

**From:** David Brouwer [<mailto:DAVIDBROUWER@msn.com>]  
**Sent:** Sunday, July 22, 2018 5:48 PM  
**To:** PUC-PUC <[PUC@state.sd.us](mailto:PUC@state.sd.us)>  
**Subject:** [EXT] docket EL 18-026 Prevailing Winds Application

July 22, 2018

RE: Docket EL 18-026

Commissioners and Support Staff of the South Dakota Public Utilities Commission;

I am writing in regards to the Prevailing Wind Park, LLC application in front of you. I urge you to deny this permit. It is not possible for the applicant to prove that it will not pose a threat to the social and economic condition of the current inhabitants nor can they prove that it will not pose a threat to the health, safety, and welfare of the inhabitants.

The applicant can NOT prove that it will not have a negative effect on property values of residents in and around the projected industrial wind zone. This can be said with confidence as you have heard from a local appraiser in a previous hearing on another application. Is it possible for a developer to find another appraiser to make a different statement, of course it is. But the fact you have information not only from a local appraiser but from realtors and appraisers on a national platform have continued to publish information to say there is an impact on home values from 10%-40% with some properties being unsellable. This is often shown in a distance-value association in the closer a property is to an industrial turbine the more value will be lost. The applicant only supports their side of this argument with a study that has been shown to be not reliable evidence in another application you have seen this past year.

In the Crocker application developers had a rebuttal argument regarding property values by Mr. MaRous. He was unable to provide any-type of market analysis within the state of South Dakota to provide any evidence to support that there isn't a negative property value effect caused by industrial wind turbines. In addition he

comments on the Berkley study and gives what sounds like significant numbers regarding how many sales were looked at within 1 mile of a turbine. I would ask you to look at the total number of sales in those studies and you will realize that even though 125 and 376 sales sounds impressive it is less than 2% and less than 1% of the sales analyzed. How relevant is that when we have setbacks that are only 1,000 feet from a turbine in this application? The answer is not very relevant.

This application has already caused a significant separation in the community and continues to as you have heard in testimony. The applicant can NOT show that it isn't having a significant negative social impact on the community and inhabitants.

When looking at the impact this project will have on the area you don't have to look any farther than Tripp. You have heard in previous letters and testimony on the effect the previous industrial wind farm has had on the area as well as the effect Prevailing Winds will have on current business owners and the negative effect it will have on the hunting industry within the footprint of this project. Tripp had a school district that was struggling prior to the Beethoven wind project. This project promised it would rejuvenate the school district and area yet, it has not. The school district is struggling just as much if not worse and is in the need of an opt-out. We all know that the key to successful funding of schools is student numbers, from what I understand they have declined since Beethoven has come into existence. Business has left Tripp and numbers continue to decline. This will only continue to occur if Prevailing Winds is built. By approving this application you are causing more hardship for this area.

The negative health effects cannot be denied any longer. For years the PUC, legislature, and executive branch of our great state has been inundated with one-sided information for the industrial wind industry, so much so that many believe that is the only information that is available. That is changing and it is very apparent that you have been given only one piece of the pie and it is time to start listening to the rest of the pie and the effects that sound/noise have on individuals within industrial wind zones.

Professionals and experts in the field of acoustics are telling us that what you hear, or A-weighted, sound levels are only a portion of sound that is emitted from industrial wind turbines. It is scientific fact that low frequency and infrasound is emitted from industrial wind turbines and although you cannot hear it, it has an effect on people. You have this information within this application as well as other testimony and letters you have received from other applications. This information cannot be denied and is relevant in this application process.

You have received testimony from Mr. Howell regarding sound in this application. He is a mechanical engineer whose only work on his CV is for that of industrial wind development. His job is to make it possible for developers to build and sell projects. He refused to mention anything regarding low frequency and infrasound that is produced by industrial turbines in his answer to question 1, section III of his testimony. This low frequency and infrasound can be perceived by humans, not necessarily heard, but can be perceived. This was shown in 2014 by the research of Steven Cooper, a profession and expert in his field. The professionals and experts actually doing the research and study on industrial wind turbine noise have continued to tell us that there needs to be a measure of low frequency noise...those people doing literature review type studies for the industrial wind industry continue to ignore this and only use A-weighted noise.

Developers often use a literature review done by the state of Massachusetts as a reference to the effects of noise on the health of those around industrial wind zones. This *review* cannot be used in this application process as the turbine size that they looked at was only 164-200 feet tall, not even close the proposed turbines in this application. Furthermore the Massachusetts review had several members of what it called an

independent panel having strong pro-wind affiliations, hardly an independent and unbiased panel. No audiologists or noise/sound experts were on this review panel that was looking at the actual studies that were being done by professionals and experts in the field of noise/sound. It is troubling when a review board such as this come to totally different conclusions than the experts they were reviewing. All of the studies they reviewed came to conclusions that there were negative effects caused by industrial wind turbines.

An MIT literature review that was published in 2014 is often used by the industrial wind industry. This is a *review* that was paid for by the Canadian Wind Energy Association and the lead author, Mr. McCunney, is a paid consultant for the wind industry. Again troubling results that make one question their results as the expert studies they reviewed had very different conclusions than what their conclusions were. In addition, the Ontario School of Medicine published a systematic review of the literature on wind turbines and human distress in 2014 and concluded that there is evidence of an association between wind turbines and human distress. They looked at the same literature as MIT did yet came to a very different conclusion than MIT.

In the World Health Organization's (WHO) 2009 study on night noise guidelines they stated that even at 30-40dB there are some who's sleep is effected by that level of noise. At 40-55dB they concluded that there was a significant negative health effect on the exposed population. So much so that people would need to adapt their lives to cope with this level of noise. The interesting part of this is that the WHO studied the noise of planes, trains, and automobiles. In 2004 Pedersen and Waye published a study that showed how much more severe the perception and annoyance of noise from industrial wind turbines is compared to planes, trains, and automobiles. This shows us the effects of noise from industrial wind turbines is even worse than what was studied by the WHO regarding the negative health effects it has on those who have to live among them.

We all should have an understanding on the effect that noise has on sleep. I would remind you that a person doesn't have to become fully awake to have their sleep patterns disrupted. Again, in 2009 the WHO found significant evidence to support that at 35dB there were changes in various stages of sleep and sleep structure was fragmented. This was for what the WHO studied, it has been shown that people's perception and annoyance to industrial wind turbine noise occurs at a much lower amount at much higher annoyance. This shows us that there is sleep disturbance and disruption that causes a negative health effect on those in and around industrial wind zones. Does it affect everyone? No, but it does show it is going to have an effect on a significant portion of the population.

In 2016 the American Academy of Sleep Medicine published a consensus statement on the recommended amount of sleep needed for the pediatric population. In this statement they stated that insufficient sleep increases the risk of accidents, injuries, hypertension, obesity, diabetes, and depression.

Without quality sleep a person's health, safety, quality of life, and performance become compromised. The applicant cannot argue this as this is medical fact. It is also a fact that the noise limits on this application is inadequate to not have a negative effect on the sleep pattern of a significant number of people who live in and around this project.

Just two more things to consider. In 2016 the Polish Institute of Health recommended a minimum setback of an industrial wind turbine to a building occupied by humans of 2 km. It is their opinion that turbines situated closer than this will have a negative impact of the comfort of living and health of those living in close proximity to industrial wind turbines. There as so many experts and professionals in acoustics/sound/noise/medicine that are doing original work that shows the negative effect industrial wind turbines are having on the health of those who have to live in and around them. It is time for the PUC to understand this and conclude that with

this information the applicant cannot prove that this project will not pose a threat to the health, safety, and welfare of the inhabitants.

I ask that you deny this application.

Thank you for reading this and considering it in your deliberations on this application.

David Brouwer

President We-Care

47485 289<sup>th</sup> St

Beresford, SD 57004

[davidbrouwer@msn.com](mailto:davidbrouwer@msn.com)