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February 16, 2021

Patricia Van Gerpen
Executive Director
SD Public Utilities Commission
500 E. Capitol Ave.
Pierre, SD 57501

RE: EL19-003, In re Crowned Ridge I Wind Farm

Ms. Van Gerpen,

Attached for filing is a technical report titled *Crowned Ridge Wind Final Operational Sound Test Data Review and Assessment* authored by Staff's expert witness David Hessler for the Crowned Ridge I Wind Farm in Docket No. EL19-003. The technical report opines that the Project is in compliance, however it should be noted that the report also identified a period when the sound measurements exceeded the permit limits during a period of what appeared to be anomalous weather conditions.

As stated in the report, Mr. Hessler identified seventeen hours at three test locations during the three-week test period in which the Project exceeded the sound limits established in Crowned Ridge Wind's permit. The locations were at two non-participating and one participating receptor. Mr. Hessler believes that anomalous weather conditions resulted in the exceedances since the Project was in compliance during all other times during the survey period. Further, Mr. Hessler notes that these exceedances occurred when the closest wind turbines were operating at less than full power.

On September 21, 2020, Crowned Ridge Wind filed the 2020 Sound Level Measurement Program Protocol (Protocol). The Commission issued an *Order Approving Sound Level Measurement Program Protocol* on October 2, 2020 and approved the Protocol. In that Protocol, Crowned Ridge Wind's consultant Epsilon Associates Inc. (Epsilon) identified that "evaluation periods will conservatively be when electrical output is at its rated maximum from the wind turbines, i.e. 2,300 kW unless valid and finalized [enhanced power curve operations sound and power curve] data are provided by GE prior to sound level evaluation." It is Staff's understanding that GE has not yet finalized the sound level data for enhanced power curve operations. As such, Mr. Hessler believes that Epsilon only evaluated periods when the closet turbines to the receptors were operating at full power as identified in the Protocol and, thus, Epsilon did not find the period when the Project sound levels were higher than the Permit limits at the three receptors.

It should also be noted that Permit Condition 26 also identifies the method to be used for sound tests. Subpart e)i. of Condition 26 states: "[a]t a minimum, the closest five wind turbines will be operating for evaluation periods and when at least the closest wind turbine is operating at a condition at full (within one decibel of maximum sound power levels) acoustic emissions." This differs from the approved Protocol provided above which looked at wind turbine power levels to conservatively assume when maximum acoustic emissions are

occurring. It is possible that the wind turbines were operating at a condition at full acoustic emissions during the exceedance period even though the wind turbines were not operating at full power.

Finally, it should be noted that Subpart f) of Condition 26 states that “[c]ompliance shall be demonstrated if all samples are less than the limits.” However, Mr. Hessler’s professional opinion is the Project is in compliance and states: “[b]ecause the overages occurred only once at only three of the six test positions during this unusually long three week survey period and because wind turbine noise is unavoidably variable with changing atmospheric conditions, we would conclude that the project has been appropriately designed and is meeting, in good faith, the intent of the permit noise limits.”

Should the Commission or any part to the docket have any questions regarding Mr. Hessler’s technical report and findings, Staff will make Mr. Hessler available for a discussion during a Commission meeting.

Sincerely,



Kristen N. Edwards
Staff Attorney