

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

**IN THE MATTER OF THE APPLICATION BY DEUEL HARVEST WIND ENERGY LLC
FOR ENERGY FACILITY PERMITS OF A WIND ENERGY FACILITY AND A
345-KV TRANSMISSION LINE IN DEUEL COUNTY, SOUTH DAKOTA FOR THE
DEUEL HARVEST NORTH WIND FARM**

SD PUC DOCKET EL18-053

**PRE-FILED REBUTTAL TESTIMONY OF JACOB BAKER
ON BEHALF OF DEUEL HARVEST WIND ENERGY LLC**

April 1, 2019

1 **I. INTRODUCTION**

2

3 **Q. Please state your name.**

4 A. My name is Jacob Baker.

5

6 **Q. Have you previously provided testimony in this docket?**

7 A. Yes. I submitted Supplemental Testimony on February 14, 2019.

8

9 **II. PURPOSE OF TESTIMONY**

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11 **Q. What is the purpose of your Rebuttal Testimony?**

12 A. The purpose of my rebuttal testimony is to discuss testimony submitted by
13 intervenors regarding the risk of ice throw and fire from wind turbines.

14

15 **III. INTERVENOR CONCERNS REGARDING ICE THROW**

16

17 **Q. Did you discuss ice throw in your Supplemental Testimony, filed on February**
18 **14, 2019?**

19 A. Yes. I note that much of that testimony is responsive to the concerns raised by
20 intervenors in their direct testimony.

21

22 **Q. In his testimony, Will Stone stated, "On March 3, 2018 I visited a wind complex**
23 **15 miles SE of my residence. Ice chunks as big as my fist had been flung**
24 **hundreds of yard from base of turbine. The turbines had been shut down and**
25 **you could visibly see ice on the blades." Do you have a response?**

26 A. I am not aware of the specifics of the project or the incident to which Mr. Stone is
27 referring. That said, as I discussed in my Supplemental Testimony, ice throw is
28 uncommon, and Deuel Harvest is reducing the risk of ice throw by following the
29 manufacturer's recommended setbacks (Section 7 of Appendix V) and employing an
30 ice detection system.

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32 **Q. Mr. Stone further stated, "A week later I read an account of a semi having his**
33 **door caved in from an ice chunk from a wind turbine. Picture was taken and**
34 **police documented it." Do you know what Mr. Stone is discussing?**

35 A. Although I cannot be sure, he may be referring to a purported incident concerning
36 the Bent Tree wind farm. I addressed this purported incident fully in my
37 Supplemental Testimony (pages 4-5).

38
39 **Q. On pages 9-11 of his testimony, Garrett Homan states that he is concerned**
40 **about ice throw from the Project. What is your response?**

41 A. I believe that my Supplemental Testimony addressed many of the concerns raised
42 by Mr. Homan, as discussed in my answer to the prior question in this testimony.

43
44 **Q. On page 9 of his testimony, Mr. Garrett Homan appears to equate icing on**
45 **aircraft to icing on wind turbines. Is this an apt comparison?**

46 A. No. My understanding is that for aviation, a sensor is installed on the aircraft, and
47 that sensor tracks the formation of ice where it is located. However, ice accretion on
48 a wind turbine is monitored via an algorithm that analyzes the wind turbine's actual
49 versus expected output. As such, ice detection on a wind turbine is not dependent
50 upon a sensor or other instrument in a specific location (such as the nacelle)
51 detecting ice formation on the blades.

52
53 **Q. On pages 10-11 of his testimony, Mr. Garrett Homan asserts that the Project**
54 **turbine setbacks do not comply with the General Electric Safety Manual. Do**
55 **you agree?**

56 A. No. [BEGIN CONFIDENTIAL TESTIMONY ...

57
58
59 **END CONFIDENTIAL TESTIMONY]** As I have discussed previously in my
60 Supplemental Testimony, Deuel Harvest will use an ice detection system for the
61 Project. Accordingly, the "formula" and calculations cited by Mr. Garrett Homan are
62 not applicable. Rather, the Project's siting complies with General Electric's siting

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63 guidelines (Section 7 in Appendix V to the Application), which recommend that
64 turbines be set back 1.1 times tip height from, among other things, residences and
65 public roads, with respect to ice throw.

66

67 **IV. INTERVENOR CONCERNS REGARDING FIRE**

68

69 **Q. Are you aware that intervenors have indicated that they are concerned about**
70 **the potential for fires from wind turbines?**

71 A. Yes, I am aware that is a concern raised in intervenor testimony.

72

73 **Q. How common are fires from wind turbines?**

74 A. Turbine fires are rare. Invenergy has experienced a fire at one turbine in its fleet in
75 approximately 15 years of owning and operating wind projects; at this time,
76 Invenergy operates over 4,800 MW of wind turbines. Invenergy staff and local
77 emergency responders responded to the incident, and the fire extinguished on its
78 own. There were no injuries or property damage as a result of this incident. The fire
79 occurred in 2013 at the Forward Energy Wind Center, which was constructed in
80 2008 and is located in Dodge and Fond du Lac counties, Wisconsin. A new nacelle,
81 hub, and blade set were installed, and the turbine was returned to service.

82

83 **Q. What will Deuel Harvest do to reduce the risk of a fire at the Project?**

84 A. With respect to Project operations, Deuel Harvest will acquire turbines from
85 reputable suppliers. Turbines are constructed of fiberglass and steel, which are not
86 highly flammable materials. With respect to Project maintenance activities, a
87 rigorous hot works program is adhered to whenever any open flames or heat
88 sources are introduced in a tower. A hot works program is a program to reduce risks
89 associated with an activity, such as welding, which provides an ignition source. All
90 up tower entries require a fire extinguisher be taken up the tower. All employees are
91 trained annually on use.

92

93 **Q. How will Deuel Harvest coordinate with local emergency management services**
94 **regarding the Project?**

95 A. Deuel Harvest will coordinate fire emergency plans and hold emergency response
96 drills at the Project with local fire departments both before the Project becomes
97 operational and annually thereafter.

98

99 **V. CONCLUSION**

100

101 **Q. Does this conclude your Rebuttal Testimony?**

102 A. Yes.

103

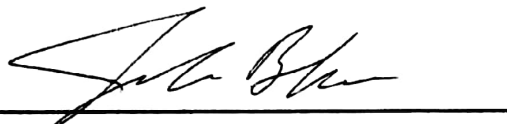
104 Dated this 1st day of April, 2019.

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A handwritten signature in black ink, appearing to read "Jacob Baker", is written over a solid horizontal line.

109 Jacob Baker

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