

BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

DOCKET NO. EL17-055

**IN THE MATTER OF THE APPLICATION BY CROCKER WIND FARM, LLC FOR A
PERMIT OF A WIND ENERGY FACILITY AND A 345 KV TRANSMISSION LINE IN
CLARK COUNTY, SOUTH DAKOTA, FOR CROCKER WIND FARM**

Direct Testimony of Darren D Kearney
On Behalf of the Staff of the South Dakota Public Utilities Commission
March 28, 2018

1 **Q. State your name.**

2 A. Darren Kearney.

3

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

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

6

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

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

9

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

11 A. I hold a Bachelor's of Science degree, majoring in Biology, from the University of
12 Minnesota. I also hold a Masters of Business Administration degree from the
13 University of South Dakota.

14

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

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

21

22 After two years of performing biological studies, I then transitioned into an
23 environmental compliance function at Xcel Energy as a full-time employee of the

1 company and became responsible for ensuring Xcel's facilities maintained
2 compliance with the Oil Pollution Act of 1990. This involved writing Spill
3 Prevention Control and Countermeasure (SPCC) plans and also ensuring Xcel
4 facilities maintained compliance with those plans. During this time I was also
5 responsible for the company's Environmental Incident Response Program, which
6 involved training Xcel employees on spill reporting and response, managing spill
7 cleanups, and mobilizing in-house and contract spill response resources. I was
8 also responsible for aboveground storage tank permitting during this time.

9
10 I was in that role for approximately three years and then I transitioned to a coal-
11 fired power plant at Xcel and became responsible for environmental permitting
12 and compliance for the plant. Briefly, my responsibilities involved ensuring that
13 the facility complied with all environmental permits at the plant, which included a
14 Clean Air Act Title V Air Permit, a Clean Water Act NPDES permit, and a
15 hazardous waste permit. I also drafted reports on the plant's operations for
16 submission to various agencies as required by permit or law. After three years at
17 the power plant, I left Xcel Energy to work for the South Dakota Public Utilities
18 Commission (SD PUC).

19
20 I have been at the SD PUC for over five years now. During this time I worked on
21 a variety of matters in the telecom, natural gas, and electric industries. The
22 major dockets that I worked on were transmission siting, pipeline siting, wind
23 energy facility siting and energy efficiency programs. I also work on matters

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

6

7 My resume is provided as Exhibit_DK-1.

8

9 **Q. On whose behalf was this testimony prepared?**

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

12

13 **Q. When did Crocker Wind Farm, LLC file its Application for a permit to
14 construct the Crocker Wind Farm?**

15 A. The Application was filed on December 15, 2017.

16

17 **Q. Did you review Crocker Wind Farm, LLC Application for a permit to
18 construct the Crocker Wind Farm?**

19 A. Yes. I also reviewed the figures, appendixes, discovery responses produced by
20 all parties, and Crocker's direct testimony submitted with the application.

21

22 **Q. Were other Staff involved in the review of this petition?**

1 A. Yes. Staff Analyst Jon Thurber also assisted in reviewing the application.
2 Kristen Edwards and Amanda Reiss are the Staff attorneys assigned to the
3 docket.

4
5 **Q. Explain, in your words, the main role of the SDPUC Staff in the Application**
6 **proceedings.**

7 A. After receiving the Application filing, Staff completed a review of the contents of
8 the Application as it relates to the Energy Facility Siting statutes, SDCL 49-41B,
9 and Energy Facility Siting Rules, ARSD 20:10:22. Staff then identified
10 information required by statute or rule that was either missing from the
11 Application or unclear within the Application and requested Crocker to provide or
12 clarify that information (see Exhibit_DK-3). Once interested individuals were
13 granted party status, Staff also issued discovery to the intervenors in order to
14 understand what concerns they had with the project (see Exhibit_DK-2).

15
16 Staff also subpoenaed an expert from the Game Fish and Parks, Tom
17 Kirschenmann, and an expert from the State Historic Preservation Office
18 (SHPO), Paige Olson, to have individuals knowledgeable in their associated
19 fields assist with Staff's review. Further, Staff hired two consultants to assist with
20 reviewing the Application. The first consultant, David Hessler, has expertise on
21 noise emitted from wind turbines and noise modeling. The second consultant,
22 David Lawrence, has expertise regarding property valuation. These experts then
23 completed their review and authored their testimony as filed in this docket.

1 Finally, Staff assisted a number of intervenors and affected landowners by
2 providing responses to numerous questions on the windfarm, the siting process
3 at the PUC and the opportunities available for these individuals to be heard by
4 the Commission. If the landowners had specific concerns with the wind farm,
5 Staff often recommended that those individuals file comments in the docket for
6 the Commission's review. Where appropriate, Staff also included some of the
7 landowners' questions or concerns in Staff's data requests sent to Crocker in
8 order to clarify the issue.

9
10 **Q. What is the purpose of Staff's expert witnesses in this proceeding?**

11 A. Given that some of the information submitted in the Application is technical in
12 nature, Staff sought experts within their respective fields to assess the merits and
13 deficiencies of the Application. Staff asked the experts to review the relevant
14 portions of the Application, testimony, and appendixes that fall within their areas
15 of expertise and provide comments on the Application and supporting
16 information.

17
18 Ultimately, Staff requested that the experts address whether or not the
19 information submitted by Crocker aligns with industry best practices and if they
20 agreed with the conclusions Crocker made regarding potential impacts from the
21 project.

22
23 **Q. Did Staff reach out to any other State Agencies for input?**

1 A. Not for this docket. However, Staff did reach out to the South Dakota
2 Department of Health to find out if they had an opinion on the potential health
3 impacts from wind turbines in Crocker's previous docket (EL17-028).

4
5 **Q. What was the South Dakota Department of Health's response?**

6 A. The South Dakota Department of Health provided Staff with a letter stating that
7 the Department of Health has not taken a formal position on the issue of wind
8 turbines and human health. Further, they referenced the Massachusetts
9 Department of Public Health and Minnesota Department of Health studies and
10 identified those studies generally conclude that there is insufficient evidence to
11 establish significant risk to human health. I included the Department of Health's
12 letter as Exhibit_DK-4.

13
14 **Q. Was Crocker Wind Farm, LLC's Application considered complete at the
15 time of filing?**

16 A. At the time of the filing, the application was generally complete. However, as
17 identified above, Staff requested further information, or clarification, from Crocker
18 which Staff believed was necessary in order to satisfy the requirements of SDCL
19 49-41B and ARSD 20:10:22. Crocker's responses to Staff's information requests
20 received to date are attached as Exhibit_DK-3. Finally, I would also note that an
21 applicant supplementing its original application with additional information as
22 requested by Staff is not unusual for siting dockets.

23

1 **Q. Based on your review of the Application, responses to Staff’s data requests**
2 **and Crocker’s testimony, do you find the Application to be complete?**

3 A. Yes. Staff found that Crocker provided information that addressed the
4 information required by ARSD Chapter 20:10:22 and SDCL 49-41B. However, at
5 the time of writing this testimony, it is my opinion that Crocker should provide
6 additional information to more-thoroughly address certain rules so that the
7 Commission may better understand the project’s potential impacts. This opinion
8 is based on Staff’s interpretation of the Commission’s rules and the testimony
9 submitted by Staff’s experts.

10
11 **Q. What rules do you believe were not adequately covered in the Application,**
12 **responses to Staff’s data requests, or Crocker’s prefiled testimony?**

13 A. In my opinion, I found that Crocker touched upon all rule requirements in its
14 Application. However, the following is a list of the rules that I found were not
15 adequately covered in the Application, with a more detailed explanation of this
16 finding explained later in my testimony:

17 1) ARSD 20:10:22:23(1) – “A forecast of the impact on ... land values...”

18 2) ARSD 20:10:22:23(6) - “A forecast of the impact on landmarks and
19 cultural resources of historic, religious, archaeological, scenic, natural, or other
20 cultural significance.”

21 3) ARSD 20:10:22:13 - “[t]he environmental effects shall be calculated to
22 reveal and assess demonstrated or suspected hazards to the health and welfare
23 of human, plant and animal communities *which may be cumulative or synergistic*

1 *consequences of siting the proposed facility in combination with any operating*
2 *energy conversion facilities, existing or under construction.” {emphasis added}.*
3

4 **Q. Why do you believe Crocker did not adequately address ARSD**

5 **20:10:22:23(1)?**

6 A. ARSD 20:10:22:23(1) requires the Applicant to provide a forecast of the project’s
7 impact on land values. While the Application does discuss expected impacts to
8 property values and Crocker provides supporting information through the direct
9 testimony of Mark Thayer, Staff’s witness David Lawrence identified that he is
10 unable to form an opinion about impacts to land/property values without a more
11 specific study that focuses on South Dakota. Further, Mr. Lawrence identifies his
12 concerns with Mr. Thayer providing a property valuation opinion without being
13 licensed in South Dakota as an appraiser. Please refer to Mr. Lawrence’s
14 testimony for a more detailed explanation as to why Staff finds ARSD
15 20:10:22:23(1) has not been adequately addressed as it relates to land values.
16

17 **Q. Why do you believe Crocker did not adequately address ARSD**

18 **20:10:22:23(6)?**

19 A. ARSD 20:10:22:23(6) requires the Applicant to provide a forecast of the project’s
20 impact on cultural resources. While the Application does address cultural
21 resources (see section 9.7.4 of the Application) and commits to avoidance of
22 cultural resources, Staff’s expert from SHPO, Paige Olson, identifies that she is
23 unable to fully understand the potential adverse impacts to cultural resources

1 based on the information submitted in the Application and received to date. Ms.
2 Olson identified that Crocker is currently conducting additional studies to
3 determine the potential impacts to cultural resources. Once that information is
4 provided to SHPO, she will be able understand the impacts and provide an
5 opinion on the project. Please refer to Ms. Olson's testimony for further
6 information.

7
8 **Q. Why do you believe Crocker did not adequately address ARSD**

9 **20:10:22:13?**

10 A. In my opinion, I found that the discussion regarding the potential cumulative
11 impacts of the Project and existing wind farms adjacent to the Project area was
12 not too robust. Given that the Day County Wind Farm and Oak Tree Wind Farm
13 are adjacent to the project area, Staff would like to see a more detailed study that
14 clearly identifies the cumulative environmental impacts (including both direct and
15 indirect impacts) of wind energy projects in that area of the Prairie Coteau.

16
17 In past wind farm siting dockets before the Commission, cumulative impacts on
18 the environment were not a major concern due to the number of wind projects
19 existing in an area. However, as wind developers continue to build out wind-rich
20 areas of the State and site projects adjacent to each other, Staff would like to see
21 cumulative impacts clearly addressed in applications so that a project's impacts
22 on a specific region can be fully understood. This is particularly important as

1 siting wind projects adjacent to one another impacts a larger percentage of the
2 area's population and environment.

3
4 Specific to the Crocker Wind Farm, there are two factors involved with this
5 project that may have warranted a more detailed cumulative impact analysis.
6 First, the amount of grasslands, especially the potential for undisturbed
7 grasslands, that are located within the project area (See Figure 13 of the
8 Application). Second, the project is sited between the existing Day County Wind
9 Farm and Oak Tree Wind Farm. Since the South Dakota Game Fish and Parks
10 identifies remnant prairie tracts as having a high conservation value, I believe it is
11 important for the Commission to understand what potential cumulative impacts
12 could result from siting the Crocker Wind Farm at that location. An analysis on
13 cumulative impacts is important for Commission consideration because if it
14 shows that siting multiple wind farms in a given area poses a threat of serious
15 injury to the environment, some form of mitigation may be required to offset those
16 impacts. Exhibit_DK-5 of my testimony provides a map that I made of the Day
17 County Wind Farm, Oak Tree Wind Farm, and proposed Crocker Wind Farm on
18 potentially undisturbed land, which helps visualize why cumulative impacts are
19 an important consideration for this project.

20
21 **Q. Is it Staff's opinion that the Crocker Wind Farm Application should be**
22 **denied or rejected because Staff finds Crocker did not adequately address**
23 **these rules?**

1 A. Not at this time. Because Crocker still has the opportunity to address
2 outstanding issues on rebuttal and, to an extent, through the evidentiary hearing,
3 Staff reserves any position until such time as we have a complete record upon
4 which to base the position. I would also note that some of the outstanding issues
5 may be addressed through conditions should the Commission grant a permit.
6

7 **Q. Does Staff have any recommendations regarding a road bond for the**
8 **Project?**

9 A. Yes. Pursuant to SDCL 49-41B-38, the Commission shall require any person
10 performing any construction to furnish an indemnity bond in a reasonable amount
11 for a transmission facility. Since the Crocker Project includes a 5.2 mile 345-kV
12 transmission line, a bond is required. Staff recommends setting the bond at \$1
13 million.
14

15 This recommended amount is based on the bonding requirements established in
16 the two previous wind farm dockets. In Docket EL15-020 (Willow Creek Wind
17 Farm) there was less than 1 mile of transmission proposed and a road repair
18 bond set at \$500,000. In Docket EL09-028 (Prairie Winds SD1) there was 13
19 miles of transmission line proposed and a road repair bond set at \$1.5 million.
20 Given that Crocker Wind Farm includes a 5.2 mile transmission line (a distance
21 that falls in the middle of the two previous dockets), I felt that a \$1 million road
22 repair bond would be reasonable for this project.
23

1 **Q. Does Staff have any recommendations regarding a decommissioning bond**
2 **for the Project?**

3 A. Yes. In accordance with ARSD 20:10:22:33.01, the commission may require a
4 bond, guarantee, insurance, or other requirement to provide funding for the
5 decommission and removal of a wind energy facility. At this time, it is difficult to
6 forecast the expected decommissioning cost of a wind farm that may be retired in
7 approximately 20 to 30 years (see Crocker response to Staff DR 2-6). Also, I
8 would note that there is a carrying cost associated with any bond. As such, Staff
9 recommends that the Commission require Crocker to submit an updated
10 decommissioning plan, updated decommissioning cost forecasts, and company
11 financials ten years after the date of commercial operation. At that time, the
12 Commission would review the updated information and determine if a bond is
13 warranted and at what amount.

14
15 **Q. In its Application, Crocker requests that the permit allow turbines to be**
16 **shifted within 1,000 feet of the proposed location so long as specified noise**
17 **and shadow flicker thresholds at occupied residences are not exceeded,**
18 **cultural resources and sensitive species habitat are avoided, and wetland**
19 **impacts are avoided to the extent practicable. What is Staff's position on**
20 **this request?**

21 A. I do not agree with this request. While I understand the need for some flexibility
22 to micro-site turbines, I cannot support this request. In docket EL17-028 Crocker
23 filed a letter indicating that they needed the flexibility of 325 feet and now in this

1 docket it changed to 1,000 feet. Justification for this increase was to avoid
2 cultural resources and Dakota skipper habitat; however, Crocker has already
3 incorporated the avoidance of those resources in its proposed turbine layout (see
4 Crocker's response to Staff's data requests 1-6 and 2-10).

5
6 Staff's initial impression was that 1,000 feet seemed like too large of a turbine
7 shift without some additional review. We thought through this request and tried
8 to come up with a distance for shifting turbines that we can support. We could
9 not find any support in the Application for a shorter distance beyond the flexibility
10 desired by Crocker. Ultimately, Staff concluded that, from a technical
11 perspective, the project impacts provided in the permit application are based on
12 the proposed turbine layout. Any changes to turbine locations could cause a
13 change in the impacts of the project. I acknowledge that some turbine shifts may
14 not cause any changes to the project impacts, however I believe that some form
15 of additional review is prudent.

16
17 **Q. How does Staff propose to handle turbine shifts that occur during micro-**
18 **siting if the permit is granted?**

19 A. I believe that a process can be established in a permit condition that allows for
20 additional review of the final turbine locations. If the Commission grants a permit,
21 I recommend that the Commission require Crocker to file the following for review
22 prior to starting construction:

23

- 1 1) a list of turbine sites that changed;
- 2 2) a map showing the new turbine location;
- 3 3) justification for each turbine change; and
- 4 4) an analysis on any impacts that occur because of that change.

5

6 I further recommend that Commission allow 30 days for Staff, the intervenors,
7 and the Commission to review any shifts in turbine locations and be afforded the
8 opportunity to raise concerns. If no concerns are raised by the parties or the
9 Commission within 30 days, then the turbine changes would be automatically
10 approved. However, if a party (or the Commission) raises a concern with a
11 turbine shift, then that turbine shift would be brought before the Commission for
12 consideration and approval.

13

14 I believe the process described above provides transparency to the parties, and
15 the public, regarding the final locations of the turbines.

16

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

18 A. Yes.