BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY DEUEL HARVEST WIND ENERGY LLC FOR A PERMIT OF A WIND ENERGY FACILITY AND A 345-kV TRANSMISSION LINE IN DEUEL COUNTY	* * * * * * * *	**REBUTTAL TESTIMONY OF INTERVENOR CHRISTINA KILBY** **EL18-053**

1. In response to Mr. Hessler's, Mr. Hankard's, Dr. Roberts' and Dr. Ellenbogen's Testimony, I submit the testimony of Mr. Robert Rand, and all accompanying attachments (six attachments including testimony). I intend to call Mr. Rand as a witness.

2. In response to Mr. Hessler's, Mr. Hankard's, Dr. Roberts' and Dr. Ellenbogen's, I hereby incorporate Christina Kilby's Responses to Staff's Second Set of Data Requests.

3. In response to Dr. Ellenbogen's Pre-filed Supplemental Direct Testimony:

Dr. Ellenbogen fails to discuss recent studies into the effects of sound and infrasound on people, specifically The Results of an Acoustic Testing Program, Cape Bridgewater Wind Farm Prepared for Energy Pacific by Steve Cooper, The Acoustic Group (See Schomer Review, Kilby Ex. R5, and Hessler Schomer Review, Kilby Ex. R4) among others. Dr. Ellenbogen fails to address any case studies regarding effects of wind turbines on people. (See Some of the Case Studies, William G. Acker, Kilby Ex. R2) Dr. Ellenbogen fails to address studies indicating "a dose-response relationship between wind turbine noise. Annoyance, sleep disturbance and possibly even psychological distress." (See Schmidt JH, Klokker M (2014) Health Effects Related to Wind Turbine Noise Exposure. A Systematic Review. PLoS ONE 9(12); e114183. Doi:10.1371/journal.pone.0114183, Kilby Ex. R3) as well as numerous other studies on the topic. There are numerous other studies and articles that Dr. Ellenbogen has failed to include in his analysis.

Dr. Ellenbogen has not done any scientific studies on the effects of wind turbines on people and has not provided results of any studies done that prove wind turbines do not cause harm to people. Dr. Ellenbogen has examined four people and from those examinations he determines that no health effects result from people living near wind turbines.

I believe Dr. Ellenbogen plays word games by making statements such as "[f]rom a medical and scientific point of view, 'wind-turbine syndrome' does not exist. (Ellenbogen Supp. Direct, p 7) This is quite different than proving that wind turbines sited as they are in the Project will not harm people. Dr. Ellenbogen fails to provide any evidence that wind turbines do not

cause harm to people, or evidence that wind turbine noise is less annoying or harmful than other types of sound. He has testified multiple times in favor of wind energy projects and likely benefits financially from doing so.

I do not believe Dr. Ellenbogen has addressed the problems caused by infrasound. I hereby incorporate the study attached to my Responses to Staff's Second Set of Data Requests that finds "Infrasound from a 60-turbine windfarm was found to propagate to distances up to 90km under nighttime atmospheric conditions." (Marcillo, O., S. Arrowsmith, P. Blom, and K. Jones (2015), On infrasound generated by wind farms and its propagation in low-altitude tropospheric waveguides, J. Geophys. Res. Atmos., 120, 9855–9868, doi:10.1002/2014JD022821, Abstract) (Kilby Response to Staff's Data Requests, Att. 3). The long distance infrasound from wind projects is able to travel may explain some of the results of the Health Canada study submitted by Dr. Ellenbogen. The study may not have included enough of an area surrounding the project to see the difference in symptoms between those affected by infrasound from the wind turbines and those who are not exposed to infrasound. Dr. Ellenbogen also fails to address the differing levels of sensitivity to infrasound and noise from wind turbines. For all of these reasons I do not believe Dr. Ellenbogen's analysis is complete on the issue of the harm to people caused by wind turbines.

4. In Response to Mr. Hessler's Testimony:

Mr. Hessler is contradicting his previous recommendation in the Prevailing Wind docket based on his belief that a "the project does not lend itself at all to any easy reconfiguration that would drop the sound level to no more than 40 dBA at all non-participants." (Hessler Testimony, p 6) Mr. Hessler testified that he would like a noise limit of 35 dBA, but that "such a level cannot be realistically achieved at this project, or at virtually any project located in a populated area." (Hessler, p 8) Mr. Hessler has no duty to place the project's feasibility over the well-being of people living in the area. In fact I believe it is the burden of Deuel Harvest to prove that the project will not cause significant harm and is compatible with the area, including the people.

I believe under 30dB is required to avoid any impact on sleep from noise. This is based on the attached study, Kenneth Hume et. al, Effects of Environmental Noise on Sleep, Noise & Health, November-December 2012, Volume 14:61, 297-30, p. 297. (Kilby Response to Staff's DR 2, Att. 1) The study reports 30dB is the level under which no substantial biological effects are observed. (Id., p. 299) Mr. Hessler fails to address this study.

5. In Response to the Testimony of Mr. Marous

I hereby incorporate my response to Staff's Data Request 2-8 into my rebuttal testimony.

6. I hereby incorporate my attachment regarding distance of blade throw submitted with my previous testimony as rebuttal to Mr. Jacob Baker's Testimony.

Dated: April 1, 2019

/S/ Christina Kilby

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