

BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

DOCKET NO. EL18-026

**IN THE MATTER OF THE APPLICATION BY PREVAILING WIND PARK, LLC FOR A
PERMIT OF A WIND ENERGY FACILITY IN BON HOMME COUNTY, CHARLES MIX
COUNTY AND HUTCHINSON COUNTY, SOUTH DAKOTA, FOR THE PREVAILING
WIND PARK PROJECT**

**DIRECT TESTIMONY OF DARREN KEARNEY
ON BEHALF OF THE PUBLIC UTILITIES COMMISSION STAFF
September 10, 2018**

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EXHIBITS

Exhibit_DK-1: Resume

Exhibit_DK-2: Prevailing Wind Park, LLC's Responses to Staff Data Requests

Exhibit_DK-3: Intervenors' Responses to Staff Data Requests

Exhibit_DK-4: South Dakota Department of Health Letter

1 I. INTRODUCTION AND QUALIFICATIONS

2

3 **Q. State your name.**

4 A. Darren Kearney.

5

6 **Q. State your employer and business address.**

7 A. South Dakota Public Utilities Commission, 500 E Capitol Ave, Pierre, SD, 57501.

8

9 **Q. State your position with the South Dakota Public Utilities Commission.**

10 A. I am a Staff Analyst, which is also referred to as a Utility Analyst.

11

12 **Q. What is your educational background?**

13 A. I hold a Bachelor of Science degree, majoring in Biology, from the University of
14 Minnesota. I also hold a Master of Business Administration degree from the
15 University of South Dakota.

16

17 **Q. Please provide a brief explanation of your work experience.**

18 A. I began my career in the utility industry working as contract biologist for Xcel
19 Energy, where I conducted biological studies around various power plants,
20 performed statistical analysis on the data collected, and authored reports in order
21 to meet National Pollutant Discharge Elimination System (NPDES) permit
22 requirements.

23

1 After two years of performing biological studies, I then transitioned into an
2 environmental compliance function at Xcel Energy as a full-time employee of the
3 company and became responsible for ensuring Xcel's facilities maintained
4 compliance with the Oil Pollution Act of 1990. This involved writing Spill
5 Prevention Control and Countermeasure (SPCC) plans and also ensuring Xcel's
6 facilities maintained compliance with those plans. I was also responsible for the
7 company's Environmental Incident Response Program, which involved training
8 Xcel employees on spill reporting and response, managing spill cleanups, and
9 mobilizing in-house and contract spill response resources.

10
11 I was in that role for approximately three years and then I transitioned to a coal-
12 fired power plant at Xcel and became responsible for environmental permitting
13 and compliance for the plant. Briefly, my responsibilities involved ensuring that
14 the facility complied with all environmental permits at the plant, which included a
15 Clean Air Act Title V Air Permit, a Clean Water Act NPDES permit, and a
16 hazardous waste permit. I also drafted reports on the plant's operations for
17 submission to various agencies as required by permit or law. After three years at
18 the power plant, I left Xcel Energy to work for the South Dakota Public Utilities
19 Commission (SD PUC).

20
21 I have been at the SD PUC for over five years now. During my employment with
22 the PUC, I worked on a variety of matters in the telecom, natural gas, and electric
23 industries. The major dockets that I worked on were transmission siting, pipeline

1 siting, wind energy facility siting and energy efficiency programs. I also work on
2 matters involving the Midcontinent Independent System Operator (MISO),
3 specifically wholesale electricity market issues, transmission cost allocation and
4 regional transmission planning. I also attended a number of trainings on public
5 utility policy issues, electric grid operations, regional transmission planning,
6 electric wholesale markets, and utility ratemaking.

7
8 My resume is provided as Exhibit_DK-1.

9
10 **II. PURPOSE OF TESTIMONY**

11
12 **Q. On whose behalf was this testimony prepared?**

13 A. This testimony was prepared on behalf of the Staff of the South Dakota Public
14 Utilities Commission.

15
16 **Q. What is the purpose of your direct testimony?**

17 A. The purpose of my direct testimony is to discuss the Application review
18 performed by Commission Staff, identify any issues or concerns with the
19 representations made in the Application or by the Applicant, identify any
20 outstanding concerns Staff has with Application, and provide recommended
21 permit conditions.

1 individuals were granted party status, Staff also issued discovery to the
2 intervenors to understand what concerns they had with the project (see
3 Exhibit_DK-3).

4
5 Staff hired two consultants to assist with reviewing the Application. The first
6 consultant, David Hessler, has expertise on noise emitted from wind turbines and
7 noise modeling. The second consultant, David Lawrence, is a South Dakota
8 licensed appraiser and has expertise regarding property valuation. These experts
9 then completed their review and authored their testimony as filed in this docket.

10
11 Finally, Staff assisted intervenors and affected landowners by providing
12 responses to numerous questions on the windfarm, the siting process at the PUC
13 and the opportunities available for these individuals to be heard by the
14 Commission. If the landowners had specific concerns with the wind farm, Staff
15 often recommended that those individuals file comments in the docket for the
16 Commission's review. Where appropriate, Staff also included some of the
17 landowners' questions or concerns in Staff's data requests sent to Prevailing
18 Wind Park to have them address the issue.

19
20 **Q. What is the purpose of Staff's expert witnesses in this proceeding?**

21 A. Given that some of the information submitted in the Application is technical in
22 nature, Staff sought experts within their respective fields to assess the merits and
23 deficiencies of the Application. Staff asked the experts to review the relevant

1 portions of the Application, testimony, appendixes, data requests, and public
2 comments that fall within their areas of expertise and identify any concerns they
3 had with the material submitted.

4
5 Ultimately, Staff requested that the experts address whether or not the
6 information submitted by Prevailing Wind Park aligns with industry best practices
7 and if they agreed with the conclusions Prevailing Wind Park made regarding
8 potential impacts from the project.

9
10 **Q. Did Staff reach out to any other State Agencies for input?**

11 A. Yes. Staff reached out to the South Dakota Game, Fish, and Parks (SD GF&P),
12 the State Historic Preservation Office (SHPO), and the South Dakota Department
13 of Health (SD DOH).

14
15 **Q. Did any of those agencies communicate concerns to PUC Staff specific to
16 the Prevailing Wind Park Project?**

17 A. At the time of writing this testimony, no concerns specific to the Prevailing Wind
18 Park Project were brought up by any of the agencies Staff reached out to.

19
20 **Q. Why did PUC Staff not request SHPO and SD GF&P testify for the
21 Prevailing Wind Park Project?**

22 A. There are a few reasons why Staff did not request testimony from SHPO and SD
23 GF&P. First, an Environmental Assessment (EA) is being completed by Western

1 Area Power Administration (WAPA) for the entire Prevailing Wind Park Project. It
2 is Staff's understanding that the SD GF&P and SHPO were consulted for the EA
3 and any comments those agencies may have on the project will be considered
4 during that process. It should be noted that in the recent wind farm siting
5 dockets, a federal EA was either not required or required for only a small portion
6 of the project. In those cases, the PUC's siting docket was the only process
7 available for the consideration of SD GF&P's and SHPO's comments and
8 recommendations.

9
10 Second, the SD GF&P and SHPO have not communicated to Staff any concerns
11 specific to the Prevailing Wind Park Project. As such, Staff is not aware of any
12 issues or concerns that SD GF&P and SHPO have with the project that would
13 need to be briefed.

14
15 Finally, the procedural schedule in this docket allows for Staff to present rebuttal
16 witnesses. Should any issues arise that fall in the area of expertise of SD GF&P
17 or SHPO, Staff is planning to present the appropriate agency as a rebuttal
18 witness.

19
20 **Q. Did Commission Staff request assistance from the South Dakota**
21 **Department of Health in the review of the Application?**

22 A. Yes. SDCL 49-41B-22(3) requires the Applicant establish that the Prevailing
23 Wind Park will not substantially impair the health of the inhabitants. At the Public

1 Input Hearing and through written comments to the Commission, inhabitants
2 have raised concerns regarding health impacts from wind facilities. Commission
3 Staff believes the Department of Health is the appropriate State agency to
4 assess the potential health impacts from the facility.

5
6 **Q. Has the Department of Health commented on health impacts associated**
7 **with wind facilities in other dockets?**

8 A. Yes. For the Crocker Wind Farm (Docket EL17-028), the Department of Health
9 provided Commission Staff with a letter stating that the Department of Health has
10 not taken a formal position on the issue of wind turbines and human
11 health. Further, they referenced the Massachusetts Department of Public Health
12 and Minnesota Department of Health studies and identified those studies
13 generally conclude that there is insufficient evidence to establish significant risk
14 to human health. I included the Department of Health's letter as Exhibit_DK-4.

15
16 **Q. What is the Department of Health's position on the health impacts**
17 **associated with the Prevailing Wind Park Project?**

18 A. On August 8, 2018, the Department of Health stated that it maintains the same
19 position for the Prevailing Wind Park Project as previously provided for the
20 Crocker Wind Farm. Since the letter was provided for the Crocker Wind Farm,
21 the Department of Health has not become aware of any additional studies that
22 would cause the Department to re-evaluate their position.

23

1 **Q. Was Prevailing Wind Park, LLC's Application considered complete at the**
2 **time of filing?**

3 A. At the time of the filing, the application was generally complete. However, as
4 identified above, Staff requested further information, or clarification, from
5 Prevailing Wind Park that Staff believed was necessary to satisfy the
6 requirements of SDCL 49-41B and ARSD 20:10:22. I would note that an
7 applicant supplementing its original application with additional information as
8 requested by Staff is not unusual for siting dockets.

9

10 **Q. Based on your review of the Application, responses to Staff's data requests**
11 **and Prevailing Wind Park, LLC's testimony, do you find the Application to**
12 **be complete?**

13 A. Yes. Staff found that Prevailing Wind Park provided information that addressed
14 the information required by ARSD Chapter 20:10:22 and SDCL 49-41B. In my
15 opinion, Prevailing Wind Park, LLC did an excellent job of preparing the
16 Application, which resulted in fewer discovery questions issued from Staff.

17

18 **Q. Did Commission Staff receive responses to discovery from all individuals**
19 **granted party status?**

20 A. Yes. Staff received discovery responses from all intervenors. The following
21 section addresses a few of the requests that were made by the intervenors.

22

23

1 **IV. Intervenor Concerns**

2

3 **Q. What is Staff's position on a 2-mile setback from non-participating**

4 **residences?**

5 A. While staff acknowledges that a 2-mile setback would provide more protection to

6 non-participating residences, at this time there is insufficient evidence presented

7 in the record for Staff to take a position on whether the 2-mile setback distance is

8 appropriate in this docket. A setback distance of 2-miles would reduce noise

9 impacts on non-participants, however I will note that Prevailing Wind Park's

10 proposed turbine layout currently meets Staff witness David Hessler's suggested

11 noise limit of 45 dBA.

12

13 **Q. What is Staff's position on requiring a 1500 foot setback from property**

14 **lines?**

15 A. Based on the information Staff has reviewed in the docket thus far, Staff does not

16 feel there is adequate evidence in the record to support a 1500 foot setback from

17 property lines. However, requiring that setback distance would provide added

18 protection for an individual's personal property or livestock in the event of ice

19 throw or blade malfunction.

20

21 **Q. What is Staff's position on reducing the noise limit to 35 dBA at**

22 **nonparticipating residences and performing C-weighted noise modeling?**

23 A. Staff's noise witness, Mr. Hessler, addresses Staff's position on these

24 recommendations made by the intervenors in his testimony. In summary, Mr.

1 Hessler identifies that a 35 dBA noise limit would be extremely difficult for a wind
2 project to meet and that C-weighted sound measurements would still not capture
3 the infrasound noise levels that the intervenors are concerned about. As such,
4 Staff does not support a proposed noise limit of 35 dBA and requiring C-weighted
5 sound measurements/modeling.

6
7 **Q. What is Staff's position on the health concerns associated with infrasound
8 and low-frequency noise?**

9 A. Staff takes no position on the health concerns associated with infrasound and
10 low frequency noise. This position is derived from the SD Department of Health's
11 letter identifying that they do not have a formal position on the issue. What is
12 clear (and would likely not be contested by either side of the debate) is that wind
13 turbines will result in a small percentage of population residing near the turbines
14 being annoyed by the noise from the turbines.

15
16 **Q. What is Staff's position on developing an operational plan to shut down
17 turbines, or implementing noise reducing operations of turbines, located
18 within 2 miles of a nonparticipating residence during nighttime hours?**

19 A. At this time, Staff does not have evidence to justify requiring such a plan. This is
20 based on the fact that the wind turbine sound study shows that the noise from the
21 Prevailing Wind Park Project will be within the recommended limit provided by
22 Mr. Hessler. However, should concerns be raised in the future with noise

1 produced by certain turbines, implementing such a plan could be a good
2 mitigation strategy if those turbines are found to exceed the noise limit.

3
4 **Q. What is Staff's position on requiring a property value guarantee?**

5 A. Staff does not support the recommendation for a property value guarantee.
6 Based on past testimony the Commission has heard during recent wind farm
7 siting dockets and Mr. Lawrence's direct testimony in this docket, the
8 implementation of a property value guarantee would be extremely difficult to do.
9 I will also note that a property owner who finds that the wind farm adversely
10 impacted their property values can seek damages for that loss through the court
11 system.

12
13 **Q. One commenter expressed concerns regarding the potential adverse
14 economic impact to his pheasant hunting business. What is Staff's
15 position on this concern?**

16 A. Staff included a question in its data requests to have Prevailing Wind Park
17 address this concern (see Staff Data Request 2-9 in Exhibit_DK-2). Prevailing
18 Wind Park's approach to address this concern was to reference studies that
19 show the impact to upland game species, including ring-necked pheasants, is not
20 biologically significant. Based on this, Prevailing Wind Park concludes that any
21 expected economic impact to hunting businesses is expected to be very low.

22

1 The approach Prevailing Wind Park took is logical (where if birds are still present
2 in the area then people continue to have the opportunity to hunt in the area).
3 However, Staff is not entirely convinced that proves there will be no impact on
4 hunting businesses as other factors may impact a hunter's decision to hunt in
5 certain areas as well (e.g. scenery, quietness). A more-robust study on whether
6 hunters are choosing to avoid hunting lodges/guiding services near turbines in
7 favor of lodges/guides in areas without turbines would be needed. Staff is not
8 aware of any such study and does not take a position on this issue.

9
10 Should the Commission find this potential impact to be of concern and Prevailing
11 Wind Park's response not satisfactory, the Commission could request additional
12 information to be produced during the hearing.

13 14 15 **V. Outstanding Concerns and Recommended Permit Conditions**

16
17 **Q. Does Staff have any outstanding concerns at this time?**

18 **A.** Yes. Staff has one concern regarding shadow flicker that is expected to occur at
19 a nonparticipant (receptor REC-076). In Prevailing Wind Park's response to Staff
20 Data Request 1-1 subpart d (see Exhibit_DK-2), it is identified that REC-076 is
21 expected to experience 33.93 hours of shadow flicker per year. Prevailing Wind
22 Park committed to shadow flicker being less than 30 hours per year and/or 30
23 minutes per day at currently inhabited non-participating residences in Charles

1 Mix County (see Charles Mix County Letter to PUC Staff in Exhibit_DK-3).

2 Based on this information, turbines 9 and 12 are not meeting the commitment
3 Prevailing Wind Park made to Charles Mix County. Prevailing Wind Park should
4 address this concern prior to the evidentiary hearing.

5
6 While Staff has identified only the one concern at the time of writing this
7 testimony, we have not reviewed the Intervenors' testimony as exhibits. If Staff
8 finds any of the issues the Intervenors raise have merit, Staff will address those
9 issues either by supplementing our direct testimony, through rebuttal testimony,
10 or at the hearing.

11
12 **Q. Does Staff recommend any permit conditions?**

13 A. Staff will be working with Prevailing Wind Park to create a list of recommended
14 permit conditions for Commission consideration. In response to Staff Data
15 Request 2-22 subpart b (see Exhibit_DK-2), Prevailing Wind Park identified that
16 they are generally willing to accept the conditions attached to the permit issued
17 for Dakota Range (Docket EL18-003). Given this, Staff believes that we will be
18 able to work with Prevailing Wind Park to develop permit conditions consistent
19 with those ordered by the Commission in the past.

20
21 However, one permit condition that Prevailing Wind Park and Staff may differ on
22 is the amount of funding required to be set aside in an escrow account for the
23 decommissioning of wind turbines. In response to Staff Data Request 2-17 (see

1 Exhibit_DK-2), Prevailing Wind Park stated they recommend to using the partial
2 resale decommissioning cost estimate of \$786,000 for the entire project. Staff
3 disagrees with using this amount and finds that the no resale decommissioning
4 cost estimate of \$2,938,000 should be used as the basis for funding an escrow
5 account. The no resale cost estimate would provide added assurance and be
6 the most conservative of the two cost estimates since the market (and prices) for
7 salvageable wind turbine components could change over the next 30 to 50 years.

8

9 **Q. Does this conclude your testimony?**

10 **A.** Yes.

11

12