BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY PREVAILING WIND PARK, LLC FOR A PERMIT OF A WIND ENERGY FACILITY IN BON HOMME COUNTY, CHARLES MIX COUNTY AND HUTCHINSON COUNTY, SOUTH DAKOTA, FOR THE PREVAILING WIND PARK PROJECT

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APPLICANT'S FIRST SET OF DATA REQUESTS TO INTERVENOR KELLI PAZOUR

EL18-026

Below, please find Prevailing Wind Park, LLC's ("Applicant") First Set of Data Requests to Intervenor Kelli Pazour. Please submit responses by October 5, 2018 in accordance with the Order Granting Party Status and Establishing Procedural Schedule or promptly contact the undersigned to discuss an alternative arrangement.

. 1-1) Provide copies of all data requests submitted by the PUC Staff to you in this proceeding and copies of all responses to those data

requests. Provide this information to date and on an ongoing basis.

. 1-2) Identify:

. a) Your educational background;

. I went to Mitchell tech for two year degree in Agriculture. Then went to Dakota Wesleyan University for Special Education.

. b) Your employment background;

. Ranch and Farmer

. c) Any other proceedings, hearings, or other actions in which you have offered sworn testimony.

. none

. 1-3) In your Application for Party Status in the above-referenced action, it states: "I live on land in close proximity to or within the project's footprint. I have concerns regarding the applicant['s] compliance with applicable laws and rules, regarding environmental, infr[a] sounds, and acoustics. This project will impair the health, safety and welfare of inhabitants of the area." With respect to above, please respond to the following:

. a) Identify with specificity your "concerns regarding the applicants[s] compliance with applicable laws and rules." Because the Submitted Application had so many errors, missing data. I do not know if they have complied with the laws. The application was missing some of the neighbors, cemeteries and the report of wildlife is understated. I question the accuracy of a small sample observation for wildlife in my area.

. b) Identify with specificity your concerns "regarding environmental, infr[a] sounds, and acoustics." I have listed

my concern and are referenced in (1-7)

. c) Identify with specificity your concerns that the Project "will impair the health, safety and welfare of inhabitants of the area."

. I am concerned with the Info-sounds as well as the acoustics that come off the wind turbines. I am concerned about how the sound waves will affect my daughter's hearing. In 1-7, I list information that I reviewed and formed my opinion.

. d) Identify with specificity any other concerns you have regarding the Project.

. I am concerned about how close they are to people's homes and their height. After talking to Dr Jay Tebbitts, who worked on the board of Health and investigated the Sherry Wind Farm, I have a greater concern now. He studied the Sherry Wind Farm and found that it was causing issues. The turbines where only 495 ft. tall and the set back to this site was 1250. Who's to say with the new turbines that they are requesting that are about 600ft. couldn't have the same impact? Please see the references to his work in 1-7.

. 1-4) State whether you live at the residence throughout the entire year and, if not, how many months of the year you reside at the residence.

. We live 12 out of 12 months at our home.

. 1-5) Describe how you use your land, including, but not limited to, whether you use your land for agricultural purposes.

. Ranch and Farm the land.

1-6) Describe any mitigation measures that could address your concerns with respect to the Project.

Ideally, I feel there really is no mitigation that would keep our current state. Esthetically, a three-mile setback would still impact the environmental landscape. I do feel the three-mile setback would minimize the low frequency sound issues although may not eliminate them.
I strongly feel the new radar detection system is mandatory, since we are currently impacted by the existing Beethoven light system.
I will have 19 with in a three mile radius around me. The Applicants proposed mitigation for shadow flicker and sound buffering is inadequate and not acceptable. We have severe concerns about the noise level and shadow flicker and would like to request independent oversite during and post construction for the entire time of the project's existence. I would like a system in place to expediate the violations or grievance of those impacted if the application is approved. I also have independent studies that show that there should be two decibel levels for day and one for night. I strongly feel based on research that the levels should be 35 daytime and 30 night. I feel this is not much to ask for to keep my daughter safe and others.

. 1-7) Identify any documents, information, education, training, or professional experience you have relied upon to form your opinions concerning the Project. Where you have relied upon documents or other tangible materials, please provide such documents and/or materials.

I have been doing research starting back in 2014 to Educate myself. I want to know or if there are any health issues around hearing or hearing aids. I am still looking up data to keep myself informed.

https://hearinghealthmatters.org/hearingviews/2014/wind-turbine-noise-evidence-health-problems/

"*We know that things we cannot see, touch, taste, or smell can hurt us, so why is it unreasonable also to believe that what we can't hear might also hurt us?*

Persons affected by wind turbine noise appear to be responding directly to acoustic stimulation of the same nerves and organs affected in that experimental environment. "

We know x-rays can cause harm even if we can't see them so who do know without reasonable doubt that these new wind turbines will not have any harmful effects?

"The right of the public to enjoy health and well-being should be paramount to the economic and political interests of the wind industry and governmental bodies. These rights need to be protected on a proactive, and not just on a retroactive, basis. Industrial-scale wind turbines should be sited only at distances from residents that are sufficient to minimize sleep disturbance and that do not put them at risk for a variety of other serious health problems."

https://successforkidswithhearingloss.com/wp-content/uploads/2014/09/Wind-Turbine-Noise-What-Audiologists-Should-Know.pdf

"Inaudible components can induce resonant vibration in solids, liquids, and gases—including the ground, houses, and other building structures, spaces within those structures, and bodily tissues and cavities—that is potentially harmful to humans. The most extreme of these low-frequency (infrasonic) emissions, at frequencies under about 16 Hz, can easily penetrate homes. Some residents perceive the energy as sound, others experience it as vibration, and others are not aware of it at all. Research is beginning to show that, in addition to sleep disturbances, these emissions may have other deleterious consequences on health." (p22)

So, with these low sounds and frequencies they can't say that it can't penetrate people's houses. People's homes are where you get your rest or feel safe. If sounds or acoustics penetrate your home what effects of long term could there be? With these new turbines being 600ft do they don't know. Sound waves can affect everyone differently; I don't want my daughter to feel that she is not safe at home because if she has problems related to the wind turbines.

"Among audiologists and acousticians, it has been understood for many decades that sufficiently intense and prolonged exposure to environmental noise can cause hearing impairment, annoyance, or both. In essence, the view has been what you can hear can hurt you. In the case of wind turbines, it seems that what you can't hear can also hurt you. Again, there is no evidence that noise generated by wind turbines, even the largest utility-scale turbines, causes hearing loss. But there is increasingly clear evidence that audible and low-frequency acoustic energy from these turbines is sufficiently intense to cause extreme annoyance and inability to sleep, or disturbed sleep, in individuals living near them. "

With my daughter's issues, how do I know that she could be the first Ginny pig for being the first one. Knowing she has only one ear and not knowing how this could change her life!

"According to the World Health Organization guidelines (WHO, 2007), observable effects of nighttime, outdoor wind-turbine noise do not occur at levels of 30 dBA or lower. Many rural communities have ambient, nighttime sound levels that do not exceed 25 dBA. As outdoor sound

levels increase, the risk of AHEs also increases, with the most vulnerable being the first to show its effects. Vulnerable populations include elderly persons; children,

FiGURE 2: Utility-scale wind turbines located in Huron County, Michigan.

especially those younger than age six; and people with pre-existing medical conditions, especially if sleep is affected. For outdoor sound levels of 40 dBA or higher, the WHO states that there is sufficient evidence to link prolonged exposure to AHEs. While the WHO identifies long-term, nighttime audible sounds over 40 dBA outside one's home as a cause of AHEs, the wind industry commonly promotes 50 dBA as a safe limit for nearby homes and properties. Recently, a limit of 45 dBA has been pro- posed for new wind projects in Canada "(Keith et al, 2008)." (p27)

Much of the answer as to why the wind industry denies that noise is a serious problem with its wind tur- bines is because holding the noise to 30 dBA at night has serious economic consequences. Bottom line is that they would lose money! Prevailing Wind never said that they couldn't do it at our county commissioners meeting. I feel that it's not out of reach that there should be two setting for the wind turbines one for day time and one for night! I feel 45 dba is not expectable. Prevailing winds also made the remark that they could go as low as 43dba! With the technology they say they have, why couldn't they turn them off at night and control the dba at night.

https://doi.org/10.1177%2F0270467611412548

"Research linking loud sounds to hearing loss in youngsters is now widespread, resulting in the issuance of warnings to protect children's hearing. However, studies attesting to the adverse effects of intrusive sounds and noise on children's overall mental and physical health and well-being have not received similar attention."

"Furthermore, based on our knowledge of the harmful effects of noise on children's health and the growing body of evidence to suggest the potential harmful effects of industrial wind turbine noise, it is strongly urged that further studies be conducted on the impacts of industrial wind turbines on their health, as well as the health of their parents, before forging ahead in siting industrial wind turbines".

I truly believe that their needs to be more studies done pertaining to this! I feel the without enough studies done. This should be done before this project can go forwards. At this time, I believe that the applications should be denied.

https://wcfn.org/2015/01/18/health-and-wind-farms/

"Will noise or other direct or indirect consequences (and which consequences) of the operation of the Stony Gap wind farm erected as contemplated in the Application, and involving turbines of the type and dimensions referred to in the Application, in your opinion be likely to cause adverse health effects or significantly exacerbate existing adverse health effects to a significant percentage of the population living within up to 10 kilometers of the turbines from the Stony Gap Wind Farm?" "In my opinion, it is inevitable that this proposed wind development, if built in this location with turbines of the specified size, will cause serious harm to the physical and mental health of a significant percentage of the surrounding population, including particularly to vulnerable groups such as young children, the elderly, and those with pre existing medical and psychiatric conditions, who live and work in the sound energy impact zone of this proposed Stony Gap Wind Farm (SGWF), out to a distance of at least 10 kilometers from the turbines, over the lifetime of the project. This harm will be caused directly by the audible and inaudible sound energy generated by the wind turbines, which will cause significant repetitive sleep disturbance, and physiological stress. The physiological mechanisms have been demonstrated in animals to be due to abnormal activation of the vestibular system and sympathetic nervous system by the effect of infrasound and low frequency noise (ILFN) on the inner ear." (1)

With my daughter's already preexisting medical conduction these are true worries for me as her mom, she has had a very hard life already and I do not want to add other issues. I believe their needs to be more research done before these monster high wind turbines can be placed by people. There is already reports of health issues around the world of wind turbines that are shorter causing habit with people.

http://windturbinechildren.org/site/the-effects-of-wind-turbines-on-children/

"This noise would also negatively affect children and adults who are severely hearing impaired and have a cochlear implant. The microphone on a cochlear implant picks up noise from the environment, as well as speech sounds. The constant noise from the turbines would severely inhibit the ability of a person with a cochlear implant to process sounds, especially speech.

The intrusive sounds created by wind turbines do not only affect children with special needs, but also negatively affect all children. The constant noise can negatively affect the physical and mental well-being of all children. The cardiovascular system, central nervous system, memory, language processing and cognition as well as learning abilities can all be affected by intrusive noises, such as the noise made from wind turbines."

There is no garnet that these wind turbines cannot affect kids or adults. Every single life maters! We shouldn't be a percentage on a scale!

https://www.wind-watch.org/documents/infrasoundlow-frequency-noise-and-wind-turbines/

"Noise measurements for most studies and environmental assessments have been limited to the measurement of audible sound outside homes– using dBA weighted monitoring which is insensitive to infrasound frequencies. Some studies and environmental assessments have even relied on projected audible sound averages from computer produced models."

In real life, there are no models to predict what the sounds will be like. We have weather that has a low front come in or a high front. Our weather is unpredictable as well as sounds, so to use a computer model is not acceptable.

http://wiseenergy.org/Energy/Health/Summary_references_wind_turbines_and_health_April_2015.pdf

"***Wind turbines produce sound that is capable of disturbing local residents and is reported to cause annoyance, sleep disturbance, and other health-related impacts. An acoustical study was conducted to investigate the presence of infrasonic and low-frequency noise emissions from wind turbines located in Falmouth, Massachusetts, USA. During the study, the investigating acousticians experienced adverse health effects consistent with those reported by some Falmouth residents. The authors conclude that wind turbine acoustic energy was found to be greater than or uniquely distinguishable from the ambient background levels and capable of exceeding human detection thresholds. The authors emphasize the need for epidemiological and laboratory research by health professionals and acousticians concerned with public health and well-being to develop effective and precautionary setback distances for industrial wind turbines that protect residents from wind turbine sound. "***

Prevailing winds made a comment that they have in the past not planned out where placing of the wind turbines, because of this who knows if they have got it right yet? With all of these issues that are related to wind turbines, do we know with a reasonable dot they have everything right yet? I feel that a three-mile set back is not too much to ask for.

http://hearinghealthmatters.org/hearingviews/2014/wind-turbine-noise-evidence-health-problems/

"Wind turbine noise is not known to cause hearing loss. Interestingly, though, individuals who have hearing disorders may be more susceptible than persons with normal hearing to AHEs from wind turbine noise, and people who are deaf can suffer the same ill effects as those who have normal hearing when exposed to wind turbine noise. The latter finding supports the view that infrasound, not just the audible whooshing, low-frequency noise emitted by wind turbines, is the cause of many of the health complaints."

This is my biggest fear is that she could be more susceptible to the sound noise than a normal person is.

http://hearinghealthmatters.org/hearingviews/2014/wind-turbine-noise-evidence-health-problems/

"Wind turbine noise is not known to cause hearing loss. Interestingly, though, individuals who have hearing disorders may be more susceptible than persons with normal hearing to AHEs from wind turbine noise, and people who are deaf can suffer the same ill effects as those who have normal hearing when exposed to wind turbine noise. The latter finding supports the view that infrasound, not just the audible whooshing, low-frequency noise emitted by wind turbines, is the cause of many of the health complaints."

With my daughter's hearing lose I am afraid of what this could due to her!

Annoyance from turbine noise at 35 dBA corresponds to the annoyance reported for other common community-noise sources at 45 dBA. The World Health Organization (WHO) has concluded that observable effects of nighttime, outdoor noise levels of 40 dBA or higher will lead to diminished health. This also occurs when levels inside homes (especially bedrooms) rise above 30 dBA or contain non-steady and/or low-frequency noise."

This is the reason I am so worried about sounds. Their needs to be more implements to help protect kids or adults with these issuses.

http://journals.sagepub.com/doi/pdf/10.1177/2331216518789551

"This review considers the nature of the sound generated by wind turbines focusing on the low-frequency sound (LF) and infrasound (IS) to understand the usefulness of the sound measures where people work and sleep. A second focus concerns the evidence for mechanisms of physiological transduction of LF/IS or the evidence for somatic effects of LF/IS. While the current evidence does not conclusively demonstrate transduction, it does present a strong prima facia case. There are substantial outstanding questions relating to the measurement and propagation of LF and IS and its encoding by the central nervous system relevant to possible perceptual and physiological effects. A range of possible research areas are identified."

I believe this need to be factored in when making a decision. With long term exposer, this can change factors of anything.

"Other sources of sound include the aerodynamic noise generated by air flow across and leaving the trailing edge of the blades (trailing edge noise) and mechanical noise from the nacelle equipment. By contrast with BPF noise, the aerodynamic noise from the blades is broadband with a low-pass roll-off (5 dB per octave > 1 kHz; Figure 2 on (p2)"

The sounds that come off wind turbines have a high effect of peoples that live next to them. With the sounds that are generating off of them who knows what could impact on her hearing aid.

1-8) Are you asserting the Project will negatively impact the value of your property? If so, provide copies of any appraisals that have been conducted for your property within the last ten (10) years.

none

1-14) Provide all records, including but not limited to studies, reports, analyses and documents, relating to your opinion regarding adverse effects of wind turbines on hearing aids, including bone anchored hearing aids.

Refer to 1-7 to many to include.

1-15) Provide any documents referred to or relied upon in your responses to this First Set of Data Requests.

Provided above

1-16) Please consider each question ongoing and update answers to the extent that your testimony will be broader than identified in your Application for Party Status.

Dated this 24th day of September 2018.

By /s/ *Lisa M. Agrimonti*_____ Mollie M. Smith Lisa M. Agrimonti FREDRIKSON & BYRON, P.A. Attorneys for Applicant

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