

COMMONWEALTH OF MASSACHUSETTS

Bristol, ss.

Town of Dartmouth
Select Board
File No. 2009-01

DECISION AND APPROVAL WITH CONDITIONS)

TOWN OF DARTMOUTH)

ZONING BY-LAW, SECTION 34)

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DARTMOUTH TOWN CLERK

I. PROCEDURAL SUMMARY

This application is before the Select Board under Zoning By-law Section 34 which requires a special permit for land based commercial wind turbines with a rated power greater than 10 kilowatts. The application was filed by the Town of Dartmouth (the "Applicant") on or about September 8, 2009 and amended on or about November 20, 2009 for a special permit on the Applicant's land located at 687 Chase Road and designated as Assessor's Map 33, Lot 72 (the "Property"). The Property is more particularly described in a Deed to the Applicant recorded with the Bristol County (S.D.) Registry of Deeds in Book 1853, Page 98.

The application was noticed by publication in The Chronicle on November 25, 2009 and December 2, 2009 and by mailing to "parties in interest" as that term is defined in M.G.L. Chapter 40A, Section 11. The public hearing thereon commenced on December 14, 2009 and thereafter was continued to December 21, 2009 and further continued to January 4, 2010 for further testimony. The public hearing was closed at the conclusion of testimony on January 4, 2010, whereupon the Select Board deliberated at a public meeting on the same date.

The matter decided before the Select Board must be decided firmly by vote of at least four members to grant the requested Special Permit.

II. FACTUAL SUMMARY

The Applicant is the Town of Dartmouth. The Applicant proposes to construct and install two 1650 kW wind turbines to be mounted on 100-meter (328 foot) towers on Town owned land located at 687 Chase Road in South Dartmouth.

Atlantic Design Engineers LLC ("ADE") presented results of a feasibility study that included a review of various potential effects of the proposed turbines, such as shadow-flicker, noise and a simulation of the likely visual impact. Shadow-flicker from the proposed turbines has

the potential to affect an estimated 94 residences in total, though 75 of them would experience this effect for nine hours or less per year. Eighteen residences could experience between 10-19 hours of shadow-flicker per year, and only one residence could be affected slightly over 20 hours per year. Moreover, as this analysis did not account for the screening of houses by trees, shrubs or other structures, these hourly values have been overestimated.

The noise generated and propagated by the proposed turbines would be well below the allowed limit of 10 dBA above ambient noise levels that was promulgated by the Massachusetts Department of Environmental Protection pursuant to 310 C.M.R. 7.10 and thereafter adopted by the Town through Zoning Bylaw Section 34.405. Evidence presented demonstrated that the increase in noise that could be caused by the proposed turbines would not likely to be detectable by the human ear.

An economic analysis presented to the Select Board demonstrated as a 99% certainty that the proposed project would return a profit to the Applicant of \$376,000 in the first year of operation and a total of \$19 million over the proposed 20-year life of the project. The average expected profit, predictable with a 50% certainty, would be \$888,000 in the first year and \$32 million over the life of the project.

III. APPLICABLE PROVISIONS

The following sections of the Zoning By-law are applicable to this application:

SECTION 34 - LAND-BASED COMMERCIAL WIND TURBINE

34.100 PURPOSE AND INTENT

This Bylaw is intended to encourage the appropriate development of wind resources in the Town of Dartmouth in a manner consistent with preserving the environmental quality of the Town. It is designed to establish the public processes needed to identify preferred locations for wind turbines and other devices that convert wind energy to electricity, and create a clear regulatory path that will address specifically wind turbine deployment.

This Bylaw pertains to land-based commercial-size facilities, i.e., turbines with a rated power greater than 10 kilowatts (10 kW). Section 33 of the Zoning Bylaws pertains to residential-size facilities, i.e., turbines with a rated power less than or equal to 10 kilowatts and wind monitoring or meteorological towers. Although this Bylaw covers all wind energy projects in excess of 10 kW, it is likely that projects in the hundreds or even thousands of kilowatts will be contemplated in the coming years. Large commercial wind turbines are now available with ratings of 3,500 kW (3.5 megawatts or 3.5 MW) or higher.

Although Dartmouth has been the site of wind machines in its past, typically those were used for water-pumping for agriculture and in salt works. The types of machines now being contemplated and proposed differ from those historic devices in purpose, size, technology, cost and potential environmental impact. Given the Town's location on the South Coast in a generally favorable wind environment, there needs to be a set of procedures for review and approval of

proposed projects so that the potential of the wind can be realized in an expeditious and responsible manner.

Whereas the existing Town Bylaws and the permitting processes do not specifically prohibit commercial-size wind turbines, the lack of appropriate regulations to govern today's modern, large wind machines creates uncertainty for those wishing to deploy wind turbines. As renewable energy technology develops, particularly wind power, we see a rapidly changing field as interest grows and serious consideration is being given to wind turbines as a means of generating electricity. This growth exacerbates the disconnect between the existing Bylaws in the Town and the current state of the art.

It is therefore the intent of this Bylaw to provide the Town of Dartmouth with a set of rules to understand the land use issues regarding wind power and to enable the Town and wind proponents to plan for the installation of modern wind electrical generating equipment. It is the express purpose of this Bylaw to accommodate distributed generation, commercial-size wind energy conversion facilities in appropriate locations, while minimizing any adverse visual, safety or environmental impacts of the facilities. Furthermore, this Bylaw is intended to provide for a permitting process to be followed by anyone wishing to install a commercial-size wind turbine.

The Bylaw enables the review and approval of proposals for wind energy conversion facilities by the Town's Special Permit Granting Authority within the framework of the Town's existing Bylaws. This Bylaw is intended to be used in conjunction with Massachusetts state regulations and other regulations adopted or enacted by the Town and its departments, boards, and committees, including but not limited to historic district regulations, site plan review, and other local Bylaws designed to encourage appropriate land use, environmental protection, and provision of adequate infrastructure development in Dartmouth.

34.300 DISTRICT REGULATIONS

34.301 Use Regulations

All WECF's shall require a Special Permit from the Special Permit Granting Authority, defined as the Select Board. Subsequently, a building permit shall be required for all WECF's in accordance with the Special Permit and the standards of this Bylaw.

The construction of any commercial-size WECF shall be permitted in all districts of the Town, provided the proposed use complies with all Dimensional and Special Permit Regulations set forth under Sections 34.300 and 34.400 of this Bylaw (unless waived by the SPGA), and the application conforms to the letter and the spirit of the provisions of this Bylaw.

34.302 Site Control

The applicant shall submit documentation of the legal right to install and use the proposed facility at the time of application for a Special Permit. Documentation should also include proof of control over the clear areas, if required under Section 34.303.B. "Control" shall mean the legal authority to prevent the use of any structure within the clear area for a residence

or place of business. If the property is to be leased or subject to an easement, the applicant shall provide a copy of the lease or easement instrument.

34.303 Dimensional Requirements

All WECFs shall comply with the requirements set forth in this section, unless those requirements are explicitly waived by the SPGA as part of the Special Permit review process.

A. Height

The height of any commercial-size WECF shall be constrained by (i) the WECF-setback requirement as described in Section 34.303.B.2, which must accommodate the dimensions of the applicant's property, and (ii) the clear area requirement, as stated in Section 34.303.B.3, if applicable. The SPGA may allow this height to be exceeded as part of the Special Permit process if the project applicant can demonstrate that the additional height is needed and that the additional benefits of the higher tower outweigh any increased adverse impacts. However, in no case shall the tower height of the WECF exceed 330 ft (100 m). Monopole towers, as opposed to lattice-type structures, are the preferred type of support for commercial-size HAWT wind machines.

B. WECF-Setback and Clear Area

1. Each WECF and its associated equipment shall comply with the building setback provisions of the zoning district in which the facility is located.
2. In order to ensure public safety and to protect the interests of neighboring property owners, a setback shall be required from the nearest property line to the center of the base of the tower equal to two (2) times the hub height of the WECF. This is the WECF-setback requirement.
3. In the case of a WECF intended to supply electricity to a commercial, business or institutional facility, the applicant shall be required to maintain a clear area free of all structures containing residences or places of business as determined by the Special Permit Granting Authority. The clear area shall comprise the area of a circle centered on the center of the tower and having a radius equal to the total height of the WECF. This is the clear area requirement. The SPGA may reduce the clear area requirement at its discretion, based on site-specific considerations, if the project is otherwise consistent with the Special Permit Granting Regulations.

34.400 SPECIAL PERMIT GRANTING REGULATIONS

The SPGA shall only grant a Special Permit for a commercial WECF if it finds that the proposal complies with the provisions of this bylaw or has explicitly been granted waivers from those provisions. Furthermore, the SPGA may impose additional conditions, as appropriate, to promote the general purposes and intent of this Bylaw and the Zoning Bylaws.

34.401 General

Proposed WECFs shall be consistent with all applicable Town, state and federal requirements, including, but not limited to, all applicable electrical, construction, noise, safety, environmental and communications requirements. The provisions of this bylaw are intended to insure that all proposed WECFs shall not be detrimental to adjacent land uses, and shall not pose a hazard to the general health, safety or welfare of the community.

34.402 Visual Impact

The applicant shall minimize any impact on the visual character of surrounding neighborhoods and the community by painting the WECF a non-reflective color that blends with the surroundings.

34.403 Equipment Shelters

All equipment necessary for monitoring and operation of the WECF should be secured within the wind turbine tower or base. If this is infeasible, ancillary equipment may be located outside the tower or base, provided such equipment is either contained within an underground vault, enclosed within a separate structure, or hidden behind a year-round landscape or vegetated buffer.

34.404 Lighting and Signage

Unless required by the Federal Aviation Administration (FAA), wind turbines shall not be lighted on a continuous basis. Lighting of equipment, structures, and any other facilities on site (except lighting required by the FAA) shall be shielded from abutting properties. The WECF shall be free of all company logos, advertising, and similar promotional markings. Signs on the facility shall be limited to those needed to warn of any danger; and educational signs providing information on the technology. All signs shall comply with the requirements of the Town's sign regulations.

34.405 Noise

The WECF shall conform to Massachusetts noise regulation 310 CMR 7.10. This Bylaw incorporates the Noise Level Policy established by the Massachusetts Department of Environmental Protection for implementing this regulation. The policy specifies that the ambient sound level, measured at the property line of the facility or at the nearest inhabited buildings, shall not be increased by more than 10 decibels weighted for the "A" scale or 10 dB(A) due to the sound from the facility during its operating hours.

34.406 Wetlands

WECFs shall be sited in a manner consistent with all applicable local and state wetlands regulations. Wetland buffer areas may be used for the purposes of providing a clear area, if applicable.

34.407 Land Clearing/Open Space/Rare Species

WECFs shall be designed to minimize land clearing and fragmentation of open space areas and shall avoid permanently protected open space when feasible. Wind turbines should be sited to make use of previously developed areas wherever possible. WECFs shall also be sited in a manner that does not have significant negative impacts on rare species in the vicinity (including but not limited to avian species, bats, etc.).

34.408 Stormwater

Stormwater run-off and erosion control shall be managed in a manner consistent with all applicable state and local regulations.

34.409 Shadowing/Flicker

WECFs shall be sited in a manner that does not result in significant shadowing or flicker impacts. The proponent has the burden of demonstrating that this effect will not have significant adverse impact through the use of computer modeling and simulation of the seasonal variations of the shadows and flicker effects.

34.410 Safety Standards

No hazardous materials or waste shall be discharged on the site of any WECF. If any hazardous materials or wastes are to be used on site, the Special Permit shall incorporate provisions for full containment of such materials or waste. An enclosed containment area, designed to contain at least 110 percent of the volume of the hazardous materials or waste stored or used on the site may be required to meet this requirement. The WECF shall also be designed to prevent unauthorized access (for example, by construction of a fenced enclosure or locked access, anti-climbing provisions, etc.).

34.411 Use by Telecommunications Carriers

WECFs having a rated power of at least 250 kilowatts and a hub height of at least 165 feet (50 meters) may be used as hosts for telecommunications antennas, subject to applicable regulations governing such uses, and subject to the following requirements:

- A. All ground-mounted telecommunications equipment shall be located in either a secured shelter, within the wind turbine tower or otherwise hidden from view year-round either through effective landscaping or existing natural vegetated buffers;
- B. Antennas shall be flush-mounted to be in keeping with the design of the wind turbine tower; and
- C. All cabling associated with the wireless facilities and equipment shall be secured within the tower structure or enclosed within a conduit painted to match the turbine mount.

34.412 Underground Utilities

All electrical connections from the WECF, including any associated substations, to either the point of use for the electricity or to the grid shall be made via underground conduits.

IV. FINDINGS

Based on the documents incorporated into the record and the testimony provided by the Applicant and its representatives and consultants and by others who attended the hearings, the Select Board makes the following findings:

1. The proposed Wind Energy Conversion Facilities (“WECFs”) constitute a development of wind resources in a manner consistent with preserving the environmental quality of the Town.
2. The proposed WECFs accommodate distributed generation, commercial-size WECFs while minimizing any adverse, visual, safety or environmental impacts.
3. The Applicant submitted documentation of the legal right to install and use of the proposed facility and provided proof of control over the clear areas.
4. The WECFs comply with the height setback, and Clear Area standards set forth in Section 34.303.
5. The proposed WECFs are not detrimental to the adjacent land uses and do not pose a hazard to the general health, safety or welfare of the community.
6. The Application has minimized the impact of the visual character of the surrounding neighborhoods and the community by providing that the WECFs shall be a non-reflective color that blends with the surroundings.
7. All equipment necessary for monitoring and operating the WECFs are to be secured within the wind turbine tower or base.

8. The wind turbines will not be lighted on a continuous basis except as required by the Federal Aviation Administration ("FAA").
9. Lighting of equipment structures and any other facilities on site (except that lighting required by the FAA) will be shielded from abutting properties.
10. The WECFs will be free of all company logos, advertising and similar promotional markings.
11. Signs on the facilities will be limited to those needed to warn of any dangers and to educational signs providing information on the technology.
12. All signs will comply with the requirements of the Town's sign regulations.
13. The proposed WECFs conform to the Massachusetts noise regulation 310 CMR 7.10 and the Noise Level Policy established by the Massachusetts Department of Environmental Protection, specifically, that the ambient sound level, measured at the property line of the facility or at the nearest inhabited building, will not be increased by more than 10 decibels due to the sound from the facility during its operating hours.
14. The WECFs are to be sited in a manner consistent with all applicable local and state wetlands regulations as set forth in the condition to be stated below.
15. The WECFs are designed to minimize land clearing and fragmentation of open space areas and avoid permanently protected open space.
16. The WECFs are sited in a manner that does not have significant negative impacts on rare species in the vicinity.
17. The WECFs are sited to make use of previously developed areas, and, it is not possible to site the WECFs to make use of previously developed areas.
18. The storm water run-off and erosion control is to be managed in a manner consistent with all applicable state and local regulations.
19. The WECFs are sited in a manner that does not result in significant shadowing or flicker impacts; and the proponent has satisfied the burden of demonstrating that any shadowing or flicker effect will not have significant or adverse impact and that this was demonstrated through the use of computer modeling and simulation of the seasonal variations of the shadows and flicker effects.
20. It has been demonstrated by the Applicant that no hazardous materials or waste shall be discharged on the site and the WECFs are designed to prevent unauthorized access.

21. It has been demonstrated that all electrical connections from the WECF, including any associated substations, to the grid shall be made via underground conduits.

V. DECISION

Based upon these findings, the Select Board grants the requested Special Permit in accordance with the Applicant's application and materials submitted in association herewith, and subject to the following conditions:

1. The WECFs shall be sited in a manner consistent with all local and state wetlands regulations and this grant of special permit is specifically conditioned upon all necessary approvals by the Conservation Commission and the Department of Environmental Protection.
2. An enclosed containment area shall be designed for full containment of at least 110 percent of the volume of the hydraulic fluid.
3. The WECFs shall each have a fire suppression system in its nacelle with specifications to be approved by the Select Board by a majority vote.
4. This grant of Special Permit is conditioned upon all necessary approvals by the Federal Aviation Administration and the Massachusetts Aeronautics Commission. If the Federal Aviation Administration and/or the Massachusetts Aeronautics Commission approve WECFs with tower heights less than 100 meters, then this grant of Special Permit shall apply to WECFs with the maximum tower heights approved by the Federal Aviation Administration and the Massachusetts Aeronautics Commission
5. Any and all Requests for Proposals issued for the construction of the WECF shall include, and the WECFs shall comply with, the requirements that:
 - a. All equipment necessary for monitoring and operating the WECFs are to be secured within the wind turbine tower or base;
 - b. The wind turbines will not be lighted on a continuous basis except as required by the Federal Aviation Administration ("FAA");
 - c. Lighting of equipment structures and any other facilities on site (except that lighting required by the FAA) will be shielded from abutting properties;
 - d. The WECFs will be free of all company logos, advertising and similar promotional markings;
 - e. Signs on the facilities will be limited to those needed to warn of any dangers and to educational signs providing information on the technology; and

- f. All signs will comply with the requirements of the Town's sign regulations.
6. The Town shall maintain an escrow account to cover costs, including those for repair and/or removal of the WECFs, in amount of 10 percent of the Town's net proceeds until the account reaches \$500,000.00. Thereafter the account shall be retained at \$500,000.00, adjusted for inflation. This condition is specifically conditioned upon the Department of Revenue approving such an escrow account. If the Department of Revenue does not approve such an account, then this condition shall be rendered inapplicable.
 7. The Alternative Energy Committee shall provide the Select Board with options for liability insurance for the WECFs prior to the commencement of construction. The Select Board will take up the issue of insurance coverage within ninety-days after submission of the options and shall decide by a majority vote which of the options, if any to purchase. The issue of insurance shall be addressed annually by the Select Board.
 8. The Select Board, by a majority vote, shall adopt an Emergency Response Plan to address procedures and responsibilities, including training requirements, for construction activities, routine turbine maintenance, and contingencies for response to a catastrophic turbine failure or other emergency.
 9. The WECFs shall each contain a Safety Descent Device which allows workers to propel down the exterior of the tower as an emergency back-up descent procedure to the standard interior descent procedure.
 10. A procedure shall be adopted as follows to address medical conditions allegedly caused by the flicker effect of a WECF or WECFs to a resident of the Town of Dartmouth, Massachusetts ("Town") whose real property is within the area of flicker effect of the WECF(s):
 - A. The resident claiming a significant flicker effect-related medical issue ("Applicant") must present an application to the Executive Administrator of the Town consisting of documentation of ownership of a parcel located within the area of flicker effect of a WECF or WECFs, and affirmative medical evidence in the form of a medical report from a treating physician ("Applicant's physician") that:
 - i. Describes the medical condition or conditions at issue; and
 - ii. Attributes a direct causal relationship between that condition or conditions and the flicker effect;
 - B. The Executive Administrator shall have ninety (90) days to review the application and thereafter notify the Applicant of the Town's decision to either accept or dispute the application, said response to be delivered in hand or by first class or

certified mail. Failure to provide a response within the allotted time limit shall constitute acceptance of the application by implication. The Town shall act upon an accepted application in the manner prescribed in Section E.

- C. If the Executive Administrator notifies the Applicant that the Town is disputing the application, the Town shall conduct its own medical evaluation of the Applicant using a physician chosen by the Executive Administrator for that purpose ("Town's physician"). Failure by the Applicant to accede to this evaluation shall constitute a voluntary withdrawal of the application.
- D. If the Town's physician agrees with the conclusion of the medical report contained in the application, the application shall be deemed accepted by the Town, and the Town shall act upon that application in the manner prescribed in Section E. If the Town's physician disagrees with the conclusions of the medical report contained in the application, the Applicant's physician and the Town's physician shall be required to agree upon a third physician to conduct a medical evaluation of the Applicant, the cost for which shall be born equally by the Applicant and the Town. If the third physician agrees with the medical assertions of the application, then the Town must accept the application and act upon it as provided in Section E. If the third physician agrees with the medical conclusions of the Town's physician, then the Executive Administrator must deny the application.
- E. If the Executive Administrator accepts the application, or if the Town, after the conclusion of the procedures promulgated in Sections A through D, is required to do so, then the Town shall take all necessary actions to eliminate the flicker effect upon the real property at issue in the application. At the option of the Executive Administrator, the Town may undertake this obligation by:
 - i. Placing improvements, at no financial cost to the Applicant, upon the real property at issue, including, but not limited to, adding shades or landscaping barriers;
 - ii. Taking, at no financial cost to the Applicant, any other non-medically related mitigation of the flicker effect upon the real property at issue; or
 - iii. Programming the WECF(s) at issue to shut down during the periods in which the flicker effect at issue is created.

Provided that the Applicant's failure to cooperate in any action taken by the Town pursuant to Subsections 1 or 2 shall constitute a voluntary withdrawal of the application. Provided further that if the Applicant affirmatively demonstrates, using the multi-step medical evaluation procedures found in Sections A through D, that the steps taken by the Town pursuant Subsections 1 and 2 are insufficient to eliminate the medical issues created by the flicker effect, then the Town shall be required to act under Subsection 3.

- F. Whenever the Town has mitigated the flicker effect through action taken pursuant to Subsection E(3) the Executive Administrator may, but is not required to, revisit the continued viability of the application once every two years using the procedures listed in Sections C and D. Both the continued existence of the relevant medical issue(s) and the continued causal relationship to the flicker effect may be reviewed in this process. Should the results of this review contravene the original basis for acting according to Subsection E(3), then the programmed shut downs of the WECF(s) for the Applicant shall be discontinued.
11. Each WECF shall contain an automatic ice detection system.
12. The Alternative Energy Committee shall present to the Select Board, and the Select Board, by a majority vote, shall adopt a procedure for dealing with ice on the blades of the turbines.
13. The Town shall maintain an operating and maintenance contract to perform the manufacturers recommended maintenance regime and perform corrective maintenance as needed during the operating life of the WECFs.

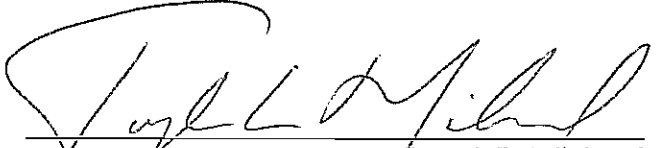
VI. ORDER

The Select Board at a public meeting on January 4, 2010 unanimously voted to grant the requested Special Permit, and each Select Board member represents that he or she attended the public hearings and heard all relevant testimony. This decision is to be enforced by the Town Building Commissioner in his capacity as Zoning Enforcement Officer. The date of this written decision is January 6, 2010.

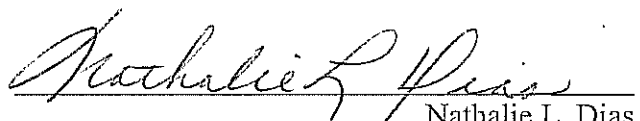
VII. NOTICE OF LAPSE

This Special Permit shall lapse within two years, which shall not include such time required to pursue or await the determination of an appeal referred to in section seventeen of M.G.L. c. 40A from the grant of this Special Permit, if substantial use thereof has not commenced sooner except for good cause or in the case of a permit for construction, has not begun by such date, except for good cause.

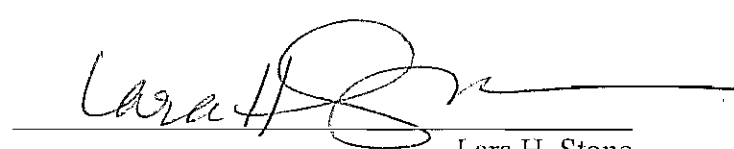
SELECT BOARD, TOWN OF DARTMOUTH

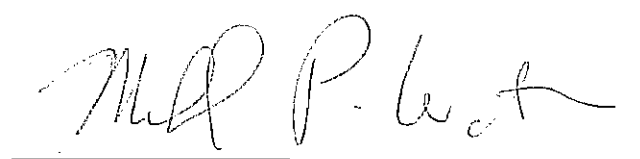


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