

February 14, 2019

South Dakota Public Utilities Commission
Public Utilities Commission Staff
Capitol Building, 1st Floor
500 E. Capitol Ave.
Pierre, SD 57501-5070

RE: Scientific Basis for 30-Hour Shadow Flicker Standard used by Crowned Ridge Wind Farm

Public Utilities Commission Staff:

Since November 2016, Dr. Ollson of Ollson Environmental Health Management (OEHM) has been retained by NextEra Energy Resources (NEER) to aid in the proper siting of the Crowned Ridge Wind Farm in South Dakota. Over the past two years Deuel County, Codington County and Grant County have all undertaken updates to their local ordinances governing local siting of wind turbines. Throughout this time Dr. Ollson, on behalf of NEER, provided both written and oral presentations to their Planning and Zoning and County Commissions on science-based appropriate siting requirements to protect the health and welfare of county residents.

OEHM has been asked to provide a response to the South Dakota Public Utilities Commission (PUC) Staff data request:

"Did Applicant base its 30-hour per year shadow flicker limit on any factor other than county ordinance? If so, provide support."

This report summarizes the information that was provided to each county in development of local ordinances and its scientific basis.

In summary, over the past decade there has been considerable research conducted around the world evaluating health concerns of those living in proximity to wind turbines. This independent research by university professors, consultants and government medical agencies has taken place in many different countries on a variety of models of turbines that have been in communities for numerous years. Based on scientific principles, and the collective scientific findings presented in research articles, OEHM believes that:

1. Shadow flicker is not a health concern (e.g., seizure in photosensitive epileptics), rather it can be considered a nuisance by some non-participating project residents.
2. There is no scientific evidence that shadow flicker impairs quality of life or is of particular nuisance for any duration of time. Limiting shadow flicker to no more than 30-hours a year at non-participating residences is commonplace in those United States jurisdictions that have set standards. It has been effective to reduce complaints associated with those living in proximity to wind projects.

All of the scientific journal articles have been attached to this report for the benefit of PUC Staff.