

**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. EL19-027

SUPPLEMENTAL TESTIMONY

OF TYLER WILHELM

September 20, 2019

1 **Q. AT THE AUGUST 26, 2019 PUBLIC INPUT MEETING COMMENTS WERE**
2 **MADE REQUESTING CLARIFICATION ON THE DISTANCES BETWEEN**
3 **TURBINES. PLEASE COMMENT.**

4 A. Witness Thompson provides the manufacturer's recommended distance that turbines
5 should be from each other, which is three rotor diameters of separation or 348 meters for
6 the CRW II Project's turbines. In addition, due to combination of compliance with sound
7 and shadow flicker ordinances and other setbacks, the nearest distance between any two
8 turbines in CRW II is 418 meters.

9
10 **Q. AT THE AUGUST 26, 2019 PUBLIC INPUT MEETING COMMENTS WERE**
11 **MADE REGARDING THE ABILITY TO FIND LOCAL LANDMARKS ON THE**
12 **WIND TURBINE MAPS TO FACILITATE AN UNDERSTANDING OF THE**
13 **LOCATION OF A WIND TURBINE TO A RESIDENT.**

14 A. To facilitate a greater understanding of the wind turbine locations to residents we have
15 added additional landmarks and roads to the map that was originally filed with the
16 Application as Map 3a, and is provided hereto as Exhibit TW-S-2.

17
18 **Q. AT THE AUGUST 26, 2019 PUBLIC INPUT MEETING COMMENTS WERE**
19 **MADE REGARDING WHETHER CRW II WILL KNOW THE TILE**
20 **LOCATIONS PRIOR TO CONSTRUCTION. PLEASE COMMENT.**

21 A. Throughout the landowner outreach process, the CRW II project team makes inquiries
22 about the locations of existing facilities located on landowner properties, which included
23 the location of existing drainage tiles. If impacts to existing drainage tiles are of concern,

1 the landowner may elect to provide a drainage tile map to CRW II for consideration.
2 Although drainage tile maps have not been obtained for all properties where drainage tile
3 exists, the drainage tile maps have been obtained from those landowners who have
4 expressed concerns related to the impacts construction may have on their existing
5 drainage tiles and who have drainage tile maps available to provide to CRW II.

6 At the August 26, 2019 Public Input Meeting, landowner Dean Mack commented
7 on the potential impact to drainage tiles located on a participating landowner's property
8 that he paid for and installed to benefit his adjacent farming operations. A CRW II
9 representative followed up with Dean Mack and received a copy of his drainage tile
10 maps. CRW II has taken the location of his installed drainage tile into consideration and
11 will work to eliminate impacts to existing drainage tile on the property to the extent
12 possible. In the event any damage or impacts occur to the existing drainage tile CRW II
13 will coordinate with Dean Mack and ensure that restoration to the drainage tile is
14 completed, including the payment of appropriate compensation.

15
16 **Q. AT THE AUGUST 26, 2019 PUBLIC INPUT MEETING COMMENTS WERE**
17 **MADE REGARDING WHICH GRANT COUNTY SET BACK ORDINANCE**
18 **CRW II WAS APPLIED TO THE WIND TURBINE ARRAY. PLEASE**
19 **COMMENT.**

20 A. On December 28, 2018, the Grant County Board of County Commissioners approved and
21 adopted several changes to the siting requirements of Wind Energy Systems in Ordinance
22 2016-01C, provided as Exhibit TW-S-3. Ordinance 2016-01C is the most current

1 ordinance for wind turbine setback requirements in Grant County, and is the ordinance
2 that CRW II used to design the Project in Grant County.

3
4 **Q. AT THE AUGUST 26, 2019 PUBLIC INPUT MEETING COMMENTS WERE**
5 **MADE REGARDING THE ABILITY TO MOVE A WIND TURBINE 250 FEET**
6 **POST APPROVAL IN THE CONTEXT OF THE FEDERAL AVIATION**
7 **ADMINISTRATION DETERMINATION OF NO HAZARD REQUIREMENTS.**
8 **PLEASE COMMENT.**

9 A. For the CRW II project, wind turbines that have received a Determination of No Hazard
10 (“DNH”) from the Federal Aviation Administration (“FAA”) require a new aeronautical
11 study to be performed and a new FAA DNH to be issued in the event the turbine
12 relocation results in:

- 13 (a) a latitude or longitude change by exactly one arc-second or more; or
14 (b) an increase to the overall height above mean sea level (site elevation + turbine tip
15 height above ground level) by one foot or more than as listed on the determination
16 letter.

17 The typical Commission permit condition allows a turbine to be relocated up to
18 250 feet, provided the developer provides an affidavit that the relocation complies with,
19 for example, cultural, environmental, sound and shadow flicker requirements. However,
20 given that not all turbine relocations less than 250 feet will implicate criteria “a” and “b”,
21 whether a new aeronautical study and DNH is required will depend on the distance of the
22 move. For example, a general approximation for a CRW II turbine relocation of one arc-
23 second would be +/- 100 feet of movement to the north or south and anywhere from +/-

1 68 to feet +/- 90 feet of movement to the east or west. Hence, criteria “a” will only be
2 implicated if these arc-second distances are exceeded. Thus, for instance, for a 50-foot
3 lateral relocation with no increase in height above sea level neither criteria “a” or “b”
4 would be implicated, and, therefore, no FAA involvement would be needed to relocate
5 the turbine.

7 UPDATES

8 **Q. THE CRW II APPLICATION AT PAGE 20 STATES CRW II IS EXPLORING**
9 **THE POTENTIAL FOR 4-8 ADDITIONAL ALTERNATIVE TURBINE**
10 **LOCATIONS. PLEASE PROVIDE THE STATUS OF THE ASSESSMENT OF**
11 **THESE 4-8 ALTERNATIVE LOCATIONS.**

12 A. CRW II has completed the necessary review of all eight additional turbine locations.
13 While field surveys confirmed that all eight locations would not result in permanent
14 impacts to environmental or cultural resources, only five of the additional turbine
15 locations are viable locations moving forward due to cumulative exceedances of sound
16 and shadow flicker. All five of these additional turbine locations are sited on landowner
17 properties that possess wind easement option agreements and comply with all applicable
18 local and state turbine siting requirements.

19 The maps submitted by CRW II with its application used an alternative turbine
20 name based on the names used during the development. With the addition of the five
21 additional alternative locations, we decided not to re-number the original and not to
22 rename five potential now new turbine locations, but rather to identify which are
23 primaries and which are alternate locations. Exhibit TW-S-4 is a table that identifies

1 which are primary locations and which are alternate locations, and also the maps (Exhibit
2 DH-S-2) submitted by witness Daryl Hart are color coded with the primary and
3 alternative locations.

4
5 **Q. WHAT IS THE CURRENT LAND STATUS FOR THE CRW II PROJECT?**

6 A. All necessary property rights have been obtained for all proposed turbine locations and
7 all other associated project facilities and no pending agreements remain. Since the filing
8 of the application, CRW II has obtained five new easement agreements and no existing
9 easement agreements have expired. The new easement agreements obtained support three
10 turbine locations, two collection corridors, and one temporary access road needed for
11 construction. Prior to commencement of construction, CRW II will be required to renew
12 three existing wind easement agreements. Also, see Exhibit TW-S-2 for map of the land
13 status.

14
15 **Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL TESTIMONY?**


16 A. Yes, it does.

17

1

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 19th day of September 2019.

SEAL


Nancy Public

My Commission Expires _____

