

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

IN THE MATTER OF THE APPLICATION )	
BY CROWNED RIDGE WIND, LLC FOR A )	EL19-003
PERMIT OF A WIND ENERGY FACILITY )	
IN GRANT AND CODINGTON COUNTIES )	<b>APPLICANT’S RESPONSES</b>
)	<b>TO INTERVENOR’S FIFTH</b>
)	<b>SET OF DATA REQUESTS TO</b>
)	<b>CROWNED RIDGE WIND, LLC</b>

Attached, please find Applicant’s Responses to Intervenor’s Fifth Set of Data

Requests to Crowned Ridge Wind, LLC.

- 5-1) Please provide the details of the sounds pressure levels received at each of the property listed below for each of the five closet wind turbines to each property line reception point.

Intervenor Property ID List

Intervenor Property ID List

#	Receptor ID from Model
1	CR1-G7—NP or CR1-C70-NP confirm id number
2	CR1-C29-NP
3	CR1 or number for Kristi Mogen
4	CR1-C27-NP
5	CR1-C16-NP
6	Waverly School (319 Mary Pl., Waverly SD

For each of the receptor locations please provide the distances and sound emission levels from each of the five wind turbines closest to the nearest property line point of reception used in the model. Sound pressure emission levels shall be provided in 1/1 octave band detail (63Hz to 800Hz minimum) without any use of weighting filters plus the over all sound level in dBA and dBC sound level for each wind turbine. The bottom of the table shall show the sound pressure level of the

combined impact of each set of five wind turbines. If 1/1 octave band sound pressure levels cannot be provided then, at a minimum, provide the dBA and dBC sound levels in the appropriate columns. The table below demonstrates the type of data requested and format desired for response.

Intermediate calculations for receptor CR1-XX-NP												
Showing impact of Five Closest Wnd Turbines												
#	Turbine	Distance	Turbine Ln contribution (dB) in frequency band (Hz)								Turbine SPL	Turbine SPL
n	e ID	e (M)	63	125	250	500	1000	2000	4000	8000	(dBA)	(dBC)
1	CR12	632	45	41	37	36	32	23	1	-54	37	52
2	CR21	875	42	38	34	32	28	18	-9	-86	33	48
3	CR5	1208	39	35	31	29	24	12	-23	-128	29	44
4	CR51	1546	37	33	28	26	20	6	-37	-170	27	42
5	CR55	1749	36	31	27	25	19	3	-44	-195	24	40
-	Sum of five WT		50	43	39	37	33	24	1	-	38	53

Please provide one table for each of the six receptor points.

**Response:** The noise levels and distances to the five nearest turbines for each of the six requested receptor locations are shown in the table below. The 1/3 octave turbine emission noise data is used as an input to the noise propagation model, however, the noise levels output from the model are only given as sound pressure levels in dBA, because octave information is not produced as an output.

Receptor	Turbine	Dist. (ft)	dBA	Turbine	Dist. (ft)	dBA	Turbine	Dist. (ft)	dBA	Turbine	Dist. (ft)	dBA	Turbine	Dist. (ft)	dBA
CR1-G70-NP	CR1-113	12,651	18.34	CR1-101	15,007	16.44	CR1-108	15,112	16.36	CR1-119	15,607	16.01	CR1-Alt1	15,866	15.82
CR1-C29-NP	CR1-67	2,457	36.8	CR1-68	4,252	30.71	CR1-59	4,675	29.65	CR1-58	5,577	27.62	CR11-131	7,372	26
Mogen	CR1-134	13,186	17.87	CR1-Alt4	15,522	16.06	CR1-132	16,273	15.53	CR1-Alt15	16,903	15.1	CR1-131	17,228	14.88
CR1-C27-NP	CR1-79	2,549	36.38	CR1-91	5,974	26.81	CR1-86	6,227	26.33	CR1-89	6,450	25.91	CR1-77	7,487	24.16
CR1-C16-NP	CR11-Alt4	3,127	36.11	CR1-Alt22	2,736	35.61	CR11-Alt3	4,465	32.07	CR1-94	4,259	30.7	CR1-87	4,311	30.56
Waverly School	CR11-Alt4	5,627	29.34	CR11-Alt5	5,892	28.78	CR1-94	6,207	26.37	CR1-92	6,224	26.34	CR1-93	6,535	25.77

**Respondent:** Jay Haley, Wind Engineer

- 5-2) Page 3 of Appendix M (telecommunications report), provide the ‘no harm’ latter referenced.
  - a.) Why does the telecommunications report include 266 turbines? This project has 130 turbines.
  - b.) On page 5 of Appendix M, the turbines are located north of Waverly use 1.7 MW turbines. Are 1.7 MW turbines being used in this project?
  - c.) How will that change affect the project or any reports?
  - d.) Did Codington County approve 1.7 MW or 2.3 MW around Waverly in the CUP?

**Response:** Please see Attachment 1 for the “No Harm” letter.

a.) The combined 266 turbines in the telecommunications report represent the proposed turbine locations for both the Project and the adjacent Crowned Ridge Wind II project. The Applicant opted to conduct the telecom report with both sites together. The microwave beam path results would not change if the study was to be conducted on a site by site analysis.

b.) No, at the time the telecom report was completed, the Project considered the use of GE 1.715-103-80 turbines. The Applicant is no longer considering the use of the GE 1.715-103-80 turbines.

c.) The turbine technology switch does not affect any of the beam path results as the microwave beams generated are not dependent on turbine technology.

d.) Codington County approved of both GE 1.715-103-80 turbines and GE2.3-116-90 turbines around Waverly in the Conditional Use Permit.

**Respondent:** Tyler Wilhelm, Project Manager

- 5-3) List all SD projects that Nextera or its affiliated [companies] have been involved with and to what extent.

**Response:** Crowned Ridge Wind objects to the data request as overly broad, not relevant to the scope of the proceeding, and not reasonably calculated to lead to the discovery of admissible evidence in this proceeding before the Commission. Subject to and without waiving these objections, Crowned Ridge Wind provides the following response:

See Section 3 of the Application and Amendment to Section 3.0. NextEra Energy Resources, LLC (NEER) or an affiliate, subsidiary of NEER is involved with the following development projects in the state of South Dakota:

**Early to Late Stage development projects**

- Crowned Ridge Wind, LLC;
- Crowned Ridge Wind II. LLC;

- Cattle Ridge Wind Farm, LLC;
- Day County II Wind, LLC;

**Currently operating projects:**

- Day County Wind, LLC;
- Wessington Wind Energy Center, LLC; and
- FPL Energy South Dakota Wind, LLC.

**Respondent:** Tyler Wilhelm, Project Manager

- 5-4) Appendix M does not take into account Data Truck, LLC. Can you please provide all correspondence with the company regarding this docket.

**Response:** There is no correspondence to provide between Data Truck and Crowned Ridge Wind.

**Respondent:** Tyler Wilhelm, Project Manager

- 5-5) Section 13.1.1, Land Use, of the application states, “Two action sand and gravel pits are located in T1 8N R51 W Section 15 and 16.”

- a. Please explain where sand and gravel will be extracted to support the project. For example, will the gravel just be extracted from the two active sand and gravel pits or will new sand and gravel pits be dug either in or near the project area? Please provide a map of all sand and gravel pit extraction locations to be utilized for this project. Detail whether the pit is a current pit or a new pit.

**Response:** The sand and gravel needed for the project will be extracted from three existing pits identified on the map titled “Sand and Gravel Pits”. See Attachment 1. As Attachment 1 shows, the existing sand and gravel pits include Campbell Pit, Lowe Pit and Lindberg Pit. Sand. Also, gravel will be extracted from the new Johnson Pit, for which the required permits will be obtained before it is used.

**Respondent:** Mark Thompson, Manager Wind Engineering

- 5-6) If new sand and gravel pits will be dug to support this project, please describe the current state of the land (grassland including native, etc.)
- a. Please explain how many acres of each type of land (grassland, native grassland, hayland, row crop, etc.) will be disturbed to extract the sand and gravel, including roads to the pit location.

**Response:** The Johnson Pit will be the only new sand and gravel pit. The excavation and access to the pit will affect 15 acres of native grassland. The other pits identified (Lindberg, Campbell and Lowe) are existing pits and will not cause any new disturbance.

**Respondent:** Mark Thompson, Manager Wind Engineering  
Sarah Sappington, Director

- 5-7) Please provide an updated map 2a to include USFWS Grassland Easements, USFWS Wetland Easements, USFWS Conservation Easements.

**Response:**

Please see Attachment 1. Attachment 1 depicts a planned crane path between turbines CR-105 and CR-106 which intersects a USFWS grassland-wetland combination easement. This crane path will not be utilized. Crowned Ridge Wind, LLC currently is considering two options to avoid the USFWS grassland-wetland combination easement: 1) a reroute of the crane path, or 2) a crane breakdown to avoid a crane walk through this area.

**Respondent:** Sarah Sappington, Director; Tyler Wilhelm, Project Manager, and Mark Thompson, Manager of Wind Engineering.

- 5-8) Please provide correspondence including maps with USFWS and SDGFP related to the addition of Cattle Ridge.

**Response:** All correspondence from Crowned Ridge Wind to USFWS and SDGFP related to the addition of Cattle Ridge is included in Appendix C of the Application.

**Respondent:** Sarah Sappington, Director

- 5-9) Where and how will the damaged blades be disposed of during the construction, operation phases and at the time of decommissioning?

- a. Please provide the material and chemical composition of the blades.

**Response:** During construction, blades rarely ever get damaged and disposed, as a damaged blade is repaired on site by professional fiberglass personnel. During the operating phase, damaged blades are also repaired on site. A blade that is damaged to the point that replacement is required, is cut into pieces and hauled off site by a local contractor, either to a local or remote land fill for disposal in accordance with applicable laws. The process would be same during decommissioning. See Section 2.2 of the Decommissioning Plan, which is Appendix L of the Application.

- a. The blades are made with fiberglass infused with epoxy resin. The core materials for reinforcement are balsa and foam.

**Respondent:** Mark Thompson, Manager Wind Engineering

- 5-10) Has the applicant finalized where the water will be sourced?

**Response:** Crowned Ridge Wind is in the process of identifying the water sources. Prior to construction, the water sources will be identified and all applicable permits will be obtained prior to the use of the water. There is also a potential that during construction additional water sources will be needed, and, if so, the additional water sources will only be used after all applicable permits have been obtained.

**Respondent:** Mark Thompson, Manager Wind Engineering

- 5-11) How many gallons of water per day will be needed during the construction phase of the Crowned Ridge Wind Project?

- a. What will the water be used for? Be all-inclusive, include dust control, concrete batch plant, cleaning vehicles, etc.  
b. Provide methods for calculations.

**Response:** Average daily need will be approximately 203 Mgal

1 Mgal = 1000 gallons

- a. Water will be used for dust control, compaction (back fill, subgrade, gravel, crane pads, site laydown), and concrete batch plant processing, grouting, and cleaning of vehicles and equipment, and horizontal borings.
- b. Calculations – estimated usage are added as shown below.
  - Backfill = 3440 Mgal
  - Subgrade = 1415 Mgal
  - Gravel = 4860 Mgal
  - Sites = 1300 Mgal
  - Crane pads = 560 Mgal
  - Dust Control = 6240 Mgal
  - Concrete/Grout = 4160 Mgal (8 gallons per CY)
  - Cleaning Equipment = 600 Mgal (150 gallons per day)
  - Horizontal Boring = 180 Mgal (300 gallons per day)

Total = 22,755 Mgal

1 Mgal = 1000 gallons

**Respondent:** Mark Thompson, Manager Wind Engineering

5-12) In Applicant's Response to the Third Data Request by Staff answered by Jay Haley, the answer to questions 3-6, includes turbine information regarding sound, flicker and distance for "Mr. Allen Robish; CR1-G70-NP: 42.1 dBA, 12:04 hr/yr, 1,955 ft". Please provide.

1. Location of the turbines (map and table information)
2. Sound map and table information regarding CR10G70-NP
3. Flicker map and table information regarding CR1-G70-NP
4. All other turbine information as listed above, for any turbines within 2 miles of Mr. Robish

**Response:** Requested maps are attached as Attachment 1. The response to the Third Data Request by Staff contained an error in the coordinates of the location of the receptor as it used CR1-C70-NP instead of CR1-G70-NP. The results for CR1-G70-NP are 28.8 dBA and 00:00 hr/yr. There are no turbines within 2 miles of CR1-G70-NP. The nearest turbine is CR1-101 which is 15,008 feet away.

**Respondent:** Jay Haley, Wind Engineer



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