



**TOWN OF BOURNE  
BOARD OF HEALTH  
24 Perry Avenue  
Buzzards Bay, MA 02532  
Phone (508) 759-0615 x1  
Fax (508) 759-0679**



Cynthia A. Coffin,  
Health Agent

**MINUTES  
March 9, 2011**

**Members Present: Kathleen Peterson, Chairperson; Stanley Andrews, Vice Chairperson; Galon Barlow, Don Uitti and Carol Tinkham**

**Support Staff:** Cynthia Coffin, Health Agent, Carrie Furtek, Health Inspector and Kathy Burgess, Secretary

**Call to order: Meeting called to order at 7:00 P.M.**

Ms. Peterson stated that there is a sign up sheet for anyone who would like to speak once the agenda item regarding the wind turbines is on. The Board is looking for brief, factual statements that they have not heard before. Everything that has already been presented has been entered into the record and they will be sitting down as a Board in an open meeting in the future discussing what has already been heard and will be heard. Ms. Peterson stated that everyone will have their chance to speak but the meeting will not go on until midnight because there will be many more hearings.

- 1. 62 Old Plymouth Rd.-Continued-Discuss & Possible Vote regarding non-compliance with housing order dated October 29, 2010-** Gail Spencer, tenant, is in the audience. Carrie Furtek, health inspector, stated that she received an email from Ms. Hernandez stating that they were getting a bid to repair the door frame but it has not been repaired yet. The basement window has not been fixed. Ms. Hernandez did not realize the window had not been fixed. Ms. Furtek stated that everything else in the house has been repaired. Ms. Peterson recommended that if the Bank does not have all items fixed by the next meeting that they issue a fine retroactive to October. Mr. Andrews stated that they had said in the past that these issues were supposed to be repaired by now and he would like to issue a fine of \$200.00 per day going back to October 29, 2010. Ms. Coffin stated that under the regulation the highest amount you can issue is \$100.00 for a first violation. **Mr. Andrews stated that he would like to make a motion to issue the fine to \$100.00 per week from the week of October 29, 2011 until present. Mr. Barlow seconded the motion. All in favor and the motion PASSES.** Ms. Coffin

stated that she did not understand why they were fining back until October 29, 2010 because the bank has made some repairs. Mr. Andrews stated that they have not completed them. Ms. Peterson stated that they have fined other people in Town the same way. Mr. Barlow stated that they could come in to appeal it. Ms. Peterson stated that they would continue this until March 23, 2011 and send the bank a letter stating that they want all the repairs done by that time. Ms. Coffin stated that the tenants had made a new complaint the other day about a hole in the roof. Ms. Peterson asked Ms. Spencer to let the Board know if they have to move out at any point so they can be put up in a hotel again.

2. **Wind Turbine Project-General discussion & brief factual statements with regard to health and nuisance effect from the noise generated from wind turbines submitted by the public-**Ms. Peterson called the first name on the sign up sheet which was Diane Tillotson, attorney for New Generation Wind. Ms. Tillotson stated that she would be introducing Dr. Robert McCunney who has a brief presentation. Ms. Tillotson stated that she knows the Board is working diligently to determine what types of standard it should adopt and she would like them to remember they are not adopting the standards in a vacuum and there are many other regulatory agencies and boards at the federal, state, local, and regional level that have similar standards and she would urge the Board to take judicial notice of those standards. There is a state standard that DEP has adopted and they periodically review that standard to make sure that it is still appropriate in the way it is measured. There are also World Health Organization standards that can be reviewed. The Cape Cod Commission is in the process of reviewing new regulations and there is a town zoning bylaw. Ms. Tillotson stated that she would encourage the Board that whatever standards they do adopt should be in sync with whatever the current zoning bylaw is. Ms. Tillotson stated that this Board has regulatory power over things that affect human health and from their perspective it is important that whatever regulations the Board adopts there be some nexus between what it is they are regulating and public health. Ms. Peterson stated that anyone in Town has the right to ask the Board of Health to look into whatever they deem a health hazard or health nuisance and the people in Town have asked the Board to look into the health effects of wind turbines and they are obligated to do this. Ms. Tillotson stated that they do not disagree with the fact that if a wind turbine does go up that there is a need to monitor the impacts of it. They believe the data and science to date support their claim that there are no adverse health effects but they have submitted to the Cape Cod Commission and Town Counsel Brian Wall a complaint and mitigation protocol that would deal swiftly and efficiently and involve the Board of Health in any issues as a result of any turbine project including theirs. Dr. McCunney stated that he was part of a panel that was asked to review the literature that was convened by the American Wind Energy Assoc. and the Canadian Wind Energy Assoc. Dr. McCunney stated that there were seven of them from four countries that looked at the literature and prepared a report. He believes that there is enough information that has been published in journals from which people can get information to make reasonable public policy. There have also been measurements done of various types of wind farms in

countries in Europe and the US that have looked at sound levels and infrasound. Dr. McCunney stated that there is scientific literature that suggests certain noise levels, regardless of the source, can be annoying to certain people. The level of annoyance will vary from person to person. Chronic annoyance is not good for your health and can impair sleep. Dr. McCunney stated that a study published by some Dutch investigators called Pedersan 2007 found that 1 out of 75 people that lived in the vicinity of wind turbines in Holland reported some sort of sleep disturbance. There was an article from Dr. Salt, 2010, that presented the results of his investigations where he exposed guinea pigs to infrasound. The ear of a mammal is similar but not the same as humans. Dr. Salt reported that the inner ear cells may be affected by sub audible infrasound, essentially infrasound that can be measured but not heard which has not been shown to be damaging. Dr. McCunney stated that he believes that what has to be worked out is what levels affect people. The World Health Organization has done some studies on nighttime noise. There are a lot of scientific research that can be leaned on for public policy. Dr. McCunney stated that infrasound has been assessed and measured in the vicinities of wind turbines and are found not to be a problem. Mr. Barlow stated that if infrasound is a non issue why do all these different countries and different people keep looking into it. Dr. McCunney stated that infrasound can be generated by a wind turbine if you stand under it. As you get farther away, particularly where people live, the measurements that have been done have not confirmed an issue with infrasound. Dr. McCunney stated that people may not have looked into the research enough and that may be why the issue keeps coming up. Dr. McCunney stated that distance may not be the right measure when the question is asked about how far homes should be from wind turbines. He feels it is better to look at what the sound levels might be. Ms. Coffin asked what the results were with the nighttime study done by the World Health Organization. Dr. McCunney stated that they are proposing a 40 decibel annual average for nighttime noise level. Ms. Peterson stated that in the literature they have received it says that with 10 different turbines the sound would be equivalent to a quiet bedroom and wanted to know at what distance it would be a quiet bedroom. Dr. McCunney stated that there are a lot of studies out there but most of them are not peer reviewed and are more like field studies. Dr. McCunney again stated that he does not believe that designated setbacks are the appropriate way to evaluate health issues and believes that it should be noise levels. There are models available based on the power output of the turbine will determine what the noise levels will be at certain distances. Ms. Peterson stated that she wondered if annoyance was associated with the visual impact of wind turbines. Dr. McCunney stated that it is his understanding that the turbine rotations can be controlled to control the noise. Dr. McCunney stated that in the Pedersan study they reported that the strongest factors associated with reporting annoyance was the unfavorable attitude towards the visual impact and lack of economic benefit from the wind turbines. Richard Elrick, the Energy Coordinator for Bourne and Barnstable, has worked in the renewable energy field for a decade. Mr. Elrick stated that it has been the policy of the towns, county, and states to promote the development of renewable energy because of their belief that fossil fuels are also dangerous to

your health. Mr. Elrick stated that he asks the Board, as they decide what regulations are appropriate and how to avoid the minimal impacts produced by wind turbines, to consider what the alternatives are. Mr. Elrick stated that there have been no deaths or serious injuries from wind turbines that he is aware of but in the Northeast alone last year there were 4,000 deaths due to the emissions from coal fired generating facilities. Mr. Elrick stated that it is challenging for the Board to determine what is credible from all the information they have received but they should focus on the science and the facts and not on the emotional evidence which can be very difficult. What has happened in Falmouth and the criticism that has resulted there makes it difficult but each project is different and each turbine is different. Mr. Elrick stated that it is important to focus on an acoustic setback standard as opposed to a distance standard when considering regulations. Mr. Elrick stated that establishing an arbitrary distance standard to be safe doesn't achieve the purpose of making sure you are reducing impacts to an individual abutter and if you rely on acoustical standards you are much more likely to be able to make it specific to an actual turbine model in a specific location. Mr. Elrick stated that if we make restrictions and establish standards that are unjustifiably strict we will defeat the Towns efforts to create more renewable energy. Mr. Elrick stated that we need to make the transition from fossil fuel and it will not come without some down side but believes it will be a minor down side compared to the alternative. Ms. Coffin asked where the acoustic standard would be measured. Mr. Elrick answered that traditionally it has been measured at the closest residential abutter or the abutter where there may be people that are likely to be negatively impacted by the noise. DEP is presently looking at refining and rewriting their noise standard. Mr. Elrick stated that they have all used no more than 10 decibels above ambient but perhaps that standard needs to be refined. DEP is trying to fashion a standard that is responsive to the concerns that have been raised but is it overly restrictive. Mr. Barlow asked Mr. Elrick if he was a paid consultant for Bourne and Barnstable. Mr. Elrick stated that he is a part time, grant funded energy coordinator for both towns and that it would be accurate to say he was a paid consultant. Mr. Barlow stated that the higher fireworks are shot in the air the further away they can be heard and wanted to know if Mr. Elrick feels that distances should be further away. Mr. Elrick stated that he is not saying that distance shouldn't be a factor and depending on the size, model and height of the turbine it should be taken into effect but believes a better way to judge the ultimate impact is with a noise standard measured at an abutters residence because if you have a height standard or setback standard it won't be nearly as accurate a standard as an acoustic standard would be for that individual abutter. Mr. Barlow stated that Mr. Elrick is talking about an acoustic standard which, to Mr. Barlow, means that the higher it is the further away you can hear it. Mr. Elrick stated that they should be more focused on what DEP is doing and that to produce a good acoustical standard and noise standard, which is something that can be applicable project by project, turbine by turbine and be more specific than just simple arbitrary distance setback. Hendrick Lueka, Mirasol Drive, asked Mr. Elrick if he agreed that the current town bylaw for wind turbines distance standard for setbacks is inadequate. Mr. Elrick stated that his reading of the town bylaw is that

there is a noise standard which is no more than 10 decibels above ambient and he is talking about a setback for noise concerns and it's primarily a decibel measurement that would be most effective in dealing with the noise created by a turbine. Jerry Ingersoll stated that he would like to remind the Board that there are 15 years cumulative of commercial size turbines operating in MA within 1000-1100 ft of hundreds of people with no complaints and wondered how this was possible if turbines are so dreadful. Mr. Ingersoll stated that they are actually less than 1000 ft to the nearest residence and it does not matter how high they are but how much noise they make and every turbine operating in MA is noisier than turbines now being manufactured. Doug Sheddell stated that he had a response to a question from the last meeting regarding the construction of a new noise module for this new turbine. Ultimately, they will use the international standard which is for establishing the sound level from wind turbine generator. This standard gives them specific methodology for measuring an actual operating wind turbine and they will measure that and distribute it as data. They will start with the sound power level and from that they have prepared a propagation model which accounts for distance and surface roughness, terrain, and elevation. Kurt Trampusch, environmental planner, has brought a power point presentation stating that he spoke before the Board a month ago on general environmental issues of concern. Ms. Peterson asked Mr. Trampusch to make sure that he got a copy of the presentation to the Board of Health office. Mr. Trampusch agreed. Mr. Trampusch stated that he wanted to submit a 17 pg rebuttal from Dr. Nina Pierpont to testimony that Dr. McCunney gave on behalf of Green Mountain Power Corp last November. Mr. Andrews stated that he would like Mr. Trampusch to send that report along with five copies to the Board of Health Office so that it can be stamped in. The report concludes that wind turbine noise can cause annoyance, stress and sleep disturbance which results in adverse physiological and psychological symptoms. Mr. Trampusch stated that he has spent a lot of time talking with people that live near wind installations. Wind turbine noise is a different kind of nuisance and annoyance can lead, over time, to illness. Mr. Trampusch stated that the large projects, with turbines of the scale they are talking about with New Generation Wind, are found in upstate New York. Even in rural communities with extensive setbacks there have been many instances of documented noise and health problems. Mr. Trampusch went on with his presentation. Mr. Andrews stated that this information has been presented at a previous meeting and he would like Mr. Trampusch to only present any new information he might have. Dr. McCunney stated that he would like to make sure that any new information submitted is credible, peer reviewed information. Mr. Trampusch stated that there is some question as to whether the wind industry has done anything other than a literature search regarding the health hazards and that Dr. McCunney is aware of screening for previously unrecognized disease. Mr. Trampusch is concerned that there are not any case studies done with wind turbines by the wind industry. Mr. Trampusch stated that no one is hearing about problems in communities because nobody has been looking and that is why Falmouth is so important. Mr. Trampusch stated that Dr. Sara Laurie, Australia, has put together assessments as to why wind and wind noise has created a

problem. She has found, as a physician, with the wind turbine community in Australia that there has been severe chronic sleep deprivation, horrible turbine noise, waking up anxious and in a panic state for no good reason, irritability, depression, high blood pressure, heart palpitations and increased nocturnal urination and night terrors in children. These are all field reports and not part of the peer reviewed literature yet. The medical evidence clearly links exposure to turbines with the symptoms being described but not all adjacent residents are affected. Mr. Tramposch stated more study is needed because of the reports of noise, vibration and flicker problems from people in the communities here near the MMA, the turbine on OTIS AFB and in Hull. Mr. Tramposch stated that most of the work done in the last 18 months has begun to indicate that you don't have to audibly hear noise for it to affect you. Dr. Nissenbaum did do a controlled epidemiological study at Mars Hill, Maine and found that adults living within 1100 meters suffer a high incidence of chronic sleep disturbance, headaches and other complaints. Part of the problem with determining setbacks is that acceptable wind turbine noises vary around the world but what they are seeing everywhere is a reassessment of what is considered acceptable noise exposure from turbines. Oregon is now doing a DPH statewide health impact assessment of wind health issues due out the end of this month which may help the Boards efforts since it is looking specifically at health impacts. A recent article in Audiology Today suggested setbacks that would be health based rather than acoustic based. Mr. Tramposch stated that the burden should be on the proponent of the project and the state guideline is extremely inadequate for this purpose and doesn't begin to help people. The Town of Brimfield has received news this week that First Wind has withdrawn their project of 8-10 turbines from that community and Mr. Tramposch has been working with their Board of Health on noise regulations and would be happy to share any of his information with this Board. Mr. Barlow stated that there was some new information with Mr. Tramposch's presentation and he wanted to make sure that he got copies to the Board. Mr. Tramposch agreed. Mr. Andrews stated that he would have liked to hear more about his working with the Brimfield Board of Health on regulations rather than hearing the same thing that the Board has already heard. Dr. McCunney stated that Mr. Tramposch's presentation had some incorrect information in it. Dr. McCunney stated that there has been a peer reviewed paper by O'Neal done in the U.S. in April 2010. There was some disagreement between Mr. Tramposch and Dr. McCunney regarding case studies that have been done. Mr. Tramposch feels that there should be more studies done by talking with victims of noise problems in various communities rather than just reviewing the literature. Mark Hebb (audience) stated that it is a travesty that they can find the subsidy to take taxpayers money and fund the turbines and not subsidize a health study on the issue and that should be done before the turbines are built in people's backyards. Hendrick Lueka (audience) stated that Dr. McCunney went on the record at the Selectmen's hearing in October as well as the Cape Cod Commission hearing as saying there are no adverse health affects and asked if now Dr. McCunney seems to be saying there are adverse health effects if it is too loud. Dr. McCunney stated that there still remains lack of published articles and peer reviewed literature

demonstrating causal effects between wind turbines and health effects. Dr. McCunney stated that he has acknowledged that there are some studies that show annoyance among people living in the vicinity of wind turbines but from a theoretical basis certainly annoyance can lead to stress and stress may affect sleep but there are no studies that report that hypothesis in the vicinity of wind turbines. Ms. Peterson asked Dr. McCunney if he believed that annoyance equals nuisance. Dr. McCunney stated that annoyance was a difficult term to categorize and validate but annoyance can be nuisance. Dr. McCunney stated that it is difficult to define because it means different things to different people. Ms. Tillotson stated that annoyance is personally experienced where as nuisance is more what a reasonable person with an objective standard would experience. Lydia Mantor, Clarissa Joseph Rd, asked what caused the uncomfortable body pressure when you are in the vicinity of a turbine. Ms. Mantor stated that she was near the wind turbine in Falmouth and she could feel the air pressure and asked how far away you need to be to stop that body pressure. Dr. McCunney stated that the operative issue goes to the acoustics and not the distance but the cause of that feeling has been attributed to the swoosh sound of the blades turning. Dr. McCunney stated if you control the noise levels the health affects should be prevented. John Sutton (audience) asked how you can control the noise levels once the turbines are installed. Mr. Ingersoll stated that the manufactures of wind turbines now offer computer controlled partial or total curtailment of a turbines rotation. They can slow the turbine down or shut it off completely if there is noise that exceeds the noise levels. They can do the same thing with shadow flicker which is much easier to control. Due to wind direction you can program individual turbines within a group of turbines to be sensitive to identify wind conditions. Jamie Sloniecki, Bourne Selectman, stated that he wanted to disclose that he was friends with Mark Hebb. Mr. Sloniecki stated that he has been doing his due diligence online and at forums regarding the wind turbines and when the Board of Selectmen took their vote to oppose the project they did not do it on a whim and they have done a lot of research just as he knows the Board of Health will do. Mr. Sloniecki stated that no one has the influence that the Board of Health does and it is up to them to do their research and come back with a decision. Maybe the Town needs its own special guidelines. Mr. Sloniecki believes that the State guidelines go back to the 60's and are extremely outdated and hopes that the Board does not rely on those guidelines when they render their decision. Mr. Sloniecki stated that the Board may need to write totally new guidelines whether it's regarding distance or noise. Mr. Sloniecki stated that he believes that a 492 ft. turbine is going to send out the noise further than the one that is at Mass Maritime. Mr. Sloniecki stated that one of the things that have been talked about is the noise infrasound; is it there or is it not? Protracted noise has been admitted to be a problem. Peer reviews were mentioned to be out for research but it was stated that Dr. McCunney did not personally ask questions or call on anyone. Mr. Sloniecki stated that he is opposed to the turbines in any residential area and urged the Board to do their research and that whatever happens is permanent and is not something that is only going to affect this project it could affect projects in anybody's backyard. Mr. McPhee, Pocasset, stated that he knows people on

Blacksmith Shop Rd. in Falmouth and they are suffering because of the wind turbines there and urged the Board to come up with some kind of a bylaw which will make the turbines disappear to some other place. Ms. Peterson stated that they will close the hearing on the wind turbine project for this evening. The next available date is April 13, 2011 where the Board will hear brief factual statements with regards to health issues on the flicker effect of wind turbines. Ms. Peterson thanked everyone for coming. **The meeting resumed at 8:45 after a five minute recess.**

3. **Discuss & Vote regarding fines for non-compliance with required alternative system maintenance and/or contract-** Ms. Coffin stated that there are 11 contracts that have not been renewed and some have been almost a year overdue. She has sent letters to the homeowners and four have already signed a new contract and others have called her to say they are working on it. Mr. Lynch, who is on the agenda tonight, already has a signed contract and Mrs. Mays is working on a proposal with Holmes and McGrath. Ms. Peterson asked if there was anyone in the audience here for this item. There was not. Ms. Coffin stated that the Origlio's had been current up until last year but she has not heard from them. Mr. Barlow suggested sending them a certified letter to make sure that they get the notification. Mr. Andrews stated that any of the homeowners who do not have a contract by the next meeting should be notified to come to the meeting and explain why they do not have a contract. Mr. Andrews stated that he would like to get a graph of the 90 alternative systems that are in Town. He would like to see the results of how they are working. Ms. Coffin stated that she is working on getting the graph from Brian at the Barnstable County Health Dept. That will help the Board evaluate the systems. Ms. Coffin stated that she believes that a lot of the data shows that seasonals are still an issue. When they first start up they are not getting the treatment but the graphs will help them look at that. Ms. Coffin stated that Sue Rask and Brian are willing to come to a meeting to give a presentation about the Carmody program and explain the graphs to the Board.
4. **Approval of Minutes dated February 2, 2011-Mr. Barlow made a motion to APPROVE the minutes of February 2, 2011. Mr. Andrews seconded the motion. Don Uitti abstained as he was not present at that meeting. All others in favor and the motion PASSES.**
5. **New Business-** Ms. Coffin stated that most of the restaurants have complied with the allergen awareness training and have posted the allergy warnings on menus. The Board commended Ms. Furtek for doing a good job with that. **Mr. Andrews made a motion to ADJOURN. Mr. Uitti seconded the motion. All in favor and the meeting was adjourned at 9:00 P.M.**

Taped and Typed by Kathy M. Burgess for the Bourne Board of Health



Respectfully submitted by the Bourne Board of Health

Kathleen Peterson\_\_\_\_\_

Stanley Andrews\_\_\_\_\_

Galon Barlow\_\_\_\_\_

Donald Uitti\_\_\_\_\_

Carol Tinkham\_\_\_\_\_

cc Board of Selectmen/Town Clerk

