicability with Federal Aviation Administration requirements.

xiv) List of abutters to the applicant's property.

xv) Elevation Views of any structures to be erected.

xvi) Existing and proposed access to the site.

xvii) Existing and proposed landscaping

xviii) Existing and proposed fencing

xix) Proposed traffic and/or automotive circulation patterns.

xx) Methods of erosion and sedimentary control.

xxi) Methods of fire protection and control.

xxii) All existing & proposed deed restrictions

4. Abutter and Regional Notification: In accordance with RSA 674:66, the Planning Board and building department shall notify all abutters and the local governing body by certified mail upon application for a building permit to construct a small wind energy system. The public will be afforded 30 days to submit comments to the Planning Board & building department prior to the issuance of the CUP and building permit. The Planning Board shall review the application for regional impacts per RSA 36:55. If the proposal is determined to have potential regional impacts, the Planning Board shall follow the procedures set forth in RSA 36:57, IV.

D. Standards:

1. The Planning Board and Director of Life Safety shall evaluate the application for compliance with the following standards;

    a. Setbacks: The setback shall be calculated by multiplying the minimum setback requirement number by the system height and measured from the center of the tower base to property line, public roads, or nearest point on the foundation of an occupied building.

Minimum Setback Requirements (height of tower x n)			
Occupied Buildings on Participating Landowner Property	Occupied Buildings on Abutting Property	Property Lines of Abutting Property and Utility Lines	Public Roads
0	1.5	1.1	1.5

i) Small wind energy systems must meet all setbacks for principal structures for the zoning district in which the system is located.

ii) Guy wires used to support the tower are exempt from the small wind energy system setback requirements.

b. Tower: The maximum tower height shall be restricted to 35 feet above the tree canopy within 300 feet of the small wind energy system. In no situation shall the tower height exceed 150 feet.

c. Sound Level: The small wind energy system shall not exceed 50 decibels using the A scale (dBA), as measured at the site property line, except during short-term events such as severe wind storms and utility outages.

d. Shadow Flicker: Small wind energy systems shall be sited in a manner that does not result in significant shadow flicker impacts. Significant shadow flicker is defined as more than 30 hours per year on abutting occupied buildings. The applicant has the burden of proving that the shadow flicker will not have significant adverse impact on neighboring or adjacent uses. Potential shadow flicker will be addressed either through siting or mitigation measures.

e. Signs: All signs including flags streamers and decorative items, both temporary and permanent, are prohibited on the small wind energy system, except for manufacturer identification or appropriate warning signs.

f. Code Compliance: The small wind energy system shall comply with all applicable sections of the New Hampshire State Building Code.

g. Aviation: The small wind energy system shall be built to comply with all applicable Federal Aviation Administration regulations including but not limited to 14 C.F.R. part 77, subpart B regarding installations close to airports, and the New Hampshire Aviation regulations, including but not limited to RSA 422-b and RSA 424.

h. Visual Impacts: It is inherent that small wind energy systems may pose some visual impacts due to the tower height needed to access wind resources. The purpose of this section is to reduce the visual impacts,

without restricting the owner's access to the optimal wind resources on the property.

i) The applicant shall demonstrate through project site planning and proposed mitigation that the small wind energy system's visual impacts will be minimized for surrounding neighbors and the community. This may include, but not be limited to information regarding site selection, wind generator design or appearance, buffering, and screening of ground mounted electrical and control equipment. All electrical conduits shall be underground, except when the financial costs are prohibitive as determined by the Planning Board.

ii) The color of the small wind energy system shall either be the stock color from the manufacturer or painted with a non-reflective, unobtrusive color that blends in with the surrounding environment. Approved colors include but are not limited to white, off-white or gray.

iii) A small wind energy system shall not be artificially lit unless such lighting is required by the Federal Aviation Administration (FAA). If lighting is required, the applicant shall provide a copy of the FAA determination to establish the required markings and/or lights for the small wind energy system.

i) Approved Wind Generators: The manufacturer and model of the wind generator to be used in the proposed small wind energy system must have been approved by the California Energy Commission or the New York State Energy Research and Development Authority, or a similar list approved by the state of New Hampshire, if available.

j) Utility Connection: If the proposed small wind energy system is to be connected to the power grid through net metering, it shall adhere to RSA 362-A: 9.

k) Access: The tower shall be designed and installed so as not to provide step bolts or a ladder readily accessible to the public for a minimum height of 15 feet above the ground. All ground-mounted electrical and control equipment shall meet all electrical & building code requirements.

l) Clearing: 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 as otherwise prescribed by applicable laws, regulations, and ordinances.

m) Other: The Planning Board and Director of Life Safety may place any other reasonable restrictions or conditions on the approval as may be necessary to meet the stated purpose of this ordinance.

E. Waiver:

The requirements of these regulations may be waived or modified by the Planning Board when, in its judgment, strict conformity therewith would pose an unnecessary hardship to the applicant and such a waiver would not be contrary to the spirit and intent of these regulations. Waiver requests must be submitted in written form with sufficient reasons for why the waiver should be granted.

F. Abandonment:

1. At such time that a small wind energy system is scheduled to be abandoned or discontinued, the applicant shall notify the building department by certified U.S. mail of the proposed date of abandonment or discontinuation of operations.

2. Upon abandonment or discontinuation of use, the owner shall physically remove the small wind energy system within 90 days from the date of abandonment or discontinuation of use. This period may be extended at the request of the owner and at the discretion of the Director of Life Safety. "Physically remove" shall include, but not be limited to:

   a. Removal of the wind generator and tower and related above-grade structures.

   b. Restoration of the location of the small wind energy system to its natural condition, except that any landscaping, grading or below-grade foundation may remain in its same condition at initiation of abandonment.

3. In the event that an applicant fails to give such notice, the system shall be considered abandoned or discontinued if the system is out-of-service for a continuous 12-month period. After the 12 months of inoperability, the building department may issue a Notice of Abandonment to the owner of the small wind energy system. The owner shall have the right to respond to the Notice of Abandonment within 30 days from Notice receipt date. After review of the information provided by the owner, the building department shall determine if the small wind energy system has been abandoned. If it is determined that the small wind energy system has not been abandoned, the building department shall withdraw the Notice of Abandonment and notify the owner of the withdrawal.

4. If the owner fails to respond to the Notice of Abandonment or if, after review by the Director of Life Safety, it is determined that the small wind energy system has been abandoned or discontinued, the owner of the small wind energy system shall

remove the wind generator and tower at the owner's sole expense within 3 months of receipt of the Notice of Abandonment. If the owner fails to physically remove the small wind energy system after the Notice of Abandonment procedure, the building department may pursue legal action to have the small wind energy system removed at the owner's expense.

G. Violation:

It is unlawful for any person to construct, install, or operate a small wind energy system that is not in compliance with this ordinance. Small wind energy systems installed prior to the adoption of this ordinance are exempt from this ordinance except when modifications are proposed to the small wind energy system.

H. 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 NH Revised Statutes Annotated Chapter 676:17.