

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

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

Docket No. EL19-027

**SUPPLEMENTAL TESTIMONY
OF MARK THOMPSON**

September 20, 2019

INTRODUCTION AND QUALIFICATIONS

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Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Mark Thompson, 700 Universe Blvd., Juno Beach FL 33408.

Q. WHAT IS YOUR JOB AND WHAT ARE YOUR JOB RESPONSIBILITIES?

A. I am the Manager of Wind Engineering within the Engineering & Construction (“E&C”) organization at NextEra Energy Resources, LLC (“NEER”). As the Manager of Wind Engineering, one of my primary roles is to coordinate and provide support for the development of new wind sites.

Q. ARE YOU THE SAME MARK THOMPSON WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING ON JULY 9, 2019?

A. Yes.

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

A. Yes.

PURPOSE OF TESTIMONY

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.

A. The purpose of my testimony is to address comments made at the August 26, 2019 Public Input Meeting on engineering, construction, and operation and maintenance issues.

1 **ENGINEERING, CONSTRUCTION, AND OPERATION AND MAINTENANCE**

2

3 **Q. AT THE AUGUST 26, 2019 PUBLIC INPUT MEETING COMMENTS**
4 **WERE MADE REGARDING OIL LEAKING OR SPILLING FROM THE**
5 **WIND TURBINE. CAN OIL LEAK OR SPILL FROM A WIND**
6 **TURBINE?**

7 A. Yes, however, there are physical features incorporated in the turbine design that
8 prevent oil leaks from reaching the ground. Oil leaks are contained within the
9 nacelle by a manufacturer-installed oil catchment basin and are addressed by the
10 site maintenance team. In the unlikely event that a catastrophic failure results in
11 an oil spill, the majority of the oil would be contained within the lower tower
12 section. If oil does reach the ground, the Spill Prevention Control Countermeasure
13 (“SPCC”) cleanup procedures would be implemented. Additional detail on the
14 SPCC can be found at pages 88, 95, and 98 of the Application.

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16 **Q. AT THE AUGUST 26, 2019 PUBLIC INPUT MEETING COMMENTS**
17 **WERE MADE REGARDING THE DISTANCE BETWEEN TURBINES. IS**
18 **THERE A MANUFACTURER’S REQUIREMENT FOR THE DISTANCE**
19 **BETWEEN TURBINES?**

20 A. Yes. The turbine manufacturer recommends spacing between turbines to be 3
21 rotor diameters apart or 348 meters. As explained on page 74 of the Application
22 up to ten percent of the towers may be sited closer than the manufacture’s spacing

1 recommendation if, during final micro siting, topographic conditions require the
2 shifting of a turbine and the shift is consistent with permit conditions. Turbines
3 that are placed closer than the manufacturer's recommended spacing will
4 experience increased wakeing which results in reduced turbine efficiency and
5 increased wind loads on the foundations and towers. The increased wind loads
6 could compromise turbine structures and present a safety risk for maintenance
7 personnel.

8
9 **Q. AT THE AUGUST 26, 2019 PUBLIC INPUT MEETING COMMENTS**
10 **WERE MADE REGARDING WIND TURBINES NOT WORKING**
11 **DURING COLD WEATHER. ARE THE WIND TURBINES OUTFITTED**
12 **WITH AN EXTREME COLD WEATHER PACKAGE?**

13 A. Yes, the wind turbines will use an extreme cold weather package that will allow
14 for the wind turbines to operate in temperatures as low as -40 degrees Fahrenheit.

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16 **Q. AT THE AUGUST 26, 2019 PUBLIC INPUT MEETING COMMENTS**
17 **WERE MADE REGARDING THE WIND TURBINES PULLING ENERGY**
18 **FROM THE GRID WHEN THE WIND IS EITHER NOT BLOWING OR**
19 **TEMPERATURES ARE COLD. PLEASE COMMENT.**

20 A. A typical 300 megawatt ("MW") wind facility such as Crowned Ridge Wind II
21 will consume approximately 1% or 30 MWs of its generating capacity during low
22 or calm wind conditions. The generator's systems or components that require

1 power include the yaw motor, control system, cold weather package, lighting, and
2 hydraulic pumps. The wind turbines provide the power needed to operate these
3 systems and components during normal wind conditions, while the local retail
4 power provider provides the power during no-wind conditions.

5


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

7 A. Yes.

1 STATE OF FLORIDA)

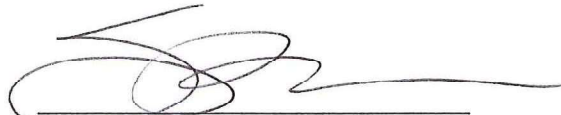
COUNTY OF PALM BEACH) ss
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I, Mark Thompson, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.


Mark Thompson

Subscribed and sworn to before me this 17th day of September 2019.

SEAL


Notary Public

My Commission Expires _____

