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Energy Facility Permitting Environmental Report Scoping Comment Form

Prairie Wind Energy Project

In reading the Minnesota Department of Health study (Carl Herbrandson Ph.D. Toxicologist, 2009) on the health effects of low frequency vibrations, sounds, and shadow flicker, I have some serious concerns on the long term health problems that can occur for the people of Parkers Prairie and the surrounding area. After reading the comments by David Birkholz in the Parkers Prairie Independent regarding the concern of the community I don't believe he could have read this report or did not understand its findings.

The Minnesota Department of Health Environmental Health Division study dated May 22, 2009 (Carl Herbrandson Ph.D. Toxicologist, 2009) points to some very clear physical concerns. The study was conducted using information from existing wind farms in several states including Wisconsin and North Dakota as well as overseas. The whooshing or low frequency vibrations which are the aerodynamic noise of the wind passing over the blade of a wind turbine, have been reported up to a mile which to my understanding is well beyond the set back that is proposed by this project. It is also noted that it is not possible to eliminate the noise and the sound is often underestimated due to the calculations of human impact being conducted with the wind speed measurement at 10 meters above ground when in actuality the wind speeds at the height of the hub can be up to 2.6 times higher. This is a big difference in the distance to which the aerodynamic modulation or whooshing can affect humans.

The rhythmic low frequency noise made by the wind turbines is more annoying than a steady noise. Although annoyance is not the focus of my concern, I certainly would not want to buy a property in an area that I would be subjected to constant annoyance. Since Parkers Prairie is where my husband and I live, this would reduce the value of our home and property as well as the other members of my community and the surrounding area. The low frequency noise is often not even heard out of doors, but becomes an issue inside of homes as it resonates between the walls. This study also notes that the results would be multiplied in the case of multiple turbines, becoming noticeably louder. Add to this the difference in daytime to nighttime wind speed causing greater noise at night and it is understandable that insomnia and disturbed sleep patterns are common complaints of people living near wind farms. The effects of aerodynamic modulation can be a problem for up to 25% of people living within a mile of a wind turbine and the low frequency noise complaints have been reported more in rural areas and then more for people in the 55 to 70 age range. According to the 2010 census 198 people living in Parkers Prairie are between the ages of 55 and 74. That means that approximately 49 people could have

adverse health effects. That may not seem like many, but I would rather it not be me, or my family, or my friends, or my relatives. Although true that some people may be more sensitive than others, it is also true that people that live closer to the turbines have more complaints of a reduction of quality of life accompanied by an increase in sleep loss and headaches.

Shadow flicker is reported worse in the morning and evening when the sun in low in the sky and it affects people both indoors and out. Annoyance is the greatest complaint with shadow flicker, but the study does recommend that turbines should be located at least 984 feet or 300 meters from roads to prevent driver hazard due to the distraction of the shadow flicker.

In 2009, due to reports of a constellation of symptoms by people living from 1000 feet to just under a mile from wind turbines, a new medical condition was identified. It is called Wind Turbine Syndrome. Symptoms can include headache, tinnitus, ear pressure, vertigo, nausea, visual blurring, tachycardia, irritability, cognitive problems, panic episodes, and internal pulsation. Although not in a direct study of wind turbines, the World Health Organization statement on the matter of low frequency noise such as is a produced by wind turbines is, "it should be noted that a large proportion of low frequency components in noise may increase considerably the adverse effects on health".

I am not against the production and use of clean energy when the wind farms are constructed in uninhabited areas where there is a reduced risk of adverse health effects to humans. Do I think that the effects of wind turbines on human health would be fatal? Probably not. Do I think those effects can make someone's life uncomfortable or miserable? Most likely. I believe in free enterprise as much as I believe in free speech, but to force people to take the risk of health hazards that are clearly documented is a sad part of capitalism in which money has become more important than people.

Works Cited

Carl Herbrandson Ph.D. Toxicologist, R. B. (2009). *Public Health Impacts of Wind Turbines.* St. Paul, MN: Minnesota Department of Health Environmental Health Division.