

**Planning Board  
Minutes of May 6, 2011  
Bourne Town Hall**

**24 Perry Avenue, Buzzards Bay MA 02532**

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**Planning Board:** Christopher Farrell, Chairman; Daniel Doucette, Vice Chairman; Louis Gallo; Peter Meier; Douglas Shearer; Don DuBerger; John Howarth; Clement DeFavero; Dudley Jensen

**Staff:** Coreen Moore, Town Planner, Dody Adkins-Perry, Engineering Tech.

**Guests:** Thomas Curtis, Jim Mulvey, Dianne Tillotson, Jim Potter, Christine Riha, Jamie Sloniecki, Paul Gately, Christopher Senie, Jayne Suttor, Peg Burke, Tom Guerino, Jerry Ingersoll, Dave Peterson, John Ford, Robert Troy, Richard Elrick, H Carr, and other members of the public

**List of documents:**

- Atty. Donna Tilson submitted document on Acoustic engineer study raised issue with background of 35 dB level is above the night time ambient noise level in Bourne – 1 page

**Meeting called to order**

1:02 pm.

**Public hearing for a Change to the Zoning Bylaw: Sec: 3460 Wind Energy Conversion System (WECS). Proposed changes by private petition.**

Atty. Christopher Senie representing 29 individuals for private proposal. Amendments reviewed are suggested at STM of 5/9/11.

Slide presentation. Bog Wind Wareham, MA proposed turbine. Newer class of turbines are 492 feet high and each would require to be on 1.9 acres of land. Photos represent size of this class of turbines. Chart compares Cape area wind turbines (Woods Hole, Hull, MMA, Falmouth and new class of turbines).

**Main changes:**

- Safety setback. 1.5 x hub height + rotor diameter
- Acoustical setback. Proposed bylaw provision Section 8.1 – new language. CCC minimum performance standards only start at 660 kw size (MMA turbine). Support for said setback reviewed: Jackson, ME; Phillips, ME; Centerville Township, IL; Converse County, WY; State of Minnesota; Falmouth, MA. Additional support reviewed: Wareham, MA. Bog Wind Power Cooperative Project picture reviewed. Recommended setbacks given by various experts in the UK, US - NY

Present acoustic bylaws refers to 10dB(A) above ambient levels.

Amendments propose:

- 6 dB(A) – 5dB penalty when amplitude modulated noise is present.
- Maximum of 35 dB(A) Noise from turbine alone during 7:00 pm – 7:00 am
- Limits on lower frequency noise
- Maximum peak to trough separation of 4 dB

Slide of Aerodynamic amplitude modulation (AAM). Amplitude modulation briefly reviewed. Chart of Wind Speed Shear. Cranberry Bog, Cape Cod, MA showing the shear extremes, or wind shear events.

- No pure tone (DEP Policy dated 2/1/90) – safeguard against a whining sound/ tone

Conclusion by Noise Control Engineering on Acoustical Statements. Slides of Acoustical Standards. Shadow flicker to zero (0) hours per year.

Bourne Town Planner's Map reviewed on potential thirty (30) locations that meet Fall Zone Requirements in existing bylaw. Homes impacted on thumping noise if no change to the bylaw. Slides reviewed: Proposal with distances to homes (760 ft; 800 ft; 870 ft; 980 ft; 1,250 ft) which show being too close; Turbines near Desiree Drive and the Bournedale elementary school pictured; GE 2.5 mw turbine shows no houses or residential areas in the background.

## Regional Policy Plan

Energy – natural and social environment. Slides reviewed: Community-scale size turbine pictured; Conceptual picture of 5 turbines; A sensible plan for Green Energy in MA; Erecting industrial wind turbines in Wareham does not make practical sense and better options exist

In conclusion, better options exist for being a Green Community for Bourne. Renewable Energy is a goal, but bringing industrial size turbines to neighborhoods is not necessarily a sustainable and renewable energy plan.

## Discussion

Distance between school and turbine is 1,000 feet.

School buses passing within 500 feet comment.

Mr. Jerry Ingersoll commented on development which is not built at this time.

Coreen Moore asked if a community scaled turbine analysis was done and where they could fit in the town under this new bylaw. There are six (6) turbines with New Generation Wind, but no analysis was done.

Planning Board comment if the 10x apply to residential size. Yes, as it is a flexible setback.

Mr. Ingersoll asked to describe performance standard regarding setbacks. Ms. Moore said that the Cape Cod Commission (CCC) referred to the Assembly of Delegates to the new set of performance standards which the Assembly has approved. When the CCC jurisdiction is questioned, this new standard would state that if a turbine is bigger than the one at Mass. Maritime Academy (MMA), it will be set back to residential 10x rotor, unless an acoustic study could show not having a negative setback.

Planning Board comment about the distance from dorm rooms to the MMA. Mr. Senie replied that although environmentally a well chosen site, the proposed bylaw would require a 550 ft from tower base to residential setback. Also raised was how many complaints and/or lawsuits from the parents of the students were documented. Information was not known. The proposed acoustical setback would not allow it as it is too close. Location would still need to be set back 1,540 ft.

Developer Mr. Glenn Berkovic said that the MMA has no complaints from either students or the nearest neighbor. He suggested the Town look at the Town of Hull, who built Hull 2 which is much closer to the size discussed. The nearest house is 832 ft. away with no complaints. He suggests the Planning Board inquire about a 2 or 3x for their turbine but why are there so many complaints in Falmouth. He believes citizens of Bourne are using the Falmouth incidents to make their decision.

Planning Board asked if there are any hazards associated with these turbines. Mr. Senie said there is tremendous movement which is why there are the proposed setbacks. Mr. Berkovic said that the proximity in relation to the Hull airport is 2 to 3 miles. Mass Board spent millions of dollars on new windows and insulation for sound barriers.

Selectmen Sloniecki said that the setback of 10x rotor diameter of 3,280 ft for turbine acoustical is too tall.

Kay Sturgeon has been to the turbines in Hull and spoke with abutters. They do have complaints. Also, with regard to the MMA, students reported classes on that side of the turbine is annoying.

Lydia Mantra said people are uncomfortable with using parts of their home due to shadow flicker in Bourne and there are complaints of the MMA turbine.

Nancy Rocraplant asked how does Bourne know which turbines are appropriate and how will they be controlled. Mr. Berkovic said that in Falmouth the turbines weren't analyzed which could not happen in Bourne.

Ray Bourke looking for commonality data. Scare tactics are used and the real concern should be of density or population. He would like to see the facts stated.

Mitchel McLean commented on how the proposed bylaw amendments have been consistently changed. Mr. Berkovic said the Town needs more renewable energy and areas that wind should happen where it doesn't affect quality of life. He would like to find common ground between proponents and opponents.

Suzanne Hebb inquired about the 7 turbines proposed in Bourne versus the ones in Falmouth. Mr. Berkovic doesn't believe Bourne should make it impossible to have turbines. Ms. Hebb also raised issue on updating technology.

John Carlton said study of noise consultant was for a 660 kw turbine. Mismatch happened through a process under litigation of a larger turbine. He said a Noise Study should be done for the particular turbines to be installed.

Kris Kapsambelis said the international standard for wind turbine noise old and new are the same. He says concerns should be about which ones would make noise in the future.

Planning Board comment about if noise levels can be maintained at the setbacks required. Mr. Senie says the requirements are there to mitigate operation. MMA does meet or come close to the acoustical standards at 1,500 ft.

Citizen commented on how the MMA turbine did not come under local review, as it was State owned.

Chris Landers said the MMA buildings are made of different materials than residential homes. Under current bylaws proposed, the current turbine would not fit at MMA.

Mr. Peterson would like to see studies and conditions on how turbines affect the Town. He asks that there be a study of impacts before the Planning Board takes a position. Mr. Senie said amplitude modulated noise is caused by the blades turning. New technologies can mitigate sound, but you lose output. The current bylaw needs to be revised as the only protection for residents is height and falling over bylaws. The goal is to balance property rights with the desire to increase renewable energy.

Kay Sturgeon said the MMA turbine engineers are in the office and can control the turbine. Residents will not have that opportunity for proposed turbines.

Mr. Peterson agrees that the bylaws should protect property owners on both sides of the property.

Selectmen Sloniecki doesn't believe the bylaw would not have passed at ATM 2010 if the public knew industrial turbines would be included.

Don McPhee said the Fall Zone was the immediate concern of the bylaws and said bylaw was not including industrial turbines.

Resident said that the CCC standard is 10x rotor diameter and based on physics, he came up with 2x rotor diameters. Mr. Senie said the threshold is 10x rotor diameter.

Richard Elrick, Energy Coordinator, asked about fatalities or serious injuries documented from turbine fire and/or blades falling. Mr. Senie said his experience is the sound of the turbines and does not know the answer to that question.

### **Town Planner Presentation**

Coreen Moore stated that most of her concerns had been addressed, but that the Article has flaws. Her outstanding issues to point out to the Board.

Ms. Moore reviewed her actual memo to TA Guerino and to the Planning Board which is available for view in her office. In the proposed bylaw issues:

- Section 3463 (f) about the title of that section. Referred to only commercial sized turbines, but within the text discussed neighborhoods. Mr. Senie will leave only as the setback in this section.
  - In Figure A in the back of proposed bylaw references overall height plus 10 feet. Cited in graphic but not in the bylaw.
- Section 3463 (f) formula for safety zone acoustic setbacks. Formula written can be interpreted in two ways. Ms. Moore demonstrated by giving two examples of misinterpreting calculation. She requests minor revision clarifying what intent is.
- Section 3465 words deleted with regard to flight path and Figure C has been deleted. Even though deleted, does not give reader where to find. Flight path is from where the Coast Guard goes from Mass Military Reservation (MMR) searches.
- Section 3465 - 8.10 – Mr. Senie resolved issue. MGL section of taking fees or taking monies and putting into a municipal account for pre-permitting or post permitting. Mr. Senie agreed to take the letter off and leave as 53 and cited whole MGL.
- Section 3465 - 8.12 - Statement about wherever possible information about turbines is on the internet. If it is the intent to have information available, state where to find it.
- Section 36 - 8.15 wording used about occupied building.
- Section 3545 – map no where cited.
- Graphics at the rear of bylaw Figure A uses basic Fall Zone. Basic Fall Zone is an old term. Also in Figure B2, A + 10 feet is not referenced in text. Figure C is referenced and does not show where to find. Figure D is no longer used in text. Also setback is shown as going to the property line, which is indicated wrong in graphic.
- #9 – resolved. ANSI 12.18 regulation should be supplied and cited where to find a copy. Town would need to get information and not sure how to keep up with document.

Actual document presented as existing bylaw with corrections by the petitioner. Majority of wording still remains. Existing wording in black will be in existing document. Red underlined

are the proposed language. Darkened lines is the Fall and Ice Shed Zone which is the Safety Zone setback which entails any occupied structure. Also, public from private roads are cited. Any area used publically should be set back. Ms. Moore doesn't believe this was provided, but demonstrates what has been added and deleted in the proposed bylaw.

Mr. Senie is proposing three (3) amendments and Ms. Moore agrees and believes there needs to be bylaw corrections and it is the discretion of the Town Moderator to do said changes at STM of 5/9/11.

#### Analysis in citing potentials

Map showed by Mr. Seni. Red dots are turbines located throughout the town are the same size of the New Generation size turbines. Ms. Moore wants to make clear that these are sites that can accommodate at least one size turbine and where can be located throughout the Town. Most are publically owned land (Canalside portion, Upper Cape Tech (UCT), water district, water department land, and Town forest). Ms. Moore did not locate turbines on any protected land. There may be parcels that look like they can be accommodated, but this is not the case. Industrial size turbines in the current bylaw could be located, but not as a commercial turbine. Commercial turbines are classified as zones B3 and GD and only exist in two areas where town has no jurisdiction.

Residential map under the proposed bylaw viewed. Sample used under bylaw not changed is that residential turbine is a 10 kw. 22 foot rotor diameter with an 80 hub height. Residential turbine with 22 foot rotor diameter would have a 220 feet radius for acoustical setback. The total number is 37 sites throughout the town. 37 - 10 kw turbines located throughout town.

Community scale. Range labeled as a community scale not sure of. Used the smallest one designated as community and also quoted by Mr. Senie. Used 100 kw turbine as a community scale. Acoustical setback of 65 feet rotor diameter with a 110 hub height. Acoustical setback of 650 foot radius. Safety zone setback observed for occupied structures, public areas and roads. 13 sites for community scale with sites (water department, utility site, New Generation Wind, 3 parcels combined and used together to use for one (1) turbine, school site, Canalside, golf course, Basset Island, Scraggy Neck, landfill). Also there is no provision in new bylaw that gives the Planning Board to waive ability for private land. There is not much public land to fit community scale turbines.

Industrial size. Used smallest industrial considered only 500 kw. There are three (3) possible sites in Bourne (Canalside, landfill, possibly New Generation Wind). 500 kw can serve 100 homes. Community size can serve 15 homes, which cannot be done according to the setbacks.

#### Discussion

Citizen said that the proposed language would not prohibit all turbines in the town of Bourne.

Mr. Ingersoll said that if you are interested in long-term energy solutions for Bourne, think of people not only putting a turbine on their property, but also think collectively about people who will never afford the ability. There is overall public and personal need.

Mr. Conron asked if turbines need replaced and bylaws tightened, does the turbine fit under the old regulations or the new regulations. Chris Farrell said all turbines are special permit and allows Planning Board room on whether they will grant. If a turbine permitted under regulation existed then destroyed, it would grandfathered as any used covered by bylaw.

Mr. Ingersoll asked if about repowering after a certain years. Ms. Moore said a residential turbine would be grandfathered. If it is a commercial turbine, it does not have benefit of grandfathering and would have to come under the newer bylaw. If it was knocked down, it could be replaced. If decide to make larger, improve, applicant would need to go back to the Planning Board for decision.

Planning Board member does not want to hear that the Board does not want to promote wind energy. The issue is the scale. The Planning Board should deal with facts.

Mr. Ingersoll said fact is the energy issue for the future. No one has the one answer.

Planning Board member requested where areas could be for community size turbines. Under existing bylaw, the UCT would not allow and some of the other public property pieces. He doesn't agree with the 10x setback. Residents need to be protected and feels there needs to be common ground. Maps need to be looked at for more public and private sites.

Richard Elrick asked if there any FAA implications or Historic District the three (3) turbines have taken into consideration. Mr. Farrell thanked Mr. Elrick for his comment.

Atty. Troy stated that the STM on 5/9/11 is for the purpose of informing the public. His opinion will allow amendments. The Town Moderator stated that the STM is not a place to be writing the bylaw.

Tom Curtis, EAC member, said the committee studied Town properties for wind turbines and came up with twelve (12) sites. He took the 10x rotor diameter as a prescribing area and if use large turbine, you will need 649 acres. Not one of the 12 sites chosen would survive under the proposed 10x restriction.

Atty. Donna Tilson thinks it is bad policy for the Planning Board to react to one particular project. A year ago the Town adopted a bylaw after the State-modeled bylaw. The only one thing that has changed is the proposed New Generation Wind Project. The bylaw should provide minimum standards, as all wind energy devices are by special permit. Planning Board can tailor conditions about a particular project. She doesn't disagree that there are some things that need to be corrected in the current bylaw, and suggests obtaining further acoustic studies, including a peer study. She requests the Planning Board consider this as not a path to go down at this point. Acoustic engineer study raised issue with background of 35 dB level is above the night time ambient noise level in Bourne; and that the relationship between the standards incorporated into a bylaw and what the impact on a particular bylaw homework has not been done.

Elinor Wendal recommends interested parties to read Cape Cod Times and read her view on how to address proposed Article.

Mr. Berkowic recommends the Planning Board to not approve said article as written as it is an attempt to prevent utilized sized turbines in the Town of Bourne. He cited two examples: 10x would be a wonderful start and suggests the CCC got more correct, but allows to go below 10x with certain analysis and wondered why isn't language drafted. He believes analysis is drafted to kill any commercial scale turbines in the Town. He also raised issue of all ambient noise monitoring really means the Town hire an engineer to sit next to the microphone 24 hrs/5 days is not realistic.

Al Bozworth commented that under current bylaw, he agrees with Atty. Tilson that the Town needs to do more research.

Greg O'Brien, consultant, raised reasonable doubt and his personal belief that the Planning Board should come from the best interest of the Town and the Town departments should not listen to private issues. To move forward and allow special interests opens up potential for any situation where other special interests exist.

Judy Conron recommends the Planning Board make a recommendation to move to the STM.

Henry Duca suggested the Planning Board react on the side of caution and believes the proposed bylaw does that.

Shearer MOVED and SECONDED by Howarth to close public hearing. VOTE 8-1 (Meir opposing).

Shearer MOVED and SECONDED by Jensen that the Planning Board recommend further study and that the Planning Board Chairman to make a report reflecting the Planning Board's recommendation at Town Meeting floor. VOTE 8-1 (Meier opposing).

### **Adjournment**

Howarth MOVED and SECONDED by DuBerger to adjourn. Meeting adjourned at 3:46 pm. UNANIMOUS VOTE.

Respectfully submitted, Lisa Groezinger, sec.