

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

**IN THE MATTER OF THE APPLICATION OF
CROWNED RIDGE, LLC FOR A FACILITIES PERMIT TO
CONSTRUCT A 300 MEGAWATT WIND FACILITY**

Docket No. EL19-003

**SUPPLEMENTAL TESTIMONY
OF MARK THOMPSON**

April 1, 2019

INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

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

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

A. I am the Manager of Wind Engineering within the Engineering & Construction organization at NextEra Energy Resources, LLC.

Q. WHAT ARE YOUR RESPONSIBILITIES?

A. As the Manager of Wind Engineering, one of my primary roles is to coordinate or provide support for the development of new wind sites, such as Crowned Ridge Wind ("CRW").

Q. ARE YOU THE SAME MARK THOMPSON WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING ON JANUARY 30, 2019?

A. Yes.

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

A. Yes.

TESTIMONY

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR SUPPLEMENTAL TESTIMONY.

A. The purpose of my supplemental testimony is to address comments made at the March 20, 2019 public input hearing.

1 **Q. THERE WAS A CONCERN EXPRESSED THAT THE SHADOW/FLICKER AND**
2 **SOUND STUDIES HAD NOT BEEN STAMPED BY A CERTIFIED ENGINEER.**
3 **PLEASE ADDRESS THIS CONCERN. WILL YOUR FINAL ENGINEERING**
4 **DESIGNS BE STAMPED BY A CERTIFIED ENGINEER?**

5 A. Yes, all drawings issued for construction will be stamped by a professional engineer
6 licensed in the state of South Dakota.

7
8 **Q. THERE WAS A CONCERN EXPRESSED THAT THE FOUNDATION DEPTH**
9 **OF 8 FEET WAS NOT SUFFICIENT. PLEASE ADDRESS THIS CONCERN.**

10 A. The reliability of foundations buried at 8 feet will depend on the diameter of the
11 foundation, soil characteristics, volume of compacted soil on top of the foundation and
12 the amount of rebar and concrete in the foundation. A foundation will not tip in any
13 direction because the soil will exert a counter force that is equal and opposite to forces
14 such as wind loads that may cause the turbine to tip. The weight of the rebar and
15 concrete, along with the compacted soil, also provide a counter balance to the weight of
16 the tower and the nacelle.

17
18 **Q. THERE WERE CONCERNS EXPRESSED THAT THE TURBINE BLADES**
19 **COULD THROW ICE. PLEASE ADDRESS THIS CONCERN.**

20 A. If atmospheric conditions are conducive, the blades of a turbine may accumulate ice. If
21 the conditions are outside of those recommended by GE for normal operations, the
22 turbine will shut down and any ice buildup will fall directly to the ground. On rare
23 occasions, the turbine will continue to operate and ice may be thrown within the setback

limits recommended by GE, which is 1.1 times the turbine height from base to tip of blade.

Q. THERE WAS A CONCERN THAT A TURBINE CAN CATCH ON FIRE. PLEASE ADDRESS THIS CONCERN.

A. There is a focus on fire prevention through predictive and preventative maintenance, by identifying and addressing potential issues that could lead to a fire. If a fire has ignited during planned maintenance, wind technicians are equipped with extinguishers to prevent propagation. Also, all wind turbines have a 911 address, which is communicated to the local fire department, so that in the unlikely event a turbine does catch on fire, the department can locate and extinguish the fire.

Q. THERE WAS A CONCERN THAT CONSTRUCTION HAD ALREADY STARTED ON THE WIND FACILITY. PLEASE ADDRESS THIS CONCERN.

A. Construction has not started on the wind facility. The development activities witnessed in the field are associated with staking of turbine locations to facilitate geotech investigation of the subsurface to determine the suitability for turbine foundations. The investigative process involves establishing drive path for vehicles with soil boring equipment and transportation for personnel operating the equipment.

Q. THERE WAS A CONCERN THAT WIND GENERATION DOES NOT PROVIDE A RELIABILITY BENEFIT, PARTICULARLY DURING SEVERE WINTER CONDITIONS. PLEASE ADDRESS THIS COMMENT.

1 A. CRW will be connected to the Midcontinent Independent System Operator ("MISO")
2 transmission system at the Big Stone substation. MISO, like all regional transmission
3 operators in the United States, has plans in place to manage challenging operating
4 situations called Emergency Operating Procedures. These procedures provide grid
5 operators the tools necessary to maintain the reliability of the transmission network
6 including enhanced communication and coordination with participants and local
7 balancing authorities to access additional demand resource that is only available once an
8 emergency has been declared. MISO emergency events have occurred for various
9 reasons, including unseasonable hot weather, unexpected load forecast errors,
10 transmission outages, and extreme cold weather. For cold weather events, wind turbines
11 are being equipped with extreme cold weather packages to allow them to continue to
12 operate at very low temperatures.


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

14 A. Yes.

1 STATE OF FLORIDA)
2) ss


COUNTY OF PALM BEACH)

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 1st day of April
2019.

SEAL


Notary Public

My Commission Expires _____

