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**ATTACHMENT TO LATE COMMUNICATION #12A**  
**TRANSCRIPT OF HERB COUSSONS, MD FROM**  
**2/15/17 COUNTY BOARD MEETING**

2-15-17  
Brown County Board of Supervisors meeting  
Comments from the Public by Herb Coussons, MD

Chairman Moynihan:

Dr. Coussons, please state your name and address for the record please.

Herb Coussons, MD

Herb Coussons, 6649 Lidgetop Drive in Greenleaf.

So a little bit of background and why I'm here to speak. I've been in practice in Green Bay since 2002. I'm originally from Louisiana and finished medical school in 1992 so I've been in practice for 25 years, mostly in primary care. Prior to coming here I practiced in the Pacific Northwest, I was on the faculty of the University of Idaho and Washington State. I'm on the faculty of the new medical college here in Green Bay, at the Medical College of Wisconsin.

I'm also a private pilot and I was a pilot since 1992 and have gone through all of the ratings all the way through airline pilot and have a particular interest in the physiology and science behind spatial disorientation. I also teach and consult around the United States.

I also would like to state that I have no conflicts of interest, no financial disclosures. I'm not paid to be here and I'm not here to represent anybody.

I also would like to say, since this is on wind energy and it is a controversial topic, I am very pro-American energy, whether that's carbon or green, it doesn't really matter, but I have some particular opinions about this topic. And I am presenting because I think that there is some overwhelming science behind the link to health issues, particularly in our local area with Shirley and even further south, Fond du Lac, but as it applies to this Board, Shirley, with the complaints that have come from south Brown County, and I have personally seen and taken care of six of these patients.

So I would like to point out the difference between a syndrome and a disease (you can follow along if you want to), but a syndrome is just a group of symptoms with no *seemingly* cohesive thing that draws them together or explanation for why they occur together. And this is where there is a lot of misunderstanding when *wind turbine syndrome* gets thrown around.

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Well, I would like to point out that now I think it is a recognized disease, where a disease is a *specific* disorder with a pathologic or physiologic explanation. So now we classify this as vibroacoustic disease, and last year with the new CMS [Centers for Medicare and Medicaid Services] guidelines encoding, there is a new code T 75.2 which is the effects of vibration and there is a specific code now listed, *vertigo from infrasound*. It is a diagnosis and it is a disease.

I printed some abstracts for you and the most, I think, telling one is about vibroacoustic disease. And vibroacoustic disease has now been autopsy-proven to show soft tissue proliferation, particularly collagen and fibroelastic tissue that causes heart problems, hypertension, and other physiologic proven findings. This is not isolated to wind turbines. This is in any instance of prolonged exposure to low frequency noise, infrasound as we call it. And it applies in aeronautics, too, from low frequency noise; that's how I came upon these studies. It causes thickening of cardiovascular structures and potentially early death. There've even been some links to chromosomal damage and increased malignancies in these patients. And I would grant that there is an inadequacy of studies linking this to wind noise, but without a doubt, the frequency ranges that affect these individuals in both human and animal studies are the same frequencies that have been measured in the Shirley project.

The second one shows what those frequencies are, 0-20 Hz range. Low frequency, infrasound, ILFN, all the same thing. And I won't get into the details there. You can read it and I can email you a copy of this if you would like it. But it is echocardiography, brain MRI, and histologically proven in autopsies of both animals and humans.

Other supporting evidence: sleep disturbance alone is enough to cause health problems. That's why we have CPAP to treat sleep apnea patients, because they develop obesity, hypertension, right-sided heart failure, as well as other psychologic issues.

The next one, the theory to explain some physiologic effects of infrasonic emissions at some wind farm sites, includes measurements in our own backyard in the Shirley project because it's been one of the most studied around.

The next one was published in Canada and I would point to the conclusion of the study. Now that so many indicators point to infrasound as a potential agent of adverse health effects it is critical to re-examine the approach to this aspect

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of wind turbine operation, revise regulations immediately and implement protective public health measures based on a precautionary principle.

So, epidemiology. This gets pushed out there quite a bit. Why are there no epidemiologic studies, or we need to have more studies is the conclusion of every study.

So, first of all, the FDA is responsible for safety and effectiveness of health-altering devices. That could be a surgical device, a drug, or anything like that, whereas OSHA is responsible for things that are environmental, that people may be exposed to. So there is a little bit of a conflict or struggle at a federal level between the FDA and OSHA.

Next is, there are things called IRB's, Institutional Review Boards. So, medical research was unethical prior to the implementation of restrictions on human subject protections. There are animal studies, there are models, and there are other types of studies, but it is very difficult in *any* circumstances to point to a direct causal effect, or anything causing any disease, and I'm going to point that out in a subsequent slide.

So what study designs do we have? Case reports - somebody says, *this bothers me*. Next, cross sectional surveys - we're going to go out and survey lots of people in an area. Next, we're going to say, case controlled studies - we're going to measure affected vs. non-affected individuals. Cohort studies - groups of individuals against groups of individuals, maybe even in different neighborhoods or different states. Next would be a randomized control trial, and then a meta-analysis, which is pooled groups of studies to get substantial numbers to prove a point when small numbers don't prove a point.

Well, what do we have with wind? We have case reports, cross sectional surveys, case control studies, cohort studies including crossover, but we have no randomized control trials. What's interesting is the wind industry also has no randomized control trials that are independent, not industry funded, and that are peer-reviewed. So, those types of things that claim safety - there's just as much lack of evidence to stand on that claim as they say that the opposition, people who suffer adverse health effects, have.

We will never actually see a randomized control study for wind. The reason why is there are ethical concerns with these studies. There's enough information out there to say that there are potential adverse health effects that there will

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never be a study. What would be an example of this? An example would be, and I printed something from a nephrology journal, that shows why there are no randomized control studies in some disease states, and the example is smoking. There are no randomized control studies that say that smoking causes adverse health effects, none, zero. But, we warn people, we tax them, there are lawsuits against them, there's plenty of information and it's commonly accepted that there is a causal link between smoking and lung cancer.

So in summary, I think we now have three decades of reports of adverse health effects: research has shown that infrasound and low frequency noise cause disturbances both in sleep and in physiologic direct link causal effects; the range of low frequency noise that's been proven to cause these are measured in the wind turbine developments; vibroacoustic disease is now a proven entity, and over 90 worldwide professionals and medical researchers that aren't linked to any type of industry conflict would agree to that and have signed onto that statement. And now Shirley Wind is one of the most studied and documented industrial wind turbine developments in the United States, and we have those affected individuals that we see in our own backyard.

So the conclusion, I am concerned, based on the patients that I've seen, that our local residents are being harmed by a very real risk of low frequency noise, some of which may not be seen or known for a decade or years to come. An example of this would be sun. It's a wave form of energy and no one would disagree that UV light or infrared energy affects different people in different ways. I'm much more likely to burn than some of you in the room because I'm quite pale. So, there are people who are more susceptible, but that doesn't deny the fact that they are affected. And I'm concerned, also, that with the evidence in our local backyard, that the Board and the County will be at risk for both liability and negligence with the amount of information that's been presented here over the last five years.

That's about fifteen minutes of time, and I would be open for questions or discussion to clarify any points because I breezed through that pretty quickly.