

**TOWN OF VINALHAVEN LAND USE ORDINANCE  
AMENDED SECTION 20: WIND POWER FACILITY  
(December 15, 2008 Special Town Meeting)**

**Section 20. WIND POWER FACILITY**

**A. General Provisions**

**1. Title**

These regulations shall officially be known, cited and referred to as the Wind Power Facility Ordinance of the Town of Vinalhaven, Maine, and hereinafter will be referred to as the "Ordinance."

**2. Purposes**

It is the purpose of this ordinance to promote the safe, effective and efficient use of wind power systems installed to reduce the energy produced from fossil fuels such as coal and oil. It is necessary to standardize and streamline the proper issuance of building permits for wind power facilities so that this clean, renewable energy resource can be utilized in a cost-effective and timely manner.

- a) **Finding (Local Regulatory History):** Maine's local units of government generally do not have experience regulating either electrical generating facilities in general, or wind power facilities in particular. As such, they need to obtain information and guidance that will enable them to effectively plan for and regulate these types of facilities.
- b) **Finding (Local Authority):** State statutes preserve local authority regarding zoning related to wind power facilities and allow for reasonable restrictions. Each jurisdiction must evaluate the relevant facts and circumstances and determine the regulations that are reasonable and appropriate.
- c) **Finding (Visual Impact):** It is in the public interest to minimize the visual impact of wind power facilities through careful design and siting standards, particularly in circumstances in which the community places a high value on the visual qualities of the community.
- d) **Finding (Minimize Conflict Between Incompatible Land Uses):** It is in the public interest to ensure that conflict between incompatible land uses is minimized by limiting wind power facility development in the vicinity of existing or planned residential or commercial development and certain sensitive or high value environmental areas.
- e) **Finding (Public Health, Safety & Welfare):** Government officials have a duty to protect the public health, safety and welfare of its citizens and enact appropriate ordinances as they relate to the public health, safety issues and welfare associated with wind power facilities.
- f) **Finding (Decommissioning):** Large wind power facilities are expected to have a useful life of 20 or more years. Decommissioning and removal of large wind power facilities and restoring the sites at some point years into the future has proven to be very expensive, therefore regulations should require that the applicant, developer and owner provide and maintain a bond to insure the removal and restoration of the sites of these large wind power facilities at some point in the future.

- g) **Resolution:** THEREFORE BE IT RESOLVED, that it is the intent of the citizens of the Town of Vinalhaven, in adopting this Ordinance, to promote the use of wind power facilities, and to promote safeguards ensuring the health, safety, and welfare of the citizens of the Town of Vinalhaven. In addition, in adopting this Ordinance, it is the intent of the citizens of the Town of Vinalhaven to promote the use of an alternative to fossil-fuel-generated electrical power in areas of the Town of Vinalhaven which are identified to have suitable wind resources for production of wind-generated electrical power. Furthermore, it is the intent of the citizens of the Town of Vinalhaven that site-specific application of this Ordinance shall occur in a manner that provides a harmonious balance between the suitability of a wind power facility site with existing land use and existing physical surroundings.

3. **Authority**

The Planning Board of the Town of Vinalhaven, hereinafter referred to as the "Planning Board", is vested with the authority to review and approve, approve with conditions, or reject applications for wind power facilities, including sketch, preliminary and final plans.

4. **Jurisdiction**

These regulations apply to all wind power facilities, as defined in this Ordinance, to be developed within the boundaries of the Town of Vinalhaven whether on or proximate to the land therein, applications for which are received by the Town of Vinalhaven after the date of adoption of this Ordinance. No wind power facility shall be constructed in the Town of Vinalhaven without obtaining a building permit under this Ordinance from the Planning Board.

5. **Enactment**

In order that all wind power facilities be constructed in accordance with these purposes and policies, these regulations are hereby adopted and made effective as of the date of adoption of this Ordinance. All applications submitted after this date shall be reviewed pursuant to these regulations.

6. **Interpretation, Conflict and Separability**

**Interpretation:** In interpreting these regulations and their application, the provisions of these regulations shall be held to be the minimum requirements for the protection of public health, safety and welfare. These regulations shall be construed broadly to promote the purposes for which they are adopted.

**Conflict:** This Ordinance applies to all wind power facilities in the Town of Vinalhaven. Except as otherwise expressly stated in this Ordinance, all wind power facilities within the Town are subject only to this Ordinance, and are not subject, for example, to other sections within the Land Use Ordinance or other municipal ordinances or regulations.

**Separability:** If any part or provision of these regulations or the application of these regulations to any applicant, developer and/or owner or circumstances is adjudged invalid by any court of competent jurisdiction, the judgment shall be confined in its operation to the part, provision or application directly involved in the controversy in which the judgment shall be rendered and shall not affect or impair the validity of the remainder of these regulations or the application of them to other applicants, developers and/or owners or circumstances. The citizens of Vinalhaven hereby declare that they would have enacted the remainder of these regulations even without any such part, provision or application that is adjudged to be invalid.

7. **Amendments**

For the purpose of protecting the public health, safety and welfare, the Planning Commission of the Town of Vinalhaven may from time to time recommend amendments to these regulations which shall be approved, approved with modifications or disapproved by the citizens of the Town of Vinalhaven at the annual town meeting or a special town meeting following public notice. As technology advances, some or all of these regulations may become obsolete. Therefore, periodic review and revision of these regulations may be necessary.

8. **Enforcement, Violations and Penalties**

The enforcement of these regulations shall be the responsibility of the Code Enforcement Officer of the Town of Vinalhaven.

Any entity or person who violates these regulations shall be subject to a fine of not less than \$100 or more than \$10,000 per violation per day; and in addition fines pursuant to appropriate Maine State statutes.

**B. Permit Application**

1. **Permitted Uses.**

Wind power facilities are allowed by permit in the RC, RP, WD, RM-1, RM-2, and RM-3 Zoning Districts of the Town of Vinalhaven. In all other Zoning Districts, including the Airport Overlay District and the Village Overlay District, wind power facilities are prohibited. All permits issued pursuant to this Ordinance for a wind power facility shall be issued by the Planning Board.

2. **All Wind Power Facilities.**

Every application for a wind power facility shall be made in writing to the Planning Board of Vinalhaven on forms provided by the Code Enforcement Officer and shall be accompanied by the filing fee as set by the Selectmen as well as any extra fee(s) and development fee(s) described herein below. The permit application for each wind power facility shall include the application components identified in Table A: Wind Power Facility Application Components, found at the end of this Ordinance. Section (B)(3) of this Ordinance identifies all the potential application components. Which of these components an applicant must include in its permit application is controlled by Table A and depends on whether the wind power facility is a large, medium, or small wind power facility.

3. **Wind Power Facility Application Components.**

The individual application components identified in Table A – “Wind Power Facility Application Components” – are described in this section of the Ordinance. An applicant only must include those components identified in Table A as being required in its wind power facility permit application.

- a. **Applicant:** Name and address of the applicant, operator and owner.
- b. **Proof of Permission:** Evidence that the applicant is the owner of the property involved or has the written permission of the owner of the property involved to make such an application.
- c. **Site Plan:** A plot or development plan drawn in sufficient detail to clearly describe the following:

- i. Physical dimensions of the property, existing structures and proposed structures.
  - ii. Location of existing and proposed structures.
  - iii. Location of electrical lines and facilities.
  - iv. Existing topography.
  - v. Proposed plan for grading and removal of natural vegetation.
  - vi. Proposed plan for site restoration after construction.
  - vii. Wind characteristics and dominant wind direction in the direction from which 50% or more of the energy contained in the wind flows.
  - viii. Proposed setbacks.
  - ix. Traffic flow.
  - x. Plan for ingress and egress to the proposed wind power facility site identifying the following factors:
    - a. Location and distance to the nearest State and/or Town-maintained road(s);
    - b. A description of the access route from the nearest State and/or Town-maintained road(s) to include:
      - 1. Road surface material stating the type and amount of surface cover;
      - 2. Width and length of access route;
      - 3. Dust control procedures;
      - 4. A road maintenance schedule or program;
      - 5. Utilization of the property under the requested permit.
      - 6. Road grade.
- d. Topographic Map: A location map to scale of the topographic features of the property upon which the proposed wind power facility will be located.
- e. Sensitive Environmental Resources Maps: A location map to scale identifying the sensitive environmental resources that are located within one mile of the proposed wind power facility site, including but not limited to endangered or threatened fish, birds, wildlife or plant species or their critical habitats, and other significant habitats identified in the Comprehensive Plan of the Town of Vinalhaven, regional and state planning commission plans or studies, and similar authoritative sources. The map shall include all sensitive environmental areas within one mile of the proposed wind power facility site. The Natural Resources Inventory/GIS maps available at the Town Office may be used. The Planning Board may require additional studies.
- f. Wind Access Agreements: Evidence that the applicant has negotiated with adjacent landowners and has entered into written agreements with all landowners who could potentially interfere with the applicant's access to the wind.
- g. Wind Power Facility Information: Specific information on the type, size, height, rotor material, rated power output, specific expected production (quantity of electricity generated) performance, safety, and noise characteristics of each component of the proposed wind power facility including but not limited to: wind turbine model, generator, rotor, tower and electrical conversion, storage and transmission equipment.
- h. Wind Power Facility Photographs or Drawings: Photographs or detailed drawings of each component of the wind power facility including but not limited to: wind turbine model, generator, rotor, electrical conversion, storage and transmission equipment, the tower and foundation.
- i. Computer Simulation or Drawings: One or more detailed computer or photographic simulation or drawings showing the site fully developed with all proposed components of the wind power facility including each and all accessory structures.

- j. Noise Report: A copy of the noise report presented to the Department of Environmental Protection as part of the application for a Site Location of Development permit or a certification of compliance with Title 35-A, section 3456. For turbines of under 100kw, for which the DEP certification does not apply, the Planning Board will require the same information and apply the same standards as the state certification process.
- k. Flicker Report: A copy of the flicker report presented to the Department of Environmental Protection as part of the application for a Site Location of Development permit. For turbines of under 100kw, for which the DEP certification does not apply, the Planning Board will require the same information and apply the same standards as the state certification process.
- l. Utility Notification: Utility interconnection data and a copy of a written notification of the proposed wind power facility to the utility of the proposed interconnection.
- m. Request for Approval of Greater Height Limits: If the application includes a request to construct a wind power facility of a height greater than that allowed by this Ordinance, this request shall be filed at the same time as the permit application.
- n. Other Information: Such additional information as may be reasonably requested by the Planning Board.
- o. Certification of Structural Components: A Licensed Professional Engineer shall certify the foundation, tower and compatibility of the tower with the rotor, rotor-related equipment and all other wind power facility related components in writing. The engineer shall certify compliance with good engineering practices and compliance with the appropriate provisions of the Uniform Building Code that have been adopted in Maine.
- p. Certification of Electrical System: The electrical system shall be certified in writing by a Licensed Professional Engineer. The engineer shall certify compliance with good engineering practices and with the appropriate provisions of the National Electric Code that have been adopted by the State of Maine.
- q. Certification of Rotor Overspeed Control: The rotor overspeed control system shall be certified in writing by a Licensed Professional Engineer. The engineer shall certify compliance with good engineering practices.
- r. Avian Impact Study Plan: The applicant shall submit a plan prepared and certified by a Licensed Professional Engineer or certified wildlife professional for monitoring the avian impact of the wind power facility to the Planning Board for its review and approval. Such plan shall document and follow accepted scientific study procedures. In addition, the applicant for a large wind power facility shall agree to submit a quarterly report to the Town of Vinalhaven that identifies all dead birds found within 500 feet of the wind power facility. Applicants for small and medium wind power facilities shall agree to submit quarterly reports to the Town of Vinalhaven that identify all dead birds found within 500 feet of the wind power facility for the first year of operation of the facility.
- s. Tax Maps: A location map to scale of the planned land uses (based on the current tax map) within 1 mile of the boundary of the property upon which the wind power facility is to be located.
- t. Zoning Maps: A location map to scale of the existing zoning districts including all dwellings within 1 mile of the boundary of the property upon which the wind power facility is to be located.
- u. Soils Report: A geotechnical report prepared and certified by a Licensed Professional Engineer that shall at a minimum include the following:

- i. Soils engineering and engineering geologic characteristics of the site based on on-site sampling and testing;
  - ii. Foundation design criteria for all proposed structures;
  - iii. Slope stability analysis;
  - iv. Grading criteria for ground preparation, cuts and fills, soil compaction.
- v. Ice Throw Calculations:  
 A report that: a) calculates the maximum distance that ice from the wind power facility blades could be thrown. (The basis of the calculation and all assumptions must be disclosed), and b) the incidence of reported ice throws and the conditions reported at the time of the ice throw. Sufficient citation must be provided to support the report's findings. Acceptable sources for citation include, but are not limited to, documents prepared by the blade manufacturer.
- w. Blade Throw Calculations:  
 A report that: a) calculates the maximum distance that pieces of the wind power facility blades could be thrown (the basis of the calculation and all assumptions must be disclosed), and b) the incidence of reported blade throws and the conditions at the time of the blade throw. Sufficient citation must be provided to support the report's findings. Acceptable sources for citation include, but are not limited to, documents prepared by the blade manufacturer.
- x. Catastrophic Tower Failure:  
 A report stating: a) the wind speed and conditions that the tower is designed to withstand (including all assumptions and data), b) other factors or calculations that could lead to catastrophic failure (including relevant assumptions and data) (e.g. seismic activity, corrosion, etc.), c) the incidence of catastrophic failures and the conditions reported at the time of failure. Sufficient citation must be provided to support the report's findings. Acceptable sources for citation include, but are not limited to, documents prepared by the tower manufacturer.
- y. Catastrophic Turbine, Generator and Other Component Failure:  
 A report stating: a) the wind speed and conditions that the turbine, generator and each other component is designed to withstand (including all assumptions and data), b) other factors or calculations that could lead to catastrophic failure (including relevant assumptions and data) (e.g. seismic activity, corrosion, etc.), c) the incidence of catastrophic failures and the conditions reported at the time of failure. Sufficient citation must be provided to support the report's findings. Acceptable sources for citation include, but are not limited to, documents prepared by the manufacturer of the turbine, generator, or each other component.
- z. Air Navigation: An analysis prepared and certified by a Licensed Professional Engineer of air navigation "clutter" on airport radar facilities.
- aa. FAA Notification: A copy of written notification of the proposed wind power facility to the Federal Aviation Administration.
- bb. Notification to Microwave Communications Link Operators: An application for a wind power facility to be located within two miles of any microwave communications link shall be accompanied by a copy of a written notification of the proposed wind power facility to the operator of the link.

- cc. Flood Plain: An application for a wind power facility to be located within a 100-year flood plain area as shown in the Vinalhaven Land Use Ordinance, shall be accompanied by a report prepared and certified by a Licensed Professional Engineer which shall address the potential for wind erosion, water erosion, sedimentation and flooding, and which shall propose mitigation measures for such impacts.
- dd. Elevation Map: The Applicant shall provide a digital elevation map showing the impact of the wind power facility on the landscape.
- ee. Color Photographs:
  - i. Large wind power facility: The Applicant shall provide 3”X5” color photographs showing the view from the proposed wind power facility site in a 360 degree arc, and similar photographs from all principal structures located within one mile of the wind power facility site that illustrate the possible viewscape impact on those structures. (Digitally enhanced photos illustrating proposed wind power facility are preferred.)
  - ii. Medium wind power facility: The Applicant shall provide 3”X5” color photographs showing the view from the proposed wind power facility site in a 360 degree arc, and the impact upon the viewscape from six representative locations around the site, including from nearby houses and public roads. The photos shall be representative of the viewpoints from which the proposed wind power facility might be viewed. The Planning Board may request additional photos if it finds that additional photos are necessary to help it evaluate the viewscape impact of the proposed facility.
  - iii. Small wind power facility: The Applicant shall provide 3”X5” color photographs showing the view from abutting properties. The Planning Board may request additional photos if it finds that additional photos are necessary to help it evaluate the viewscape impact of the proposed facility.
- ff. Fire Control and Prevention Program Required: The applicant shall submit a Fire Control and Prevention Program prepared and certified by a Licensed Professional Engineer that is appropriate and adequate for the proposed wind power facilities. The proposed program must include those of the following elements identified in Table A:
  - i. Fireproof or fire resistant building materials;
  - ii. Buffers or fire retardant landscaping;
  - iii. Water storage facilities;
  - iv. An automatic fire-extinguishing system for all buildings or equipment enclosures of substantial size containing control panels, switching equipment, or transmission equipment—without regular human occupancy;
  - v. Fire breaks which will be cleared of vegetation and maintained as a fire/fuel break as long as the wind power facility is in operation (e.g., 30 feet around the periphery of the proposed wind power facility site; 10 feet around all transformers, other electrical generation, conversion, storage or transmission equipment and turbines and their foundations; 30 feet around all buildings);
  - vi. Provision by the applicant, operator and owner of training and fire fighting equipment for local fire protection personnel.
  - vii. The applicant shall submit written approval of the Fire Control and Prevention program by the Fire Chief of the Town of Vinalhaven.
- gg. Removal and Site Restoration: the applicant, owner and operator shall be responsible for and shall remove unsafe or inoperable buildings, structures, and other wind power facility components, as well as such buildings, structures, and components for

which the wind power facility permit has expired. All safety hazards created by the installation, operation and maintenance of the wind power facility shall be eliminated and the site shall be restored to its natural condition to the extent feasible. A bond or other appropriate form of security shall be required to be purchased and maintained by the applicant, operator and/or owner to cover the entire cost of the wind power facility removal and site restoration. This bond or other appropriate form of security shall be negotiated with the Board of Selectmen of the Town of Vinalhaven with the Town as the beneficiary and issued by an entity with a Best's rating of "A" or better with an inflation correction provision and provision for maintenance of the bond or other appropriate form of security by the applicant, operator, and/or owner during the entire term of the use and operation of the wind power facility up to and including the completion to the satisfaction of the Town of its removal and site restoration.

- hh. Removal and Site Restoration Plan Required: The applicant shall submit a removal and site restoration plan and removal and site restoration plan cost estimate both prepared and certified by a Licensed Professional Engineer to the Board of Selectmen of the Town of Vinalhaven for its review and approval. The removal and restoration plan shall identify the specific properties to which it applies and shall indicate removal of all buildings, structures, and other components of the wind power facility. (This may be restored to finish grade if on granite.) The removal and restoration plan shall also include road repair costs, if any; and all re-vegetation necessary to return the subject property to the condition existing prior to establishment of the wind power facility. The removal and restoration shall reflect the pre-wind power facility site-specific environmental conditions including topography, vegetation, drainage, and any unique environmental features. The plan shall include an estimate certified by a Licensed Professional Engineer of the total cost (by element) of implementing the removal and site restoration plan.
- ii. Lighting Plan Required: The applicant shall submit a wind power facility lighting plan prepared and certified by a Licensed Professional Engineer that describes all lighting that will be required including any lighting that may be required by the FAA. Such plan shall include, but is not limited to, the planned number and location of lights, light color, whether any such lights will be flashing, and mitigation measures planned to control the light so that it does not spill over onto neighboring properties. Lighting that does not disorient or attract birds shall be required to the greatest extent possible.
- jj. Erosion Control Plan Required: The applicant shall submit an Erosion Control Plan prepared and certified by a Licensed Professional Engineer. The Plan shall minimize the potential adverse impacts on wetlands and Class I and II streams and the banks and vegetation along those streams and wetlands and to minimize erosion or sedimentation. The Plan must include but is not limited to the following practices:
  - i. Structures and access roads should use natural contours and avoid areas of steep slopes where high cuts and fills are required. If fills are required, the fill shall be compacted to at least 90% density, and finished grades shall not exceed a gradient of 2:1. Cut slope shall not exceed a gradient of 1\_:1.
  - ii. The smallest practical area of land should be exposed for the shortest practical time during development. The amount of vegetation removed during construction is the minimum necessary to operate equipment. Areas where vegetation is removed during construction should be replanted as soon as possible.
  - iii. Measures should be used to prevent erosion until vegetation is re-established on areas from which it is removed, such as seeding and sodding, stockpiling and reuse of topsoil, temporary use of straw or fabric cover,

aggregate cover, diversions authorized by state permit, sediment basins and filters.

kk. Certification Statement: The applicant for a wind power facility permit must certify in its application that it has attempted to comply with all applicable local, state, and federal ordinances, statutes, laws, judicial or administrative decisions, and regulations, and that to the best of its knowledge is in full compliance. Any areas of noncompliance must be explained in the certification statement.

### **C. Permit Application Process and Fees; Extra Fees; Development Impact Fees**

An applicant shall submit an application for a wind power facility to the Planning Board.

1. Upon receiving an application for a wind power facility the Planning Board shall ensure that appropriate fees have been paid, issue the applicant a dated receipt, and instruct the CEO to notify by mail all property owners within one mile of the proposed wind power facility, specifying the location and a general description of the facility.
2. The applicant or his or her duly authorized representative shall attend all meetings of the Planning Board at which the application and plan are discussed.
3. Within thirty (30) days of receiving an application, the Planning Board shall notify the applicant in writing either that the application is complete, or if the application is incomplete, the specific additional material needed to complete the application.
4. A public site visit and public hearing are required as part of the application process. These may be scheduled prior to the receipt of the completed application.
5. The site visit shall be scheduled so that at least a majority of the Planning Board members, the CEO and the applicant or his or her agent will be in attendance.
6. After the Planning Board has determined that a complete application has been filed, it shall notify the applicant and begin its full evaluation of the wind power facility and application. Within six months of finding an application is complete, the Planning Board must approve, approve with conditions, or deny the application for a wind power facility.
7. The Planning Board shall hold an initial public hearing within sixty days of the receipt of a completed application. A public hearing shall be held on an application for a wind power facility permit in accordance with the provisions of the Vinalhaven Land Use Ordinance, October 1993 and Revisions, except as amended below, and all of the procedural requirements and rights of appeal set forth herein shall apply. Notice of the hearing shall be:
  - a. mailed by first class mail to the applicant;
  - b. given to the Town Manager, Road Commissioner and the Fire Chief of the Town of Vinalhaven;
  - c. published at least two (2) times in a newspaper having general circulation in the Town of Vinalhaven. The date of the second publication must be at least seven (7) days before the hearing.
  - d. mailed by first class mail to owners of real property located within one mile of the proposed wind power facility, as such owners are reflected on the last tax assessment roll and any update.

8. At any point in the foregoing and following procedure, and prior to the approval of the application, the Planning Board may require additional changes to the final plan as a result of substantial new information.
9. The Planning Board may request additional site inspections and may order additional studies and tests as a result of its deliberations.
10. Application Fee: Applicants shall pay all costs associated with the review and processing of the application, and shall submit a fee with the application in an amount as set by the Selectmen. In addition to such application fees as set by the Selectmen the Town shall require the applicant to pay extra fees incurred to cover the Town's costs of reviewing and processing the application. This shall include, but is not limited to, the Town's ordering additional scientific studies, and the Town engaging the services of one or more professional engineers and others with required professional expertise to independently review on behalf of the Town the technical information provided in the application and to assist the Town in processing the application. The applicant, upon request, shall promptly submit such extra fee(s). Following action on the application, any unused amount of the extra fee(s) shall be returned to the applicant with a summary of the costs incurred.
11. Development Fees to be paid: In addition to the aforementioned application fees and extra fees, the Planning Board shall require the applicant to pay the full share of improvements to public works or services. Such fees must be related to the public need created by the wind power facility development. The purposes for which the permit fee may be used are, but are not limited to, providing roads required by the wind power facility, providing fire protection services, and establishing and operating monitoring systems.

#### **D. Use of Permit**

1. Project Start: Any wind power facility that is permitted by the Town of Vinalhaven shall be substantially commenced no later than two years from the effective date of the permit, or within such additional time as may be set in the conditions of approval, which shall not exceed a total of five (5) years; otherwise the permit shall be null and void. Notwithstanding the foregoing, if a permit is required to be used within less than five (5) years, the permittee may, prior to its expiration, request an extension of time to use the permit. A request for extension of time shall be made to the Planning Board on forms provided by the Code Enforcement Officer and shall be accompanied by the appropriate filing fee. Within 30 days following the filing of a request for an extension, the Planning Board shall review the application, make a recommendation thereon, and post the matter on its regular agenda. An extension of time may be granted by the Planning Board upon a determination that a valid reason(s) exist for the permittee not using the permit within the required period of time. If an extension of time is granted, the total time allowed for the use of the permit shall not exceed a period of five (5) years, calculated from the effective date of the issuance of the original permit.
2. Life of Permit: A wind power facility permit shall be valid for the useful life of the wind power facility that is the subject of the permit. The life of the permit shall be determined at the time of approval and shall not exceed:
  - a. 40 years for a large wind power facility;
  - b. 40 years for a medium wind power facility; and
  - c. 20 years for a small wind power facility.

**E. Enforcement and Revocation of Permit**

The provisions of this Ordinance shall be enforced pursuant to Section 18.J of the Vinalhaven Land Use Ordinance.

**F. Development/Performance Standards**

Wind power facilities shall comply with the Development/Performance Standards set forth in this section.

**1. Dimensional Requirements**

- a. General Rule: Except as otherwise established by this Ordinance, the dimensional requirements contained in section 15 of the Land Use Ordinance shall apply to wind power facilities.
- b. Accessory Structures: Accessory structures, as defined in section 21 of the Land Use Ordinance, that are part of a wind power facility shall comply with the setback requirements contained in section 16(B) of the Land Use Ordinance.
- c. Safety Setbacks: Safety setbacks shall apply only to turbines, and not to any other structures that are part of a wind power facility. Safety setbacks shall be measured from the edge of the base of the turbine to the lot line, public road, or highway.

**i. Setbacks from Lot Lines:**

- a. Large wind power facility: Minimum of 1.25 times Total Height of the turbine from lot lines. This may be increased at the discretion of the Planning Board.
- b. Medium wind power facility: Minimum of 1.25 times Blade Radius from lot lines.
- c. Small wind power facility: Minimum of 1.25 times Total Height of the turbine from lot lines.

**ii. Setbacks from Existing Residential Structures:**

- a. Large wind power facility: Minimum of 1.25 times Total Height of the turbine from the nearest residential structure.
- b. Medium wind power facility: Minimum of 1.25 times Total Height of the turbine from the nearest residential structure.
- c. Small wind power facility: Minimum of 1.25 times Total Height of the turbine from the nearest residential structure.

**iii. Setbacks from Public Roads and Highways:**

- a. Large wind power facility: Minimum of 1.25 times Total Height of the turbine from the edge of any public road or highway. This may be increased at the discretion of the Planning Board.
- b. Medium wind power facility: Minimum of 1.25 times Blade Radius from the edge of any public road or highway.
- c. Small wind power facility: Minimum of 1.25 times Total Height of the turbine from the edge of any public road or highway.

- d. Height Limits: Notwithstanding section 16(FF) of the Land Use Ordinance, the total height of a turbine at a large wind power facility and medium wind power facility shall not exceed four hundred fifty (450) feet in height. Notwithstanding section

16(FF) of the Land Use Ordinance, the hub height of a turbine at a small wind power facility shall not exceed 80 feet in height. The Planning Board as a condition of a small wind power facility permit may impose a lower or higher hub or Total Height limit.

## 2. **Safety and Security**

- a. **Safety Shutdown:** Each wind power facility shall be equipped with both manual and automatic controls to limit the rotational speed of the blade within the design limits of the rotor. A manual electrical and/or overspeed shutdown disconnect switches shall be provided and clearly labeled on the Wind Power Facility.
- b. **Grounding:** All structures that may be charged with lightning shall be grounded according to applicable electrical code.
- c. **Wiring:** All wiring between separate components of the wind power facility shall be underground where possible. In areas of ledge, all wiring shall be encased according to applicable electrical code.
- d. **Ground Clearance:** The blade tip of any wind power facility shall, at its lowest point, have ground clearance of not less than 25 feet.
- e. **Climbability:** Wind power facilities shall not be climbable beyond 15 feet above ground level.
- f. **Access Doors Locked:** All access doors to wind power facilities and related structures shall be lockable and shall remain locked at all times when wind power facility operational/security personnel are not present.
- g. **Self Supporting Structures:** All wind power facilities and all related structures shall be self-supporting. No guy wire supported structures shall be permitted.
- h. **Signage:** Appropriate warning signage shall be placed on each component of the wind power facility including but not limited to the towers, electrical equipment, accessory structure(s) and wind power facility entrances.

## 3. **Noise**

- a. **Compliance with Noise Regulations Required:** A wind power facility permit shall not be granted unless the Applicant demonstrates that the proposed wind power facility complies with the noise control rules adopted by the Board of Environmental Protection pursuant to Title 38, chapter 3, subchapter 1, article 6. An Applicant may demonstrate compliance by presenting a Site Location of Development permit for the wind power facility to the Planning Board, or by presenting a certification issued pursuant to Title 35-A, section 3456 for the wind power facility to the Planning Board. Notwithstanding the language to the contrary in this subsection, the Planning Board may issue a wind power facility permit without having received the demonstration of compliance with the noise control rules, provided that as a condition of approval the Planning Board requires submission of materials demonstrating compliance with Board of Environmental Protection's noise control rules prior to the beginning of construction of the wind power facility, if applicable.

## 4. **Viewscape Impacts**

- a. The arrangement of turbines at a wind power facility should minimally impact the viewscape of principal structures within a one-mile radius.

- b. The Planning Board shall assess the viewscape impact with regard to the number of residences affected. Wind power facilities with significant viewscape impact on residences may be denied permits on that basis alone.
- c. In determining vertical and horizontal viewscape effects, the topography of the land shall be considered, including the presence, extent and height of forested lands, or the presence of hills and other terrain that may shield the wind power facilities from view. Any forested lands that have been required by the Planning Board to shield the wind power facilities and that are subsequently removed, destroyed or become diseased, shall be replanted by the wind power facility owner.
- d. The wind power facility shall be sited and lighted so as to minimize intermittent patterns of light and shade (“flicker”) on buildings on neighboring properties. An Applicant may demonstrate compliance by presenting a certification issued pursuant to Title 35-A, section 3456 for the wind power facility to the Planning Board.

5. **Fire Hazard Protection**

- a. The Fire Control and Prevention Program must meet standards, regulations and requirements set by or determined to be applicable by the Fire Chief of the Town of Vinalhaven.

6. **Impacts on Wildlife Species and Habitat**

- a. Endangered or Threatened Species: Development and operation of a wind power facility shall not have a significant adverse impact on endangered or threatened fish, birds, wildlife, or plant species or their critical habitats, or other significant habitats identified in the Vinalhaven Comprehensive Plan and/or the studies and plans of state or regional planning commissions or recognized environmental inventories.
- b. Birds and bats: Development and operation of a wind power facility shall not have an unreasonable adverse impact on migratory and non-migratory bird and bat species.

7. **Interconnection and Electrical Distribution Facilities**

- a. Facility Standards: All distribution lines, electrical substations, and other interconnection facilities shall be constructed to the specifications of the utility.
- b. Interconnection Standards: Interconnection shall conform to procedures and standards established by the Federal Energy Regulatory Commission, and the Public Utilities Commission as applicable.

8. **Unsafe and Inoperable Wind Power Facilities; Site Restoration**

- a. Public Nuisance: Every unsafe wind power facility and every inoperable wind power facility is hereby declared a public nuisance which shall be subject to abatement by repair, rehabilitation, demolition, or removal. An inoperable wind power facility shall not be considered a public nuisance provided the owner can demonstrate that modernization, rebuilding or repairs are in progress or planned and will be completed within no more than six months.
- b. Inoperable, Defined: A wind power facility shall be deemed inoperable if it has not generated power within the preceding two calendar quarters equal to at least 60% of the expected production.

9. **Interference with Aviation Navigational Systems**

- a. **No interference with Aviation Facilities:** No wind power facility shall be constructed, operated or maintained in a manner that causes interference with the operation of any aviation facility.
- b. **Compliance with FAA Regulations:** All wind power facility siting shall comply with Federal Aviation Administration (“FAA”) regulations for siting structures near an airport.
- c. **Locking Mechanisms to Limit Radar Interference Required:** All wind power facilities shall include a locking mechanism which prevents the blades from rotating when not producing power, in order to limit airport radar interference or “clutter.” The Planning Board may modify or eliminate the requirement for a locking mechanism if sufficient evidence is presented that no significant airport radar interference or “clutter” will be caused by the wind power facility.

10. **Erosion Control**

- a. All applications and wind power facilities must comply with soil/erosion control standards set forth within the Vinalhaven Land Use Ordinance standards and must ensure to the greatest extent practical that erosion is controlled and minimized.

11. **Monitoring**

- a. **Right to Enter Premises for Monitoring:** Upon reasonable notice, officials of the Town of Vinalhaven or their designated representatives may enter a lot on which a wind power facility permit has been granted for the purpose of monitoring noise, environmental impacts, avian impacts and other impacts which may arise. Twenty-four hours advance notice shall be deemed reasonable notice.

12. **Time Related Conditions**

The following time related conditions contained in this section shall apply only to large wind power facilities:

- a. **Phased Development May Be Required:** A large wind power facility permit may require phased development in order to mitigate adverse impacts from such factors as the number and/or location of turbines within a large wind power facility and construction schedules.
- b. **Demonstration of Performance Characteristics:** The granting of a large wind power facility permit shall be conditioned upon the installation and operation of one or more temporary large wind power facilities for a period not to exceed twelve months in order to demonstrate the performance characteristics of the large wind power facility and the projected large wind power facility site. The Planning Board shall determine the standards for performance. If a standard has not been met at the expiration of the required monitoring period, the applicant and the Town of Vinalhaven may agree to an extension. The time within which the permit must be used shall be extended to include the period of the required monitoring.
- c. **Removal and Site Restoration:** The applicant, owner and operator of a large wind power facility shall be responsible for and shall remove any and all temporary structures and equipment installed and operated pursuant to this Section. The applicant, owner and operator shall follow the requirements for removal and site restoration as set forth in this Ordinance.

- d. Bond or Other Appropriate Form of Security for Removal: A bond or other appropriate form of security shall be required to be purchased and maintained by the applicant, operator and/or owner of a large wind power facility to cover the entire cost of the temporary large wind power facility removal and site restoration. This bond or other appropriate form of security shall be negotiated with the Board of Selectmen of the Town of Vinalhaven with the Town as the beneficiary and issued by an entity with a Best's rating of "A" or better with an inflation correction provision and provision for maintenance of the bond or other appropriate form of security by the applicant, operator, and/or owner during the entire pendency of the use and operation of the temporary large wind power facility up to and including the completion to the satisfaction of the Town of its removal and site restoration.
- e. Removal and Site Restoration Plan Required: The applicant, owner and operator of a large wind power facility shall submit a removal and site restoration plan and removal and site restoration plan cost estimate for any and all temporary structures and equipment installed and operated pursuant to this Ordinance. The applicant, owner and operator shall follow the requirements for removal and site restoration plans and cost estimates as set forth in this Ordinance.

### 13. Signs

- a. Signage Limited: No advertising sign or logo other than a manufacturer's name or logo shall be placed or painted on any wind power facility. A wind power facility permit may allow the placement of no more than two advertising signs relating to the development of the site, but no sign shall exceed 15 square feet in surface area or eight feet in height.

### 14. Color and Finish

- a. Color and Finish: Wind power facilities shall be painted a non-obtrusive (e.g., light environmental color such as white, gray, or beige) color that is non-reflective.
- b. Camouflage Facilities: The design of wind power facility components, buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend them into the natural setting and the existing environment.

### 15. Lighting

- a. Lighting for wind power facilities shall comply with all applicable local, state and federal ordinances, statutes, laws, judicial or administrative decisions and regulations including but not limited to FAA regulations. Additionally and to the greatest extent practical lighting shall take into account "best practices" as to protection and preservation of avian wildlife including but not limited to lighting color, number, timing and duration of strobe, direction and intensity. Current "best practices" indicate that, unless otherwise required by the FAA, only white (preferable) or red strobe lights should be used at night, and these should be the minimum number, minimum intensity, minimum number of flashes per minute (longest duration between flashes) allowable by the FAA and the use of solid red or pulsating red warning lights at night should be avoided. Resources to be utilized in determining "best practices" shall include but shall not be limited to the then most current guidelines or recommendations of the Communication Tower Working Group (as previously chaired by the US Fish and Wildlife Service) as well as the American Bird Conservancy.

## **G. General Provisions**

1. Land Use Standards: Except when contrary to the provisions in this Ordinance, wind power facilities shall comply with the land use standards contained in section 16 of the Land Use Ordinance.
2. Building Permit: Building permits, issued by the Planning Board or Code Enforcement Officer, shall be required for structures constructed as part of a wind power facility. Except where this Ordinance establishes different standards, all structures that are part of a wind power facility shall comply with the same standards that apply generally to construction in the Town of Vinalhaven.
3. Certificate of Occupancy: Before operation of a wind power facility, certificates of occupancy must be obtained from the Code Enforcement Officer.

## **H. General Conditions**

1. Conditions May Be Imposed: The Planning Board may grant a wind power facility permit subject to any condition that it deems necessary. This may include but is not limited to conditions that minimize the possibility that the future development of nearby property will create an impermissible interference or to minimize any burden on any person affected by granting the permit. Such conditions or exemptions may include but are not limited to restrictions on the location of the wind power facility and requirements for the compensation of persons affected by the granting of the permit.
2. Maximum Number of Wind Power Facilities Allowed: Notwithstanding the minimum lot size requirements contained in the Land Use Ordinance, each wind power facility having the capability of generating 660 Kw or more requires a minimum of eight acres. Wherever possible, turbines and related equipment shall be designed and constructed to accommodate expansion for future co-location of additional turbines and related equipment. No more than a total of five (5) turbines capable of generating 660 Kw or more each may be constructed in the Town of Vinalhaven.

## **I. Findings**

Findings Necessary to Grant a Wind Power Facility Permit: In order to grant a wind power facility permit, the Planning Board shall review and process the application; all filings by any other party, and conduct one or more public hearings. A wind power facility permit shall not be granted unless the Planning Board makes the following findings based on substantial evidence:

1. Consistent with the General Plan: The proposed wind power facility is consistent with the Comprehensive Plan of Town of Vinalhaven.
2. In Accordance with the Purpose and Intent of this Ordinance: The proposed wind power facility is in accordance with the purpose and intent of this Ordinance and appropriate State and Federal Regulations.
3. Will Not Unreasonably Interfere With the Orderly Land Use and Development Plans: The proposed wind power facility will not unreasonably interfere with the orderly land use and development plans of the Town of Vinalhaven.
4. Benefits to the Public Will Exceed Any Burdens: That the benefits to the Town of Vinalhaven and its citizens will exceed any burdens. Construction of a proposed medium or large wind power facility shall have a positive impact on electric utility rates in the Town of Vinalhaven.

5. Not Detrimental to the Public Health, Safety and Welfare of the Community: The proposed wind power facility will not be detrimental to the public health, safety or welfare of the community.
6. Not Otherwise Adverse to the Environment, Neighborhood or Community: The proposed wind power facility will not be hazardous, harmful, offensive, or otherwise unreasonably adverse to the environment or the value of the neighborhood or community.
7. Complies With All Required Provisions of the Zoning Ordinance: The proposed wind power facility shall comply with all required provisions of the zoning ordinance, unless variances have been properly applied for and granted pursuant to Section 18.I.2 of the Vinalhaven Land Use Ordinance, September 1993 and Revisions.

J. DEFINITIONS

**Applicant** - the entity or person(s) seeking a permit for the siting of a wind power facility.

**Blade Radius** - the distance from the center of the turbine hub to the end of the rotor blade.

**Dwelling unit** - any building implicitly or explicitly permitted for residential use in the Town of Vinalhaven.

**Hub height** - the vertical distance between the hub of the rotor blade assembly to the mean natural grade at the downhill side of the structure including foundation.

**Large wind power facility** - a wind power facility with more than four turbines.

**Licensed Professional Engineer** – a professional engineer, currently registered and licensed as an engineer in and by the State of Maine, with professional liability/errors and omissions insurance coverage with sufficient limits of liability in force and effect to provide full indemnification as to each and all certifications made, and required to be made, herein.

**Medium wind power facility** - a wind power facility with two, three, or four turbines, or a wind power facility with one turbine if that turbine has a rated generating capacity of at least 0.1 megawatts (100 kilowatts) of electricity.

**Operator** - the person, people, entity or entities responsible for the day-to-day operation and maintenance of the wind power facility, including any third-party subcontractors.

**Owner**- the person, people, entity or entities with equity interest in the wind power facility, including their respective successors or designees.

**Principal structure** - a structure that one or more persons occupy for personal or business reasons. Principal structures include but are not limited to residences, commercial buildings, workshops and studios.

**Significant impact** - a determination of the Planning Board based on the number of primary structures and residences whose viewscape is impacted by the wind power facility.

**Small wind power facility** - a wind power facility consisting of no more than one turbine with a rated generating capacity of less than 0.1 megawatts (100 kilowatts) of electricity.

**Total Height** - the vertical distance between the rotor blade at its highest point and the mean natural grade at the downhill side of the structure including foundation.

**Viewscope** -

- A. Vertical viewscape: the ability to see more than one-third (1/3) of the total height of any component of a wind power facility from the ground floor of a principal structure within one mile of the wind power facility.

- B. Horizontal viewscape: the ability to see multiple wind power facilities or any component thereof within a ninety (90) degree arc from any point on the ground floor of a primary structure within one mile of the wind power facility.

**Wind power facility** - any wind driven system that produces electrical or other forms of energy. Wind power facility refers to large wind power facilities, medium wind power facilities, and small wind power facilities. A wind power facility includes all turbines, buildings, structures, and equipment associated with the production of electricity or other forms of energy from wind.

| <b>Table A: Wind Power Facility Application Components</b> |                                                             |                                        |                                            |                                            |
|------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------|--------------------------------------------|--------------------------------------------|
| <b>Cite to § B(3)</b>                                      | <b>Application Component</b>                                | <b>Category of Wind Power Facility</b> |                                            |                                            |
|                                                            |                                                             | <b>Large</b>                           | <b>Medium</b>                              | <b>Small</b>                               |
| (a)                                                        | Applicant                                                   | Y                                      | Y                                          | Y                                          |
| (b)                                                        | Proof of Permission                                         | Y                                      | Y                                          | Y                                          |
| (c)                                                        | Site Plan                                                   | Y                                      | Y                                          | Y                                          |
| (d)                                                        | Topographic Map                                             | Y                                      | Y                                          | Y                                          |
| (e)                                                        | Sensitive Environmental Resources Maps                      | Y                                      | Y                                          | Y                                          |
| (f)                                                        | Wind Access Agreements                                      | Y                                      | N                                          | N                                          |
| (g)                                                        | Wind Power Facility Information                             | Y                                      | Y                                          | Y                                          |
| (h)                                                        | Wind Power Facility Photographs or Drawings                 | Y                                      | Y                                          | Y                                          |
| (i)                                                        | Computer Simulation or Drawings                             | Y                                      | Y                                          | Y                                          |
| (j)                                                        | Noise Report                                                | Y                                      | Y                                          | Y                                          |
| (k)                                                        | Flicker Report                                              | Y                                      | Y                                          | Y                                          |
| (l)                                                        | Utility Notification                                        | Y                                      | Y                                          | Y                                          |
| (m)                                                        | Request for Approval of Greater Height Limits               | Y                                      | Y                                          | Y                                          |
| (n)                                                        | Other Information                                           | Y                                      | Y                                          | Y                                          |
| (o)                                                        | Certification of Structural Components                      | Y                                      | Y                                          | Y                                          |
| (p)                                                        | Certification of Electrical System                          | Y                                      | Y                                          | Y                                          |
| (q)                                                        | Certification of Rotor Overspeed Control                    | Y                                      | Y                                          | Y                                          |
| (r)                                                        | Avian Impact Study Plan                                     | Y<br>quarterly<br>monitoring           | Y<br>quarterly<br>monitoring first<br>year | Y<br>quarterly<br>monitoring<br>first year |
| (s)                                                        | Tax Maps                                                    | Y                                      | Y                                          | Y                                          |
| (t)                                                        | Zoning Maps                                                 | Y                                      | Y                                          | Y                                          |
| (u)                                                        | Soils Report                                                | Y                                      | Y                                          | Y                                          |
| (v)                                                        | Ice Throw Calculations                                      | Y                                      | Y                                          | Y                                          |
| (w)                                                        | Blade Throw Calculations                                    | Y                                      | Y                                          | Y                                          |
| (x)                                                        | Catastrophic Tower Failure                                  | Y                                      | Y                                          | Y                                          |
| (y)                                                        | Catastrophic Turbine, Generator and Other Component Failure | Y                                      | Y                                          | Y                                          |
| (z)                                                        | Air Navigation                                              | Y                                      | N                                          | N                                          |
| (aa)                                                       | FAA Notification                                            | Y                                      | Y                                          | Y                                          |

|      |                                                         |                                            |                                                                    |                   |
|------|---------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|-------------------|
| (bb) | Notification to Microwave Communications Link Operators | Y                                          | N                                                                  | N                 |
| (cc) | Flood Plain                                             | Y                                          | Y                                                                  | Y                 |
| (dd) | Elevation Map                                           | Y                                          | N                                                                  | N                 |
| (ee) | Color Photographs                                       | Y<br>360° for all structures within 1 mile | Y<br>6 representative locations, including houses and public roads | Y<br>abutters     |
|      | Fire Control and Prevention Program Required            | Y<br>as specified                          | Y<br>as specified                                                  | Y<br>as specified |
|      | (i) Building Materials                                  | Y                                          | Y                                                                  | Y                 |
|      | (ii) Landscaping Buffers                                | Y                                          | N                                                                  | N                 |
|      | (iii) Water Storage                                     | Y                                          | N                                                                  | N                 |
|      | (iv) Sprinklers                                         | Y                                          | Y                                                                  | N                 |
|      | (v) Fire Breaks                                         | Y                                          | N                                                                  | N                 |
|      | (vi) Training and Equipment                             | Y                                          | Y                                                                  | N                 |
| (ff) | (vii) Fire Chief Approval                               | Y                                          | Y                                                                  | Y                 |
| (gg) | Removal and Site Restoration                            | Y                                          | N                                                                  | N                 |
| (hh) | Removal and Site Restoration Plan Required              | Y                                          | N                                                                  | N                 |
| (ii) | Lighting Plan Required                                  | Y                                          | Y                                                                  | Y                 |
| (jj) | Erosion Control Plan Required                           | Y                                          | Y                                                                  | Y                 |
| (kk) | Certification Statement                                 | Y                                          | Y                                                                  | Y                 |

Y = required application component

N = not required