

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

**IN THE MATTER OF THE APPLICATION OF
CROWNED RIDGE WIND II, LLC FOR A FACILITIES PERMIT TO
CONSTRUCT A 300.6 MEGAWATT WIND FACILITY**

Docket No. EL19-

**DIRECT TESTIMONY AND EXHIBITS
OF TYLER WILHELM AND DARYL HART**

April 1, 2019

INTRODUCTION AND QUALIFICATIONS

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Q. PLEASE STATE YOUR NAMES AND BUSINESS ADDRESS.

A. Tyler Wilhelm and Daryl Hart. Our business address is 700 Universe Blvd., Juno Beach, Florida, 33408.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. We are both employed by NextEra Energy Resources, LLC (“NEER”). Mr. Wilhelm is a Project Manager of Business Development at NEER. Mr. Hart is a Director of Business Development at NEER. Together, we are responsible for the development, permitting, community outreach, regulatory compliance, and meeting the commercial operations date (“COD”) for the 300.6 megawatt (“MW”) Crowned Ridge II wind generation project (“Project”). The Project’s COD is planned to occur in or before the second quarter of 2020.

Q. WHAT IS THE ORGANIZATIONAL RELATIONSHIP BETWEEN NEER AND CROWDED RIDGE WIND II, LLC?

A. Crowned Ridge Wind II, LLC (“CRW II”) is an indirect, wholly-owned subsidiary of NEER. NEER, through its affiliated entities, is the world’s largest generator of renewable energy from the wind and sun, generating over 19,000 MWs in 29 states and Canada. NEER affiliates in the State of South Dakota own the following wind facilities: Day County Wind, South Dakota Wind Energy Center, and Wessington Springs Wind.

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Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUNDS.

A. Mr. Wilhelm has been employed by NEER since 2015, in the capacity of Land Services Representative, Associate Project Manager, and Project Manager on NEER's Midcontinent Business Development team. As a Project Manager, Mr. Wilhelm manages NEER's development efforts within the state of South Dakota. Since 2015, Mr. Wilhelm has actively developed multiple renewable energy projects within 4 mid-western states contributing to the procurement of over 200 MWs of renewable generation. His involvement in the development process has included efforts such as landowner and community outreach, lease negotiations, local and state permitting, and project origination. Prior to joining NEER, Mr. Wilhelm attended the University of South Dakota where he received his B.A in Business.

Mr. Hart has been employed by NEER since 2007 in various roles including wind farm design, utility distribution project management, and renewable energy business development on NEER's Midcontinent Development team. As a Director of Business Development, Mr. Hart has developed or overseen the development of wind energy projects in eight states with the most recent wind energy center declaring commercial operations on December 23, 2018. Prior to joining NEER, Mr. Hart spent ten years as an officer in the United States Air Force. Mr. Hart received a Bachelor of Science in Electrical Engineering from Worcester Polytechnic Institute, a Masters of Business Administration from Auburn University in 2003 and a Master of Science in Finance from Pennsylvania State University in 2015.

1 Q. HAS THIS TESTIMONY BEEN PREPARED BY YOU OR UNDER YOUR
2 DIRECT SUPERVISION?

3 A. Yes.

4

5 Q. HAVE EITHER OF YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC
6 SERVICE COMMISSION OF SOUTH DAKOTA?

7 A. Yes. Mr. Wilhelm has provided pre-filed testimony in Docket Nos. EL17-050, EL18-
8 019, and EL19-003.

9

10

PURPOSE OF TESTIMONY

11 Q. PLEASE DESCRIBE THE PURPOSE OF THE TESTIMONY.

12 A. The purpose of our testimony is to provide an overview: (1) of the Project; (2)
13 development activities; (3) the benefits associated with the Project.

14

15

OVERVIEW OF THE WIND FACILITY

16 Q. PLEASE DESCRIBE THE PROPOSED WIND FACILITY.

17 A. The Project is situated within an approximately 61,000-acre Project Area spanning across
18 parts of Codington County, Deuel County and Grant County, South Dakota. The Project
19 will total approximately 300 MWs of installed capacity and will consist of 132 three
20 bladed, horizontal-axis wind turbines, a collector substation, and an operations and
21 maintenance (“O&M”) facility located approximately 11-miles north-east of Watertown,
22 South Dakota.

23

1 The Project will utilize 117 GE 2.3 MW turbines with 116-meter (381-foot) rotor
2 diameter and 90-meter (295-foot) hub height, and 15 GE 2.1 MW turbines with 116-
3 meter (381-foot) rotor diameter and an 80-meter (262-foot) hub height. Two alternate
4 turbine locations have been identified and if required will use GE 2.3MW with 116-meter
5 (381-foot) rotor diameter and 90-meter (295-foot) hub height. In the end, a maximum of
6 132 turbines in total will be constructed. Alternate turbines are included to provide
7 flexibility through the permitting and construction process in the event an unforeseen
8 condition arises during construction that indicates a primary turbine location should be
9 dropped and an alternate turbine location activated. The location of the turbines for
10 CRW II is illustrated in the map attached as Exhibit TW DH-1.

11
12 CRW II requests that the permit allow turbines to be shifted within 500 feet of their
13 currently proposed locations, with the understanding that any such shifts would still need
14 to comply with setback and sound and shadow flicker thresholds and adhere to all
15 applicable local, State, and Federal requirements. Although such shifts are not expected
16 to be needed, such flexibility would allow for CRW II to accommodate proposed shifts
17 from local stakeholders and governing bodies where possible.

18
19 **Q. EXPLAIN WHY THE WIND FACILITY IS NEEDED.**

20 A. On July 6, 2017, the Minnesota Public Service Commission approved Northern States
21 Power's ("NSP") Petition for Approval of the Acquisition of Wind Generation from the
22 Company's 2016-2030 Integrated Resource Plan, which included NSP's purchase and
23 sale agreement ("PSA") with CRW II. Similarly, the North Dakota Public Service

1 Commission issued an order approving an advance determination of prudence for the
2 PPA between NSP and CRW II on December 6, 2018.

3
4 **Q. WHO WILL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE**
5 **FEDERAL, STATE, AND LOCAL PERMITS?**

6 A. CRW II will be responsible for obtaining all applicable federal, state, and local permits.

7
8 **Q. WHO WILL CONSTRUCT THE PROJECT?**

9 A. CRW II will construct the Project.

10
11 **Q. WHO WILL CONDUCT O&M ON THE WIND FACILITY?**

12 A. CRW II will be responsible for the O&M for the facility.

13
14 **Q. HAVE ALL NECESSARY PROPERTY RIGHTS BEEN SECURED FOR THE**
15 **WIND FACILITY?**

16 A. At this time 99% of the necessary property rights have been obtained by CRW II for the
17 construction and O&M of the Project. CRW II anticipates all necessary property rights to
18 be obtained by May 18, 2019.

19 **DEVELOPMENT ACTIVITIES**

20
21 **Q. PROVIDE AN OVERVIEW OF THE DEVELOPMENT ACTIVITIES.**

22 A. Development activities for the Project commenced in 2008. Over the past 10 years the
23 CRW II has been actively engaging stakeholders by working closely with landowners,

1 tribal and local governments, and federal and state agencies to design the Project.
2 Stakeholders have been approached directly to address concerns with the proposed siting
3 and placement of the Project's infrastructure.

4
5 CRW II conducted informational events on April 25, 2017 in the town of Gary located in
6 Deuel County, on October 2, 2017 and on November 16, 2017 in the city of Watertown
7 located in Codington County. At these events stakeholders were provided information
8 pertaining to the status of the Project's development, current development activities in
9 process within the Project Area, potential impacts to the Project's layout, and a
10 permitting timeline.

11
12 CRW II conducted a meeting with Deuel County officials (Deuel County Commissioners,
13 Deuel County Planning and Zoning Officer and First District Association of Local
14 Governments) on July 31, 2018 to discuss the requirements of the Deuel County siting
15 and ordinances and the Project's compliance with the Deuel County siting ordinance.

16
17 CRW II met with the Codington County Planner and First District Association of Local
18 Governments on February 9, April 5, May 23, and August 31 of 2017 to discuss the
19 requirements of the Codington County siting ordinances and the county's expectations
20 throughout the development and construction of the Project.

21
22 CRW II conducted meetings with Grant County officials (the Grant County
23 Commissioners, the Grant County Planning and Zoning Officer, and the Grant County

1 Auditor) on November 8, 2016 and December 20, 2016 as well as on January 17, April 4,
2 June 6 and June 20 in 2017. As a result of these meetings, CRW II was able to better
3 understand proposed changes to the Grant County zoning ordinance and how CRW II
4 could proactively develop the Project to ensure compliance.

5
6 Although there is no federal nexus that mandates Tribal consultations, CRW II has
7 voluntarily consulted with the Sisseton Wahpeton Oyate (“SWO”) tribe. As a result of
8 these consultations, the SWO tribe and CRW II have successfully worked together on the
9 following issues: (1) siting Project infrastructure to avoid direct impacts to lands
10 containing cultural sensitivities; (2) minimizing construction impacts by reducing the size
11 or revising the location of construction easements; and (3) managing access to locations
12 where Project infrastructure is proposed to avoid impacts during the surveying process.

13
14 Project team members have also engaged the local telecommunication company to
15 exchange general information on the Project, such as location of the Project Area and
16 proposed Project infrastructure, and obtain documentation from the local
17 telecommunication company on the location of existing utilities within or adjacent to the
18 proposed Project area. The information allows for CRW II to continue working with all
19 necessary telecommunication companies to assess areas where interference could
20 potentially occur, make necessary adjustments to minimize the chances of interference,
21 design for underground crossing of existing utilities, as well as implement a mitigation
22 plan to address how interferences would be cured through the operations and

1 maintenance phase of the Project. This collaboration will continue until the Project's
2 layout is finalized.

3
4 Additionally, CRW II will continue its coordination with the Federal Aviation
5 Administration ("FAA") to apply for the permitted use of an Aircraft Detection Lighting
6 System ("ADLS"). Per Codington, Deuel and Grant County ordinances, towers will be
7 marked as required by the FAA. There will be no lights on the towers other than what is
8 required by the FAA. This restriction will not apply to infrared heating devices used to
9 protect the monitoring equipment.

10
11 The preferred manner of lighting by all counties is by using an ADLS. Subject to FAA
12 approval, applicants will install an ADLS within one (1) year of approval by FAA. In the
13 event FAA does not approve the use of an ADLS system, CRW II will comply with all
14 lighting and markings otherwise required by FAA. CRW II filed for Determinations of
15 No Hazard with the FAA in December 2018 and received Determinations of No Hazard
16 from the FAA for all proposed turbine locations in March 2019. With the necessary
17 DNHs in hand, the Applicant intends to apply for the use of an ADLS in the second
18 quarter of 2019.

19
20 CRW will continue this collaborative process with landowners, tribal and local
21 governments, and federal and state agencies throughout the development, construction
22 and operation phases of the Project.

23

1 **Q. PROVIDE THE STATUS OF THE LOCAL CONDITIONAL USE PERMITS.**

2 A. CRW II has obtained local Conditional Use Permits (“CUP”) for the Project from both
3 the Codington County Board of Adjustment on July 16, 2018 and the Grant County
4 Board of Adjustment on December 17, 2018. CRW II also obtained a local Special
5 Exception Permit (“SEP”) from the Deuel County Board of Adjustment on October 22,
6 2018.

7
8 Although some alterations and improvements have been made to the locations of Project
9 infrastructure since the awarded CUPs and SEP, CRW II will ensure that the Project’s
10 final configuration will meet or exceed the setback distances, and noise and shadow
11 flicker thresholds as required by the Codington, Deuel and Grant County ordinances.

12
13 **Q. WHAT ARE THE LOCAL SETBACKS REQUIRED IN THE CUP’S AND SEP
14 AND DOES THE WIND FACILITY COMPLY WITH THE SETBACKS?**

15 A. The Project meets or exceeds all local setback requirements as approved within the
16 Codington and Grant County CUPs as well as the Deuel County SEP. The required
17 setbacks are as follows for each county:

18
19 **Codington County Setback Requirements:**

- 20 • 550’ from participating occupied residence, business, church, or school;
- 21 • 1,500’ from non-participating occupied residence, business, church, or school
22 (within all Districts other than Town Districts);

- 1 • 5,280' from non-participating occupied residence, business, church, or school
2 (within Town Districts);
- 3 • 5,280' from Municipal Boundaries at the time of CUP Application;
- 4 • 110% of the height of the wind turbine from right-of-way of public roads;
- 5 • 110% the height of the wind turbines from any property line;
- 6 • Noise level generated by wind energy system shall not exceed 50 dBA, average A-
7 weighted Sound pressure level effects at the property line of existing non-
8 participating residences, businesses, and buildings owned and/or maintained by a
9 governmental entity; and
- 10 • Flicker at any receptor shall not exceed thirty (30) hours per year within the analysis
11 area for all schools, churches, businesses and occupied dwellings within a one (1)
12 mile radius of each turbine within the Project.

13

14 **Grant County Setback Requirements:**

- 15 • 1,500' from participating residence, business, church, or school, building
16 owner and/or operated by a governmental entity;
- 17 • 1,500' from non-participating residence, business, church, or school, building owned
18 and/or operated by a governmental entity;
- 19 • 5,280' from municipal boundaries existing at the time of CUP Application;
- 20 • 500' or 110% of the vertical height of the wind turbine, whichever is greater, from
21 Public right-of-way;
- 22 • 500' or 110% of the vertical height of the wind turbine, whichever is greater;

- 1 • Noise level shall not exceed 45 dBA, average A-weighted Sound pressure including
2 constructive interference effects measured twenty-five (25) feet from the perimeter of
3 the existing non-participating residences, businesses, and buildings owned and/or
4 maintained by a governmental entity;
- 5 • Noise level shall not exceed 50 dBA, average A-weighted Sound pressure including
6 constructive interference effects measured twenty-five (25) feet from the perimeter of
7 participating residences, businesses, and buildings owned and/or maintained by a
8 governmental entity; and
- 9 • Flicker at any receptor shall not exceed thirty (30) hours per year within the analysis
10 area for all schools, churches, businesses and occupied dwellings within a one (1)
11 mile radius of each turbine within the Project.

12
13 **Deuel County Setback Requirements:**

- 14 • 1,500' from existing participating residence, business, church, or school, building
15 owner and/or operated by a governmental entity;
- 16 • 4 times the turbine blade height from existing non-participating residence, business,
17 church, or school, building owned and/or operated by a governmental entity;
- 18 • 3-miles from the Lake Park District at Lake Cochran, 2-miles from the Lake Park
19 District at Lake Alice, and 1-mile from the Lake Park District at Bullhead Lake;
- 20 • 1-mile from the nearest residence of municipalities of Altamont, Astoria, Brandt and
21 Goodwin;
- 22 • 1.5-miles from the city limits of Gary, Toronto and Clear Lake (except Sections 11,
23 12 &14);

- 1 • 110% of the turbine blade height from Public right-of-way;
- 2 • 110% of the turbine blade height from Property Lines (unless wind easement has
- 3 been obtained from adjoining property owner);
- 4 • Noise level shall not exceed 45 dBA, average A-weighted Sound pressure at the
- 5 perimeter of existing residences, for non-participating residences; and
- 6 • Flicker at any receptor shall not exceed thirty (30) hours per year within the analysis
- 7 area for all schools, churches, businesses and occupied dwellings within a one (1)
- 8 mile radius of each turbine within the Project.

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12 **Q. WERE TURBINE, ACCESS ROAD, AND COLLECTOR LINE LOCATIONS**

13 **COORDINATED WITH LANDOWNERS?**

14 A. Yes. Upon completion of field surveys for natural and cultural resources, the Project's

15 preliminary site plan was created. CRW II conducted several meetings with landowners

16 to discuss the proposed placement of project infrastructure and to take into consideration

17 feedback from landowners. CRW II incorporated landowner feedback and made revisions

18 to the site plan where feasible to help preserve the use of private lands and maintain

19 compatibility with farming operations. For example, in some cases landowners preferred

20 for CRW II to adjust the approaches and/or the alignment of turbine access roads to

21 utilize existing farming approaches off of county roads or to avoid noted acreage that

22 produces higher yields. CRW II also adopted changes to county setback requirements

23 during the development process. Shifts to turbine placement were recommended, but

24 could not always be adopted on a landowner's property due to a new setback requirement

1 from a participating landowner's residence, minimum setback requirements from a
2 nearby municipal boundary or natural and cultural constraints that may be present on the
3 property.

4
5 **BENEFITS OF THE WIND FACILITY**

6 **Q. ARE THERE ANY BENEFITS ASSOCIATED WITH THE WIND FACILITY**
7 **FOR SOUTH DAKOTA?**

8 A. Yes, South Dakota will benefit from the proposed Project. Specifically, the Project will
9 produce the following benefits: (1) the delivery of 300.6 MWs of zero-emissions wind
10 energy; (2) the creation of approximately 250 temporary construction jobs, which will
11 include employing local workers if qualified and available; (3) supporting the local
12 economy through the purchase of regional goods and services, including increasing the
13 use of hotels and restaurants in Codington, Deuel and Grant County; (4) the creation of
14 7–12 permanent O&M jobs; (5) increasing sales/use tax and contractor excise tax
15 revenues; (6) the generation of property tax revenues of approximately \$39 million over
16 the contracted life of the Project; (7) land lease payments to landowners of approximately
17 \$40 million over the contracted term of the project; and (8) approximately \$425 million
18 in capital investment within the state of South Dakota.

19
20 **Q. HOW MANY HOMES CAN BE SERVED BY THE CLEAN ENERGY THAT THE**
21 **WIND FACILITY WILL DELIVER?**

22 A. The Wind Facility will deliver enough energy to power more than 150,000 homes.
23

1 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

2 A. Yes, it does.

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2

STATE OF FLORIDA)
) ss
COUNTY OF PALM BEACH)

I, Tyler Wilhelm, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.


Tyler Wilhelm

Subscribed and sworn to before me this 1st day of April 2019.

SEAL


Notary Public

My Commission Expires _____

3



STATE OF FLORIDA)
) ss
COUNTY OF PALM BEACH)

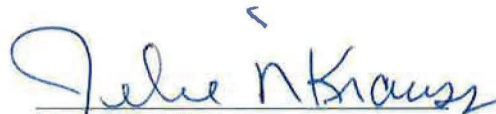
I, Daryl Hart, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.



Daryl Hart

Subscribed and sworn to before me this 1st day of April 2019.

SEAL



Notary Public

My Commission Expires _____

