

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

IN THE MATTER OF THE APPLICATION)
BY CROWNED RIDGE WIND, LLC FOR A)
PERMIT OF A WIND ENERGY FACILITY)
IN GRANT AND CODINGTON COUNTIES)

EL19-003

) **APPLICANT'S RESPONSES TO**
) **STAFF'S FIRST SET OF DATA**
) **REQUESTS TO CROWNED**
) **RIDGE WIND, LLC**

- 1-1) Provide copies of all pleadings in any civil appeal associated with the county permit(s) related to this project.

Response:

Attached are all pleadings in any civil appeal associated with the county permit(s) related to this Project.

Respondent: Miles Schumacher, Attorney

- 1-2) See pages 75-78 of the Application. Did Applicant measure setback distances from property lines and rights-of-way of public roads using the height of the tower, rather than the tower and blade tip?

Response:

The Applicant measured setback distances from property lines and rights-of-way of public roads using the total wind turbine height (height of the tower and blade tip).

Respondent: Sam Massey, Director of Renewable Development
Tyler Wilhelm, Project Manager

- 1-3) Confirm that the setbacks accounted for section line roads, which are defined as public highways pursuant to state law.

Response:

Confirmed.

Respondent: Sam Massey, Director of Renewable Development
Tyler Wilhelm, Project Manager

- 1-4) Do the studies submitted with the Application, including but not limited to shadow and noise studies, account for the cumulative impact of both Crowned Ridge I and II and any other existing or planned project in the area?

Response:

Yes. In Section 8 of the Application, we stated that:

ARSD 20:10:22:13 states, “The environmental effects shall be calculated to reveal and assess demonstrated or suspected hazards to the health and welfare of human, plant and animal communities which may be cumulative or synergistic consequences of siting the proposed facility in combination with any operating energy conversion facilities, existing or under construction.” The Applicant is unaware of any other operating energy conversion facilities, existing or under construction, or other major industrial facilities under regulation within or adjacent to the Project Area. As such, no cumulative or synergistic consequences related to environmental effects contemplated by the regulation are known to exist for the proposed Project. The Applicant is aware that the Dakota Range Wind area located to the northwest of the Project has been permitted through the PUC, but not yet constructed. In addition, the Cattle Ridge Project also was permitted locally through Grant County and was subsequently acquired by the Applicant and is now included as part of the Project.

The Applicant has also addressed the cumulative impacts of Crowned Ridge I and II on acoustic and shadow flicker results. For example, Section 3 of the Acoustic Report filed with the PUC application as Appendix H and Section 3 of the Shadow Flicker Report filed as Appendix I contain the following language excerpts:

Acoustic (last paragraph of Section 3, page 6)

Wind Turbines from Adjacent Projects: The Crowned Ridge II project is adjacent to the Crowned Ridge project. Because sound impacts are cumulative, there will be impacts from the Crowned Ridge II project that will be additive to the impacts from the Crowned Ridge project. The Crowned Ridge II wind turbine array was included in the model to capture the full sound impacts

on the receptors; however, the tabular results and the sound iso line map only show the sound emissions from the Crowned Ridge array.

Shadow Flicker (third to last paragraph of Section 3, page 6):

Wind Turbines from Adjacent Projects: The Crowned Ridge II project is adjacent to the Crowned Ridge project. Because shadow flicker impacts are cumulative, there will be impacts from the Crowned Ridge II project that will be additive to the impacts from the Crowned Ridge project. The Crowned Ridge II wind turbine array was included in the model to capture the full shadow flicker impacts on the receptors, which are included in the tabular results; however, the shadow flicker iso line maps only show the shadow flicker from the Crowned Ridge array.

Respondent: Kim Wells, Environmental Services Manager

- 1-5) Has Applicant considered the cumulative impacts of this project and the Dakota Range project previously approved by the Commission for the same area? Please explain.

Response:

The Applicant considered the cumulative effects of both the proposed Dakota Range turbines and Crowned Ridge I and II turbines on modeled levels of sound and shadow flicker. The Applicant used turbine coordinates for all 97 turbines of Dakota Range, including primary and alternate turbines for the V136 4.2MW technology with serrated blade edges provided by Dakota Range in their application and turbine sound specifications provided directly by Vestas to EAPC who performed the modeling under subcontract to SWCA. The loudest noise level for that turbine with serrated edge blades is 103.9 dBA at 9 m/s and higher. An additional 2 dBA was added to the noise emission data, for a maximum of 105.9 dBA, consistent with the approach used for Crowned Ridge, and also the approach used by Epsilon for Dakota Range.

The results indicate there were no exceedances for sound at any of the points of compliance for either county included in Crowned Ridge I modeling. All non-participating parcel boundaries in Codington County are below 50 dBA, all non-participating structures in Codington County are at or below 45 dBA, and all participating structures in Codington are below 50 dBA. All non-participating and participating structures in Grant are below 45 dBA. The shadow flicker results show one exceedance at an occupied receptor, which is a non-participating farmstead (Crowned Ridge receptor ID CR1-C61-NP; Dakota Range receptor ID 1705) for the Crowned Ridge I project. The occupied receptor is a non-participating active farmstead for the Crowned Ridge I Project that would receive 49 hours and 6 minutes of shadow flicker. The contribution to flicker from the Dakota Range project for the non-participating active farmstead is 21 hr. and 24 min. The contributing Dakota Range turbines are primary turbine, numbers 68 and 69. This receptor is located near the Crowned Ridge turbine CR1—16.

Respondent: Kim Wells, Environmental Services Manager

- 1-6) Has Applicant applied to the FAA for approval to utilize ADLS technology? Provide copies of agency communication.

Response:

The Applicant intends to utilize ADLS technology for the Project. The Applicant is currently working with vendors to establish design requirements and will apply with the FAA for use of ADLS, once the FAA first provides its initial determination of no hazard which is expected in July 2019.

Respondent: Sam Massey, Director of Renewable Development
Tyler Wilhelm, Project Manager

- 1-7) Provide a copy of the contract/land use agreement signed by landowners, as well as any contracts that differ from the standard contract.

Response:

Confidential Attachment 1 represents the standard contract/land use agreement signed by the Project's landowners. Confidential Attachment 2 represents the land lease agreement that was associated with the development of the Cattle Ridge Wind Farm. The Applicant acquired the Cattle Ridge Wind Farm land lease agreements, which are leases used for this Project.

Respondent: Sam Massey, Director of Renewable Development
Tyler Wilhelm, Project Manager

1-8) Does Applicant offer a “good neighbor” contract? If so, provide a sample.

Response:

The Applicant interprets the question to ask whether it is providing non-participants compensation through a written agreement. The Applicant has not executing agreements with non-participants. As the Project proceeds, if there a specific need to mitigate an identified impact with a non-participant, the Application may entered into an agreement related to the implementation of the mitigation.

Respondent: Sam Massey, Director of Renewable Development
Tyler Wilhelm, Project Manager

1-9) Provide a copy of the PPA referenced on page 15 of the Application.

Response:

Confidential Attachment 1 is a copy of PPA executed between Northern States Power Company and Crowned Ridge Wind, LLC.

Respondent: Sam Massey, Director of Renewable Development
Tyler Wilhelm, Project Manager

- 1-10) Did Applicant base its 30-hour per year shadow flicker limit on any factor other than county ordinance? If so, provide support.

Response:

Yes, the Applicant consulted with Dr. Chris Ollson of Ollson Environmental Health Management to develop the Project with consideration of science-based, appropriate siting requirements, and the health and public welfare of all Project landowners. Attachment 1 contains a memorandum drafted by Dr. Ollson which supports the Applicant's siting of the Project with a 30-hour per year shadow flicker limitation.

Respondent: Sam Massey, Director Renewable Development
Tyler Wilhelm, Project Manager and Dr. Chris Ollson

- 1-11) Has Applicant reached out to non-participating landowners with shadow flicker levels approaching the maximum to mitigate the shadow flicker? Explain.

Response:

The Applicant has reached out to all landowners, including non-participants, within a half mile of the Project Area to inform them of the Project. The Applicant has hosted multiple public events and participated in all required public hearings to inform affected landowners of potential impacts from the Project, to include shadow flicker. Any landowners who report a nuisance from shadow flicker will be offered mitigation landscaping and/or payments. The Applicant will continue to engage with affected landowners to mitigate the potential impacts from the project.

Respondent: Sam Massey, Director of Renewable Development
Tyler Wilhelm, Project Manager

- 1-12) In the testimony of Wilhelm and Massey, it is stated that 99% of all property rights have been obtained. Explain the remaining 1%.

Response:

The remaining 1% pertains to one outstanding easement needed to host underground collection facilities. The Applicant is working actively with the landowner and anticipates obtaining the collection easement by March 31, 2019.

Respondent: Sam Massey, Director of Renewable Development
Tyler Wilhelm, Project Manager

1-13) What capacity factor was assumed when calculating the predicted tax revenue?

Response:

The capacity factor was assumed when calculating the predicted tax revenue is set forth in Confidential Attachment 1.

Respondent: Sam Massey, Director of Renewable Development
Tyler Wilhelm, Project Manager