

**Questions for Dr. McCunney**

Are there any other wind turbines as big as those at Shirley Wind, as close to residents as 1250', in the United States?

**Questions for Robert Rand, Dr. Coussons, and Dr. McCunney**

Can you describe your involvement in any original research on the topic of wind turbine adverse health effects? This would not include literature reviews.

Can you describe your involvement in any original research on the Shirley Wind project?

**Question for Robert Rand**

What did you think when you learned that the former Director of Brown County's Health department, Ms. Chua Xiong, stated that she experienced migraines when visiting the Shirley Wind Project?

What did you think of her subsequent decision that she found no evidence to support a link between wind turbine noise and those types of symptoms?

**Question for Mark Werner**

In an October 12, 2016 letter from a nurse on your staff it was stated that: "*current scientific evidence is not sufficient to support a conclusion that contemporary wind turbines cause adverse health outcomes in those living at distances consistent with the PSC siting rules.*" Isn't it true that:

- PSC wind siting rules would not permit a project to cause nighttime noise levels of 50 decibels at residences?
- That PSC wind siting limits were lowered because of evidence in hearings held on the Highland Wind project showing that sound from wind turbines exceeding 40 decibels at night poses health risks?
- That protecting people from adverse health effects was clearly the issue when they set the 40 decibel limit for nighttime noise at some residences in the Highland project?

Now, my question is: Isn't it true that the people living in the Shirley Wind project are not receiving equal protection to what the PSC offers people in other wind projects?

**Question for Robert Rand**

With regard to wind turbine sound energy emissions, please explain what is referred to as the nauseogenicity frequency range. Also, where do Shirley Wind's Nordex N100 wind turbines emissions fall within that range, and what are the potential adverse physiological effects for Shirley Wind residents exposed to those emissions?

**Question for Robert Rand**

According to Dr. McCunney's 2016 CV, he lives in Cohasset, MA. According to the current Town of Cohasset Wind Energy Conversion Facility Bylaw, noise emissions from

large wind turbines are limited to 10 decibels over ambient, or normal background noise, at the property line, or 8 decibels over ambient, or normal background noise, at a residence. In contrast, the Town of Glenmore Wind Energy System ordinance that governs Shirley Wind allows noise up to 50 decibels, day and night, at the residence, while ambient, or normal background noise levels in this area, average just over 25 decibels at night during normal sleeping hours. If the Cohasset noise limits were enforced at Shirley Wind, night time noise levels would be limited to less than 35 decibels at the residence instead the present 50 decibels. This is a very, very large difference in both audible and ILFN noise levels. Would you say the noise limits in Dr. McCunney's hometown provide reasonable protection for public health? How about those at Shirley Wind?

#### **Question for Mark Werner**

The Wisconsin Wind Siting Council created Wisconsin's statewide wind siting rules and each five years produces a report regarding any needed changes to those rules, including changes needed to protect public health. The makeup of the membership of that Council, as specified by Wisconsin Act 40, creates a bias in the form of a membership majority made up of several pro-wind energy interests and pro-wind environmentalists, versus a membership minority of others whose primary focus is protecting public health. Do you believe the State of Wisconsin should rely on the report of such a Council for deciding whether or not Wisconsin's wind siting rules adequately protect public health, or do you believe that Act 40 should be amended to eliminate conflicts of interest on the Wind Siting Council?

#### **Question for Robert Rand**

On June 19, 2017, Massachusetts Superior Court Justice Corneilius Moriarty issued his ruling regarding two wind turbines at Falmouth, Massachusetts, stating, "*The operation of Wind 1 and Wind 2 constitute a nuisance*" and "*It is further ordered that the Town of Falmouth cease and desist the operation of the wind turbines forthwith.*" You conducted ILFN testing at both Falmouth, Massachusetts and at Shirley Wind here in Brown County. In your opinion, do your findings and personal experience at Shirley Wind suggest that its wind turbines constitute an equal, or perhaps an even greater nuisance than the wind turbines at Falmouth that were ordered to be shut down?

#### **Question for Mark Werner**

Prior to the adoption of Wisconsin's statewide wind siting rules, PSC 128, a nine-hour public hearing on the proposed rules was held before the Joint Committee for Review of Administrative Rules, or JCRAR. The following month the JCRAR passed a motion to suspend the proposed rules, stating the following reasons for the suspension - "***on the basis of testimony received at its February 9, 2011 meeting, and on the grounds that the contents of PSC 128 create an emergency related to public health, safety, or welfare; are arbitrary and capricious; and impose an undue hardship on landowners and residents adjacent to wind turbines***". The setback and noise limits at Shirley Wind are even less protective than the proposed rules suspended by the JCRAR, creating at Shirley Wind an even greater emergency related to public health. As the State of Wisconsin's Chief of Environmental Epidemiology, please explain why the State has done nothing to help Shirley Wind residents, some of whom have had to abandon their homes, while others continue to suffer in a project that has been declared a Human Health Hazard.

### **Question for Dr. McCunney**

The 2012 Shirley Wind ILFN study was partially funded by the Public Service Commission of Wisconsin. The joint recommendations of all four acoustical firms who conducted the testing stated: *"We strongly recommend additional testing at Shirley .... An important finding on this survey was that the cooperation of the wind farm operator is absolutely essential. Wind turbines must be measured both ON and OFF on request to obtain data under nearly identical wind and power conditions to quantify the wind turbine impact which could not be done due to Duke Power's lack of cooperation."* How can we trust Duke Energy, or you as their representative today, when they refuse to cooperate in an independent study sponsored by a state agency?

### **Question for Robert Rand**

The precautionary principle provides that if an action or policy has a suspected risk of causing harm to the public, in the absence of scientific consensus that the action or policy is not harmful, the burden of proof that it is not harmful falls on those taking that action. Considering the extensive library of peer-reviewed papers regarding the potential for adverse health effects from industrial wind turbines, do you find that the current scientific consensus of these papers is that industrial wind turbines do, or do not, pose risks of causing harm to the public, and do you believe that the wind industry has, or has not, fulfilled its burden of proof that wind turbines pose no risk of causing harm to the public?

### **Question for Dr. Coussons**

The World Health Organization's 2009 paper, *"Night Noise Guidelines for Europe"*, states that, *"adverse health effects are observed at the level above 40 decibels, night, outside, such as self-reported sleep disturbance, environmental insomnia, and increased use of somnifacient drugs and sedatives."* The day and night noise level permitted at Shirley Wind is 50 decibels, much higher than the WHO threshold for adverse health effects. At this elevated noise level, do you find the reports by Shirley Wind residents of sleep disturbance and environmental insomnia to be credible?

### **Question for Mark Werner**

On May 25, 2010, a special joint meeting of the Brown County Board of Health and the Human Services Committee was held to discuss wind turbines and health, as well as the 100-wind turbine project that Invenergy was seeking to build in southern Brown County. One of the presenters at that meeting was the State of Wisconsin, being represented by Chuck Warzecka, Director of Health for the Wisconsin Department of Health Services. Mr. Warzecka's advice to those with wind turbine health complaints was that they see their doctor, and that their doctor could then report such complaints to the local health department, and that the local health department could then report such complaints to the State Department of Health Services, and that this is the way that the DHS would be made aware of the nature and level of complaints at Wisconsin's wind turbine projects. None of these suggested reporting steps were mandatory or had even been suggested to physicians or health departments. So, what has the State done since 2010 to inform the medical community of symptoms that wind turbine residents may present, and what mechanism has it

put in place to insure that these adverse health event reports make their way to the State Department of Health Services?

**Question for Dr. McCunney**

The 2014 literature review that you co-authored, titled: "*Wind Turbines and Health - A Critical Review of the Scientific Literature*", includes references to two papers by professional acousticians Robert Rand and Stephen Ambrose in which they report experiencing personal adverse health effects when conducting wind turbine noise testing at either Falmouth, Massachusetts, or at Shirley Wind. Additionally, in a 2015 paper by acoustical engineer Dr. Malcolm Swinbanks, titled, "*Direct Experience of Low Frequency Noise and Infrasound within a Windfarm Community*", the author reports being extremely ill with seasickness-type symptoms that he attributes to emissions from the Uby, Michigan wind turbines that he was testing. Do you believe these statements by these three acousticians?

**Question for Mark Werner**

Most wind turbine health complaints have to do with noise. However, Wisconsin's statewide wind siting rules, PSC 128, do not mandate any periodic independent noise monitoring to insure that wind projects are in compliance with the established noise limits, and any testing that *is* required as the result of a noise complaint is to be performed by the project owner, the party alleged to be committing the violation. If the State of Wisconsin is serious about addressing wind turbine complaints, do you believe PSC 128 should be amended to require periodic independent noise monitoring for noise compliance?

**Question for Dr. McCunney**

You co-authored a 2009 literature review, titled: "*Wind Turbine Sound and Health Effects - An Expert Panel Review*". You also co-authored a 2014 literature review, titled: "*Wind Turbines and Health - A Critical Review of the Scientific Literature*", and gave a presentation regarding this literature review at the 2015 annual conference of the Canadian Wind Energy Association. The mission of both the American Wind Energy Association and the Canadian Wind Energy Association is to promote the growth of wind power. Was the 2009 literature review you co-authored funded by the American Wind Energy Association and the Canadian Wind Energy Association, and was the 2014 literature review you co-authored funded by the Canadian Wind Energy Association?

**Questions for Dr. Coussons and Dr. McCunney**

In your medical practice, have you treated any patients reporting symptoms or adverse health effects that they attribute to wind turbines?

Have you personally interviewed residents of wind turbine projects who reported adverse health effects that they attribute to the wind turbines?

**Question for Robert Rand**

The December 2012 low frequency and infrasound study of three homes in the Shirley Wind project conducted by acousticians Walker, Schomer, Hessler, and yourself jointly

concluded: *"The four investigating firms are of the opinion that enough evidence and hypotheses have been given herein to classify LFN and infrasound as a serious issue, possibly affecting the future of the industry. It should be addressed beyond the present practice of showing that wind turbine levels are magnitudes below the threshold of hearing at low frequencies."* Dr. McCunney's testimony is that if wind turbine infrasound is not above the threshold of hearing, then it cannot be perceived. Is that not directly opposite what the Shirley Team Report concluded?

### **Question for Dr. McCunney**

Regarding the 2009 literature review that you co-authored, titled: *"Wind Turbine Sound and Health Effects - An Expert Panel Review"*, the following statements were made by Vermont MD Teddi Lovko in her 2011 surrebuttal to your testimony before the State of Vermont Public Service Board:

*"The American Wind Energy Association paper focuses on very narrow aspects of wind turbine noise and health, making a somewhat false and vague distinction between 'direct' and 'indirect' health effects. They go to great lengths to show that the noise is not creating direct physical harm (for example as radiation might) but essentially ignore and downplay the 'direct' effects of sleep disturbance and annoyance and the secondary health effects they may create, when chronic, such as cardiovascular disease, depression, and immune suppression. Dr. McCunney's participation and conclusions in this report suggest an industry bias that is not supported by the best evidence available on wind turbine noise and health."* How do you respond to Dr. Lovko's statements?

### **Question for Robert Rand, Dr. Coussons, and Dr. McCunney**

I would like to ask the following question of Robert Rand, Dr. Coussons, and Dr. McCunney. Are you being financially compensated to speak at this meeting, and if you are, by whom?

### **Question for Robert Rand**

In your September 30, 2015 letter to Chua Xiong and in your *Professional Caution* letter to Brown County officials you stated: *"As a Member of the Institute of Noise Control Engineering (INCE), I am pledged to hold paramount the safety, health and welfare of the public. ... Based on the acoustical findings and personal experiences of motion sickness at Shirley correlated to power output, I concur with the Board determination of Health Hazard. As an INCE Member I can find no credible rationale for permitting continued community exposure to the potential for motion sickness evidenced by the research and actual neighbor reports when wind turbines are operated at partial power or higher."* Do you reaffirm these statements at this time, and if so, what remedies exist for preventing such continuing community exposure at Shirley Wind?

### **Question for Dr. Coussons**

"In 1969 the Surgeon General of the United States said: *"Must we wait until we prove every link in the chain of causation?...To wait for it is to invite disaster or to prolong suffering unnecessarily."* Do you believe that this statement applies to what is happening to the people living near the Shirley Wind Project?"

**Question for Dr. McCunney**

Many of the papers elaborated on in your 2014 literature review promote the nocebo hypothesis or other psychological, rather than physiological, explanations for distress reported by wind turbine project residents. Three families at Shirley Wind abandoned the homes they desired to remain in, at great expense to themselves, due to adverse health effects they attribute to the operation of the Shirley Wind turbines. Do you believe these people vacated their homes because they did not like the way the turbines looked, because they were jealous about not receiving economic benefits, because they have negative attitudes, or because they were misled into believing they would become ill, rather than because of actual negative physical effects caused by emissions from the wind turbines?

**Question for Robert Rand**

At Shirley Wind the day and night noise limit is 50 decibels and the setback distance from homes is 1000'. Is there a current consensus among professional acousticians regarding wind turbine noise limits and setback distances that are needed to protect the public from modern size wind turbine emissions?

**Question for all presenters**

Do you believe that there are those who might be more or less impacted by infrasound? While the studies in Canada talked about the entire population, wouldn't working with those with a self-diagnosed sensitivity add insight? The problem is not the people who do not have sensitivity, they would not be bothered, but do you believe there are those individuals that are more or less impacted by infrasound?

**Question for Dr. Coussons and Dr. McCunney**

How does a syndrome become recognized by the medical community at large, particularly when the issue is with a relatively small portion of populations impacted?

When do the epidemiology studies get recognized for organizations such as the American Medical Association and how can that process be followed or executed?

**Question for Mark Werner**

Will the State of Wisconsin participate in or lead a study of Shirley Wind farm? Why, or why not, and what is the criteria for the State to get involved?

**Question for Dr. McCunney**

If you were responsible for setting rules for acceptable noise levels for wind turbines, how would you structure it? Based on decibels, medical complaint rate, pitch, offsets from wind farm, distance, difference from ambient sound? What would you recommend as the line?

**Question for Dr. McCunney**

Three families at Shirley Wind have abandoned their homes due to alleged adverse health

effects. Two of those families have been making the following request of Duke Energy since 2013: *"As families forced to leave our home due to adverse health symptoms such as ear pressure and pain, severe headaches, anxiety, malaise, dizziness, blurred vision and sleeplessness; we are requesting a written statement from Duke Energy stating that the Shirley Wind Farm is not the cause of said symptoms."* If these two families choose to rent or sell their homes, they want to be able to provide their renters or buyers with this statement from Duke Energy. As Duke Energy has not provided such a statement to the present day, and since you are here today to represent them on this issue, would you recommend to Duke Energy that they provide such a statement, especially in light of the fact that courts worldwide have sided with the plaintiffs on the basis of adverse health effects (AHE) and the Brown County Board of Health has declared Shirley Wind a Human Health Hazard? If not, why?

### **Question for Mark Werner**

At a presentation you gave this July to the St. Croix County Health & Human Service Board regarding wind turbine health concerns you stated: *"At our agency.. we've sought to maintain an active working knowledge of the concerns and the relevant published literature on this topic", and, "I think there has been a real dearth of published peer-reviewed literature on this topic."* In 2015 Brown County citizens provided County Health Officer Chua Xiong with, 47 peer-reviewed papers, 20 acoustical conference papers, and 15 wind turbine health impact surveys, among other documents, all demonstrating health risks associated with inappropriately sited wind turbines. Many more similar peer-reviewed papers have been published since. How can you state that there's been a lack of such information? In my opinion, that statement suggests that your agency is actually not maintaining an active working knowledge of the concerns and the relevant published literature on this topic. Have you and your agency requisitioned the aforementioned documents and studied them?

### **Question for Mark Werner**

Following the 2014 Brown County Board of Health's declarations of the Shirley Wind turbines to be a Human Health Hazard, did you as the State Epidemiologist, along with your staff, experience enough concern for the affected residents to assemble a meeting with the Brown County Board of Health to discuss the evidence and reasoning for that decision and how you could protect those residents being harmed, given the gravity of such a declaration?

### **Question for Dr. Coussons**

The International Classification of Diseases, or ICD Code, is used by healthcare professionals to record and identify health conditions. The 2016 ICD-10 Diagnostic Code now includes coding for vertigo due to infrasound. Since infrasound, by definition, is sound with frequencies below the lower limit of human hearing, can you explain this diagnosis?

### **Question for Dr. Coussons**

In an interview done by Energy Consultant Liz Argo in 2012, Dr. McCunney agreed that audible noise disturbance is the problem with wind turbines. He and others also have the opinion that *"what you can't hear can't hurt you"* when it comes to infrasound from wind turbines? Is this true? Can you cite evidence of infrasound being linked to adverse impacts on health?

### **Question for Dr. Coussons**

At the 2010 Rutland Regional Medical Center forum on Wind Turbines and Health Impacts, Dr. McCunney made the following statements: *"There's no question that some people may be very annoyed and really adversely affected by the sound and the characteristics of the sound. There's no question that annoyance, when it persists, can cause sleep disturbance. There's no question that when sleep disturbance persists it can cause adverse health effects and all sorts of consequences."*, and, *"There's no question that as noise levels increase, particularly above 40 decibels, more and more people will report being annoyed and having sleep disturbance."* Do you agree with those statements by Dr. McCunney, and do you believe that the 50 decibels day and night noise limit at Shirley Wind homes could lead to sleep disturbance as has been reported by Shirley Wind residents?

### **Question for Dr. McCunney**

The June 2016 Edition of the American Medical Association Code of Medical Ethics, CHAPTER 9: **OPINIONS ON PROFESSIONAL SELF-REGULATION**, states that physicians who testify as expert witnesses must: *"Testify only in areas in which they have appropriate training and recent, substantive experience and knowledge"*. As an MD who has served as expert witness for wind energy proponents, such as the recent case in the Massachusetts Superior Court regarding wind turbine health effects at Falmouth, Massachusetts, do you have the substantive experience treating or interviewing persons who report adverse health effects from wind turbines, and if not, are you not violating this ethics requirement for medical professionals?

### **Question for Dr. McCunney**

Do any of the literature reviews that you co-authored address non-auditory perception of infra sound, that is, the ability of the human body to perceive infrasound in ways other than hearing? For example, in these literature reviews have you discussed the works of Dr. Malcolm Swinbanks, Robert Rand, Steven Cooper, Richard James or Dr. Jerry Punch on this subject? If no, why not?

### **Question for Dr. McCunney**

The Health Canada study found that prevalence rates for migraines, tinnitus, and dizziness were about 20-25% for people living 1.25 miles from wind turbines, almost double that of the non-exposed population. Given those findings, how can you conclude that wind turbines are safe for people?

### **Question for Robert Rand, Dr. Coussons, and Dr. McCunney**

How much time have you spent in the Shirley Wind project, and have you spent time in the homes of the affected families?

### **Question for Dr. Coussons**

Wind energy supporters often claim the need for epidemiologic research to prove that there

are harmful health effects from wind turbines. Why are there no large-scale studies that they can point to that satisfy their demand for proof that there is a human health risk from wind turbines? Do you think that there is opportunity to collect that evidence?

**Question for Dr. Coussons**

Are you aware of any other government policy or public protections put in place for potentially harmful agents when there is limited epidemiologic evidence for a direct causal link to disease?

**Question for Robert Rand**

If sensitivity tends to increase over time, might liability also increase over time?

**Question for Mark Werner**

In July of this year you gave a presentation to the St. Croix County Health & Human Services Board regarding wind turbine health concerns. At that meeting Supervisor Anderson encouraged you to read the Wind Siting Council Minority Report, which presents the dissenting opinion of 43% of Council members, including the Council Chairman. Their opinion is at great odds with what is presented in the main report. Have you read the Minority Report, and if so, do you share the concerns expressed there?

**Question for Robert Rand**

Wind proponents often make the claim that "*what you can't hear can't hurt you*" and that unless infrasound or low frequency noise can be heard it cannot hurt you. Please explain how the findings at Cape Bridgewater demonstrate that these statements are not true.

**Question for Mark Werner and Dr. McCunney**

The Shirley Wind turbines are 2.5 megawatts, 492' tall, the setback distance is 1000' and the noise limit, day and night, is 50 decibels at the homes. Have you ever lived near utility scale wind turbines? If so, for how long, at what distance, how many and what size (in megawatts) were the wind turbines, and what was the day and night noise level limited to, at the homes, by the noise regulations at that location?

**Question for Dr. Coussons**

You are an obstetrician and a pilot, so how are you qualified to claim that you have six patients with wind turbine syndrome, a very vague condition?

**Question for all presenters**

In 2017 there are no complaints from local residents to Brown County and only seven complaints to the Town of Glenmore. They were about flicker, not noise. Doesn't this imply that those near Shirley Wind are not suffering?