

PROPOSED ADDITION TO THE TOWN OF AQUINNAH DCPC
Amended Based on Public Hearings and Approved by Planning Board
Revised 10/28/09

SECTION 13.15 – WIND ENERGY GENERATING FACILITY REGULATIONS

13.15-1 GOALS AND PRIORITIES - The goal of this by-law is to reduce the overall consumption of fossil fuels through energy conservation and the local generation of energy from renewable sources while minimizing any negative impact on residents and visitors and while preserving and protecting the cultural and natural environment of the town as delineated in the Goals of the Town of Aquinnah District of Critical Planning Concern (Section 13.1).

13.15-2 USE – Except in the ocean waters within the corporate bounds of the Town of Aquinnah, use of a wind energy generating facility of any kind, as defined in this bylaw, must be accessory to a primary use on the lot. However, a communal wind energy generating facility may by special permit be located on a vacant lot without a primary use. Municipal wind energy generating facilities are exempt from this provision.

13.15-3 SPECIAL PERMITS - All wind energy generating facilities require a Special Permit. The Planning Board Plan Review Committee (PBPRC) shall be the Special Permit granting authority for permits required under this by-law.

13.15-4 LAND BASED WIND ENERGY FACILITIES:

A. CATEGORIES - Wind energy generating facilities shall be divided into the following categories for permitting requirements:

1. Private:

a. Single Owner:

A facility designed to provide on-site electrical needs and not to exceed 150-feet in overall height.

b. Communal:

A facility designed to provide local residential electrical needs to its owners and not to exceed 150-feet in overall height. Residents may form associations, like road associations - or other legally binding forms of cooperative ownership -for the purpose of accommodating wind energy generating facilities, where deeded easements and restrictions can be put on vacant land to create a common area that can be used for a wind energy generating facility and where the financial and other responsibilities of the owners are contained in a legally binding agreement which shall require the association to bear all the responsibilities of a single owner under this regulation.

c. Municipal:

A publicly owned wind energy generating facility, for the benefit of the Town of Aquinnah.

B. DEFINITIONS (See Appendix 1):

C. REGULATIONS:

1. Private Wind Facilities

Private facilities may be allowed anywhere in Town subject to the following requirements:

- a. It receives a special permit for siting from the Planning Board Plan Review Committee (PBPRC).
- b. Freestanding wind energy generating facilities shall be located at least the blade tip height of the facility from the nearest residential or commercial structure and the nearest property line, except in the case of a communal wind energy generating facility, the nearest property line of an owner who is not associated with the facility. (Note that Conservation Commission regulations may impose other setback requirements).
- c. The Planning Board Plan Review Committee may reduce the above minimum setbacks, as appropriate, based on site specific considerations or if the nearest property line is a public right of way, if the project satisfies all other criteria for the granting of a special permit under the provisions of this section.
- d. Freestanding wind energy generating facilities shall be located where they will not create or be subject to turbulence for/from nearby wind energy generating facilities.
- e. For a freestanding wind energy generating facility, the tree line blade clearance should be at least 30 feet.
- f. Rooftop wind energy generating facilities shall not extend more than ten feet above the ridgeline of the structure to which it is attached.
- g. In the Moshup Trail and Cliffs Districts of Critical Planning Concern (DCPC), and land within 1,000 feet of the coastline, wind energy generating facilities may only be permitted if all of the following conditions are met:
 - i) The applicant has taken quantifiable steps to reduce the use of fossil fuels on the property, by improving efficiencies and reducing wasteful practices and there is still significant use of fossil fuels due to the unique nature of the property.
 - ii) The applicant has explored the use of a communal wind energy generating facility with neighbors.
 - iii) A migratory bird impact assessment and/or a habitat evaluation, if required by the PBPRC, that shows the facility has no significant impact. In these protected areas, and in particular the Cliff DCPC, the PBPRC may require these studies be performed by a qualified agent at the expense of the applicant. The PBPRC may also require applicant to monitor the impact of the facility on birds and other flying animals for a period of time, including the full duration of its operation.
 - iv) the wind energy generating facility is otherwise consistent with the goals and priorities of the Town-wide DCPC.

2. Municipal Wind Energy Generating Facilities

Municipal wind energy generating wind facilities may be approved by Special Permit if they meet the applicable requirements listed, above, in 13.15-3(7). They shall be located at least the blade tip height of the facility plus 30 feet from the nearest dwelling or commercial structure and nearest property line except, in the case of a communal wind energy generating facility or wind energy generating facility association, from the nearest property line of an owner not associated with the facility. The Planning Board Plan Review Committee may reduce these minimum setbacks, based on site specific considerations or if the nearest property line is a public right of way, if the project satisfies all other criteria for the granting of a special permit under the provisions of this section.

3. Met Tower Facilities

Met towers shall be permitted in this district subject to issuance of a special permit for a temporary structure and shall be located at least the blade tip height of the facility from the nearest dwelling or commercial structure and nearest property line, except in the case of a communal wind facility or wind facility association, the nearest property line of an owner not associated with the Met Tower. Guy wires and anchors shall not be located closer than 30 feet to a property line. The Planning Board Plan Review Committee may reduce these minimum setbacks, based on site specific considerations or if the nearest property line is a public right of way, if the project satisfies all other criteria for the granting of a special permit under the provisions of this section. Due to the temporary status of these facilities and the long-term benefit of the information they provide, siting guidelines may be applied less rigorously to Met Towers. (Note that Conservation Commission Regulations may impose other setback requirements).

D. GENERAL REQUIREMENTS FOR THE INSTALLATION OF ANY WIND FACILITY (See Appendix 2):

E. APPLICATION REQUIREMENTS:

1. Pre-Application Conference

Prior to the submission of an application for a special permit under this by-law, all applicants are required to request a pre-application meeting with the PBPRC to discuss the proposed wind energy generating facility in general terms and to clarify the filing requirements. The PBPRC shall meet with an applicant under this regulation within twenty-one (21) days following a written request submitted to the PBPRC and the Town Clerk. If the PBPRC fails to meet with an applicant who has requested such a meeting within twenty-one (21) days of said request and said meeting has not been postponed due to mutual agreement, the applicant may proceed with a special permit application under this by-law without need for a pre-application conference.

2. Pre-Application Filing Requirements

The purpose of the conference is to inform the PBPRC as to the nature of the proposed wind energy generating facility. No formal filings are required for the pre-application conference; however, the applicant is encouraged to prepare sufficient preliminary architectural and/or engineering drawings to inform the PBPRC of the location of the proposed facility, as well as its scale and overall design.

3. Application Requirements (See Appendix 3)

4. Professional Fees

The Town may retain a technical expert/consultant to verify information presented by the applicant. The cost for such a technical expert/consultant shall be at the expense of the applicant in accordance with G.L. Chapter 44, Section 53G.

F. SITING

1. Guidelines

- a. All towers shall be monopole, guyed poles or guyed tilt-ups.
- b. Wind energy generating facilities shall be painted a neutral, non-reflective blue or gray color designed to blend with sky and clouds.
- c. All equipment necessary for monitoring and operation of the wind energy generating facility shall be contained within the tower. If this is unfeasible, ancillary equipment may be located outside the tower or behind a year-round landscaped or vegetative buffer. The PBPRC shall determine the appropriate width and materials for this buffer.
- d. Preferred sites are those that have existing roadways and/or transmission facilities in close proximity to avoid clearing of vegetation for these purposes.
- e. Site should require minimal clearing for the facility - especially of old growth trees - including for roadways and power interconnects.
- f. Roadways should be winding - not straight - to minimize visibility of ground-based portions of the facility. If the size of the facility requires a straighter road, vegetative or other screening of these ground-based portions must be employed.
- g. Land clearing for the purposes of reducing wind turbulence in the vicinity of the turbine is prohibited, unless the PBPRC finds it is essential to operational requirements, it does not adversely affect the natural resources in the area and that adequate erosion controls are proposed.
- h. Site should maximize screening capability of existing vegetation close to public ways.
- i. To take advantage of winds at higher elevations, short tower facilities should be sited at the higher end of the existing grade, where possible.
- j. The wind energy generating facility should be able to provide adequate and efficient generating capacity, per the manufacturer's specifications.

G. TERMS OF SPECIAL PERMIT

To ensure that the goals of this by-law are met in the face of evolving technology, special permits for wind energy generating facilities will expire at the end of the useful life of the facility or 15 years, whichever is less. At that time, the facility shall be removed by the applicant or, if the existing facility is still operable and efficient, the special permit may be renewed by the PBPRC for a term of no more than 5 years at a time. A new Permit is required to install a replacement system. Requests for renewal must be submitted at least 180 prior to expiration of the special permit. Renewal applications shall be reviewed using the same criteria as those used for new installations. Submitting a renewal request shall allow for continued operation of the wind energy generating facility until the PBPRC acts. At the end of that period (including extensions and renewals), the wind energy generating facility shall be removed as required by this by-law.

H. DECOMMISSIONING

1. Condemnation

- a. Upon a finding by the Building Inspector that the facility has been abandoned (as defined in Section 16.11-3 Abandonment), or has been left in disrepair, or has not been maintained in accordance with its approved maintenance plan, the owner of the facility or land on which it is located shall be notified in writing by certified mail that the facility must be brought up to standard.
- b. If required repairs or maintenance are not accomplished within 45 days, the facility may be deemed condemned and may be removed from the site by the Town within 90 days, at the expense of the property owner. At the request of the property owner, the Planning Board Plan Review Committee, with the concurrence of the Building Inspector, may allow extensions of these time periods.

2. Removal Requirements

- a. Any wind energy generating facility which has reached the end of its useful life or has been abandoned must be removed. When the wind energy generating facility is scheduled to be decommissioned, the applicant shall notify the town by certified mail of the proposed date of discontinued operations and plans for removal.
- b. Prior to any removal activities a Request for Determination of Applicability must be made to the Aquinnah Conservation Commission, which will review the proposed plan and may make conditions or recommendations or require the filing of a Notice of Intent.
- c. Decommissioning shall consist of:
 - i) Physical removal of all wind turbines, towers, machinery, equipment, structures, security barriers, transmission lines, and accessory structures from the site.
 - ii) Disposal of all solid and hazardous waste in accordance with all local and state waste disposal regulations.

iii) Stabilization or re-vegetation of the site as necessary to minimize erosion. The Planning Board Plan Review Committee may allow the owner to leave existing landscaping or below grade foundations in order to minimize erosion and disruption to vegetation.

3. Abandonment

A wind energy generating facility shall be considered abandoned if it fails to operate for 12 months without the written consent of the Planning Board Plan Review Committee. If the owner fails to remove the facility within ninety days of a finding of abandonment by the town, the town shall have the authority to enter the property and physically remove the facility, at the expense of the property owner.

4. Surety

The Planning Board Plan Review Committee may require the applicant to post a bond at the time of construction to cover costs for removal in the event that the town must remove the facility. The value of the bond will be determined by the Board, taking into consideration all of the requirements of section 16.6 -8. The applicant shall submit a fully inclusive estimate of the costs associated with removal prepared by qualified engineer. The amount shall include a mechanism for cost of living adjustment. An incentive factor of 1.5 shall be applied to all bonds to ensure compliance and adequate funds for the towns remove the facility at prevailing wages.

13.15-5 OCEAN-BASED WIND ENERGY GENERATING FACILITIES

GOALS – The goal of this section is to create siting standards and criteria for the regulation of community wind and commercial wind energy generating facilities in the ocean waters of Aquinnah. The term ‘ocean waters’ shall cover any waters and submerged lands of the ocean, including the seabed and subsoils, in Aquinnah. The siting standards shall be consistent with the goals of the Town-wide DCPC. They shall be comparable, at a minimum, with siting standards in the final Ocean Management Plan and with those developed by the Martha’s Vineyard Commission (MVC).

The standards shall:

- ensure effective stewardship of Town waters, held in trust for the public benefit.
- take into account the existing natural, social, cultural, historic and economic characteristics of those waters.
- reflect the importance of town waters to its residents who derive livelihoods and recreational benefits from fishing.
- value biodiversity and ecosystem health.
- identify and protect special ocean habitats in ocean waters.

13.15-6 (RESERVED)

13.15-7 (RESERVED)

13.15-8 (RESERVED)

13.15-9 (RESERVED)

APPENDIX 1 (13.15-4B):

Blade – Extensions from the hub, which are designed to catch the wind and turn the rotor to generate electricity.

Blade-Tip Height - The height as measured from the grade of the land below to the highest extension of the blade.

Cut-out Wind Speed – The high wind speed at which the wind energy generating facility must shut-down and/or turn perpendicular to the wind to protect itself from being overpowered, typically 56 mph.

Ground Blade Clearance - The height as measured from the grade of the land below the wind energy generating facility to lowest extension of the blade.

Hub – The center of the rotor to which the blades are attached.

Hub Height – The height as measured from the grade of the land below the wind energy generating facility to the center of the rotor or hub.

Nacelle – The frame and housing at the top of the tower. It protects the gear box and generator from weather and helps control the mechanical noise level.

Rated Nameplate Capacity – The rated output of electric power producing equipment. This output is typically specified by the manufacturer with a “nameplate” on the equipment.

Rotor – A wind energy generating facility’s blades and the hub to which they are attached.

Rotor Diameter – The diameter of the rotor of a wind energy generating facility rotor measured as twice the length of the longest blade plus the hub width (or equal to the diameter of the cylinder).

Tree Line Blade Clearance – The height as measured from top of the tallest object within 300 feet to the South and West of the base of the tower to the lowest extension of the blade.

Viewscape - All of the land, water and sky seen from a point or along a series of points (a road or trail).

Wind Energy Generating Facility - All equipment, machinery and structures utilized in connection with wind-generated energy production, generation and sale, including related transmission, distribution, collection, storage or supply systems whether underground, on the surface, or overhead and other equipment or byproducts in

connection therewith, including but not limited to, rotor, electrical generator and tower, anemometers (wind measuring equipment), transformers, substation, power lines, control and maintenance facilities, site access and service roads.

Wind Monitoring or Meteorological (“test” or “met”) Tower - A temporary tower equipped with devices to measure wind speeds and direction, used to determine how much wind power a site can be expected to generate.

APPENDIX 2 (13.15-4D):

A. Compliance with Laws, Ordinances and Regulations. The construction and operation of all such proposed wind energy generating facilities shall be consistent with all applicable local, state and federal requirements, including but not limited to all applicable safety, construction, environmental, electrical, communications and aviation requirements.

The safety of the design and construction of any wind energy generating facility, including towers and associated equipment and the compatibility of the tower structure with the rotors and other components, shall be certified by the manufacturer and by an Engineer Licensed by the Commonwealth of Massachusetts.

B. A wind energy generating facility must meet the current minimum technical requirements for renewable energy installations funded by the Massachusetts Small Renewables Initiative to the extent they apply (copies are available at Town Hall).

C. Safety wires shall be installed on the turnbuckles on guy wires of Met Towers and guyed wind energy generating facility towers.

D. All wind energy generating facilities shall be equipped with manual and automatic cut-out wind speed controls. The rotor and cut-out wind speed control shall be certified by the manufacturer or by an Engineer licensed by the Commonwealth of Massachusetts.

E. All towers shall be monopole, guyed poles or guyed tilt ups and if they require external climbing apparatus, they shall have either tower climbing apparatus located not closer than twelve (12) feet to the ground or be un-climbable by design for the first twelve (12) feet.

F. Wind energy generating facilities sited on top of, or attached to and extending above the ridgeline of, an existing structure shall comply with all applicable provisions of the latest version of the Uniform Building Code. Certification by an Engineer Licensed by the Commonwealth of Massachusetts shall be required.

G. The owner/applicant of any wind energy generating facility shall provide, as part of submissions to the PBPRC for a Special Permit, proof of liability insurance that specifically addresses the installation, use and maintenance of the wind energy generating facility. Recertification of liability insurance shall be provided to the Town on an annual basis.

H. Any ground level equipment associated with the wind energy generating facility shall be camouflaged or screened. Buildings shall be surrounded by buffers of dense tree growth and understory vegetation in all directions to create an effective year-round visual buffer. Trees and vegetation may be existing on the property or installed as part of the proposed facility or a combination of both. The Planning Board Plan Review Committee shall approve the types of trees and plant materials and depth of the needed

buffer based on site conditions. Equipment shelters for wind facilities shall be designed to be consistent with the traditional architecture of the town.

- I.** All utility connections from the wind energy generating facility to the existing grid shall be underground.
- J.** Clearing of natural vegetation shall be limited to that which is necessary for the construction and maintenance of the wind energy generating facility.
- K.** Night lighting shall be prohibited unless required by state or federal law and shall be the minimum necessary. There shall be total cutoff of all light at the property lines of the parcel to be developed, and foot-candle measurements at the property line shall be 0.0 initial foot-candles when measured at grade. For communal wind energy generating facilities and associations, the cut off shall be at the property line of an owner not in the association or tied to the communal system.
- L.** Wind energy generating facilities shall be painted a neutral, non-reflective blue or gray color designed to blend with the sky and clouds.
- M.** Signage at the wind energy generating facility is limited to no trespassing, danger and emergency contact information signs. All signs shall comply with the requirements of the Town's sign regulations. Wind energy generating facilities shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the wind energy facility which shall not be displayed above the tree line
- N.** A public safety plan with emergency procedures and a contact person is to be filed with police and fire department before the facility is erected.

- O.** Wind energy generating facilities and associated equipment shall conform to the following sound-level provisions. A source of sound will be considered to be violating these regulations if the source:
 - 1. Increases the broadband sound level by more than 10 dB(A) above ambient, or
 - 2. Produces a “pure tone” condition – when an octave band center frequency sound pressure level exceeds the two adjacent center frequency sound pressure levels by 3 decibels or more. These criteria are measured both at the property line and at the nearest inhabited residence. Ambient is defined as the background A-weighted sound level that is exceeded 90% of the time measured during equipment hours. An analysis prepared by a qualified engineer shall be presented to demonstrate compliance with these noise standards.
 - 3. The PBPRC shall determine whether such measurements shall be made at the property line or the nearest inhabited residence.
- P.** Wind energy generating facilities shall be sited in a manner that does not result in significant shadowing or flicker impacts. The applicant has the burden of proving that this effect does not have significant adverse impact on neighboring or adjacent uses either through siting or mitigation.
- Q.** A Wind energy generating facility shall create no TV interference or derogation of public good.
- R.** A wind energy generating facility shall be operated and maintained in sound working order in conformance with the manufacturer’s specifications at all times. This

maintenance shall include the physical appearance so that the facility does not become unsightly. A copy of the manufacturer's specifications and instructions must be submitted with any application for review by the Planning Board Plan Review Committee and the Building Inspector.

- S. Nothing may be attached to the exterior of the tower or nacelle (e.g. a personal wireless service or radio antenna) without a special permit unless it directly relates to the basic operation or maintenance of the facility.

Appendix 3 (13.15-4E,3):

In addition to the standard filing requirements for special permits, the following information must be submitted:

A. Location Map

A copy of a portion of the most recent USGS Quadrangle Map, at a scale of 1:25,000, showing the proposed facility site, including turbine sites, and the area within at least two miles of the facility. An assessors map of the site shall be included.

B. Site Plan

A "1-inch equals 200 feet" plan of the proposed wind facility site, with contour intervals of no more than 10 feet, showing the following:

1. Property lines for the site parcel and adjacent parcels within 300 feet. Include the distance from base of the wind facility tower to the nearest property line.
2. Outline of all existing buildings, including purpose identification, on site parcel and all adjacent parcels within 500 feet. Include distances from wind facility base of tower to each building shown
3. Location of all public and private roads on site parcel and parcels within 300 feet.
4. Existing areas of tree cover, including average height of trees, on the site parcel and parcels within 300 feet.
5. Proposed location and design of wind facility, including turbines, ground equipment, accessory structures, transmission infrastructure, access, fencing, exterior lighting, etc.
6. Location of viewpoints reference to below in next section.

C. Technical Design Information

The applicant shall submit the following information about the proposed wind facility:

1. That the wind energy generating facility is adequate in design, height and placement to provide a significant contribution to the applicant's required on-site residential electrical needs. The purpose of this requirement is to ensure that the usefulness of a proposed facility justifies its intrusion on the landscape.
2. That the facility is not over-sized for the applicant's on-site residential needs, thus creating an unnecessary intrusion on the landscape.

D. Visualizations

The Planning Board Plan Review Committee will determine various sight lines, including, but not limited to, those from public roads and waterways. Pre- and post-construction view representations shall be required, as follows:

1. View representations shall be in color and shall include actual pre-construction photographs and post-construction simulations of the height and breadth of the wind facility, superimposed on photographs of existing views.
2. All view representations shall include existing, or proposed, buildings or tree coverage.
3. View presentations shall include description of the technical procedures followed in producing the visualization (distances, angles, lens, etc.).

E. Landscape Plan

A plan indicating all proposed changes to the landscape of the site, including temporary or permanent roads or driveways, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures. Lighting shall conform to the Aquinnah lighting by-law.

F. Operation and Maintenance Plan

The applicant shall submit a plan for maintenance of access roads and drainage as well as general procedures for the operational maintenance of the wind energy generating facility.

G. Compliance Documents

The applicant shall provide with the application:

1. A description of the financial surety required herein.
2. Proof of liability insurance.
3. A statement listing existing and maximum projected noise levels from the wind facility as measured per section 16.6-615.
4. Documentation of compliance with the MTC Minimum Technical Requirements for Wind Installations if applicable.
5. The financing plan/cash flow model for the Facility, and its estimated energy/carbon savings, under expected case, best case and worst-case conditions.
6. The manufacturer's maintenance instructions and specifications for the wind energy generating facility.