

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

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

SD PUC DOCKET EL-17-055

PREFILED REBUTTAL TESTIMONY OF JOYCE PICKLE
ON BEHALF OF CROCKER WIND FARM, LLC

April 13, 2018



1 **I. INTRODUCTION AND QUALIFICATIONS**

2

3 **Q. Please state your name, employer, and business address.**

4 A. My name is Joyce Pickle. I am employed at Western EcoSystems Technology, Inc.
5 (“WEST”), 7575 Golden Valley Road, Suite 350, Golden Valley, Minnesota 55427.

6

7 **Q. Please describe your background and duties.**

8 A. I am a research biologist and have a Bachelor of Arts in Biology from Augustana
9 College and a Master of Science from Iowa State University. I have worked as an
10 environmental consultant since 2000. I have been employed at WEST since 2014.
11 My primary experience has been in preparing permit applications, developing
12 environmental review documents, and managing pre- and post-construction studies
13 primarily for energy projects. I have worked on feasibility studies, biological field
14 surveys, constraints analyses, and regulatory compliance issues for transmission
15 lines and wind projects in more than 20 states. A copy of my resume is attached as
16 **Exhibit 1.**

17

18 **Q. Describe your familiarity with the Crocker Wind Farm (“Project”).**

19 A. I managed the terrestrial wildlife surveys for the Project. I also managed the
20 development of a draft Bird and Bat Conservation Strategy (“BBCS”).

21

22 **Q. Did you provide Direct Testimony in this Docket on December 15, 2017?**

23 A. No.

24

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

26 A. The purpose of my Rebuttal Testimony is to: discuss the avian surveys that have
27 been or will be completed for the Project; respond to the testimony of Mr. Sheldon
28 Stevens; and respond to the testimony of Mr. Gale Paulson.

29

30 **Q. What exhibits are attached to your Rebuttal Testimony?**

1 A. As noted above, my resume is attached as **Exhibit 1**. The following reports
 2 documenting the wildlife study and survey work that WEST has conducted for the
 3 Project are also attached as exhibits to my Rebuttal Testimony:

Exhibit No.	Report Title	Survey Date(s)	Description/Purpose
2	Raptor Nest Survey Results for the Crocker Wind Farm (May 27, 2016)	April 4-5, 2016	Aerial-based survey to identify raptor nests within one- and ten-mile buffers of the 2016 Project boundary.
3	Lek Survey Results for the Crocker Wind Farm (July 7, 2016)	April 14 – May 12, 2016	Aerial lek survey to help evaluate the potential impacts of Project construction on greater prairie-chicken and sharp-tailed grouse.
4	Northern Long-Eared Bat Presence/Absence Acoustic Surveys (October 21, 2016)	July 22-27, 2016	Bat acoustic presence/probable absence surveys during summer 2016 to better understand the potential use of the 2016 Project area during the summer months by the federally-threatened northern long-eared bat.
5	Dakota Skipper and Poweshiek Skipperling Habitat Assessment Report: Crocker Wind Farm (October 26, 2016)	September 21-22 and 26-28, 2016	Habitat assessment for leased parcels in the 2016 Project area with a focus on identifying grassland areas that may provide suitable habitats for the Dakota skipper and Poweshiek skipperling.
6	Bat Acoustic Survey Report for the Crocker Wind Farm (January 19, 2017)	April 14 – October 27, 2016	Estimate levels of bat activity throughout the 2016 Project area during spring, summer, and fall.
7	2017 Eagle Nest Survey (August 17, 2017)	April 13-14 and 18, 2017	Identify bald eagle nests within a ten-mile buffer of the Project boundary.
8	Avian Use Studies for the Crocker Wind Farm – Year 1 Report (October 2017)	April 13, 2016 – March 28, 2017	Estimate levels of use by avian species by conducting fixed-point bird use surveys, including eagle and large bird and

			small bird surveys.
9	Grassland Use Studies for the Crocker Wind Farm (October 2017)	June 7 – July 4, 2017	Provide site-specific bird resource and use data to evaluate potential Project impacts.
10	2017 Dakota skipper and Poweshiek skipperling Survey Report (November 1, 2017)	June 29 – July 12, 2017	Conduct flight surveys for the presence of Dakota skippers (<i>Hesperia dacotae</i>) and Poweshiek skipperlings (<i>Oarisma poweshiek</i>).
11	Crocker Wind Farm: Bird and Bat Conservation Strategy (February 19, 2018)	N/A	Provide strategies for mitigating risks to birds and bats during construction and operation of the Project.

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II. AVIAN SURVEY/STUDY UPDATE

Q. Please provide an update on avian surveys and/or studies that have been conducted for the Project.

A. WEST has conducted avian surveys over two years, and a third year of survey is beginning this spring. Specifically, WEST has conducted the following avian studies for the Project:

- Raptor/eagle nest survey – spring 2016 (eagle nests documented within 10 miles of Project; raptor stick nests documented within one mile of Project). See **Exhibit 2**.
- Eagle nest survey – spring 2017 (eagle nests documented within 10 miles of Project). See **Exhibit 7**.
- Eagle nest survey – spring 2018 (eagle nests documented within 2 miles of proposed Project turbines, plus check of reported nest 2.2 miles from Project on Reid Lake).
- Avian use surveys – one hour large/bird eagle use surveys, and 10-minute small bird use surveys throughout Project on public roads (April 2016 through

1 April 2018). Year 1 of these surveys is reported in **Exhibit 8**; results from
2 Year 2 are in the process of being compiled into a report.

- 3 • Eagle roost surveys at Reid Lake – late fall/early winter 2017.
- 4 • Aerial lek surveys – spring 2016. See **Exhibit 3**.
- 5 • Grassland bird transect studies in grassland parcels – summer 2017. See
6 **Exhibit 9**.

7
8 **Q. Will additional study work be conducted for the Project?**

9 A. We are finishing the second year of avian use studies at the Project, and will finish
10 the third year of bald eagle nest surveys this month as well. Once the Project is
11 operational, Crocker Wind Farm, LLC will conduct post-construction fatality
12 monitoring to estimate bird and bat fatality rates.

13
14 **III. RESPONSE TO TESTIMONY OF SHELDON STEVENS**

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16 **Q. Mr. Stevens states that he has concerns about avian use at Reid Lake
17 Waterfowl Refuge. Did your surveys take Reid Lake into account?**

18 A. Yes. When setting up the avian use surveys at the Project, WEST followed
19 guidelines laid out in the USFWS' 2012 *Land-Based Wind Energy Guidelines* and
20 the U.S. Fish and Wildlife Service's ("USFWS") 2013 Eagle Conservation Plan
21 Guidance ("ECPG"). Survey points were selected to cover areas within the Project
22 boundary where turbines were likely to be placed, in order to record species type,
23 numbers and use patterns (spatial and seasonal) in the vicinity of proposed turbines.
24 Because the Project boundary excluded the Reid Lake Waterfowl Refuge and no
25 turbines were proposed within or directly adjacent to it, WEST did not place survey
26 points within the Refuge. However, several survey points in the southeast portion of
27 the Project were placed so that waterfowl or other avian use that may come into the
28 Project from the Refuge would be observed and recorded. Survey point 15 is located
29 less than a mile north of the Refuge, with survey point 11 located approximately 1.5
30 miles to the west-southwest; five survey points had viewsheds that were within two
31 miles of the Refuge (11, 12, 13, 15 and 16).

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Q. Mr. Stevens expresses concern that your surveys under-reported eagle use in the Project area. Do you believe that your surveys identified representative eagle use in the area?

A. Yes. Contrary to Mr. Stevens’ assertion, the surveys conducted for the Project did not “grossly under-report” eagles in the area. The surveys followed the ECPG guidance for eagle use surveys for wind projects: surveys were conducted at least monthly at every point throughout the year (twice a month during spring), with survey point viewsheds placed to cover 30 percent of the project footprint. As noted above, when the layout changed and the Project boundary increased, WEST added points during the Year 2 survey to meet the coverage recommendations.

While the survey recommendations in the ECPG are not designed to document every eagle that may fly through an area (that would be nearly impossible to do), by following the recommendations of the USFWS guidance, surveys do give a representative record of eagle use both seasonally and spatially. We did not see a high concentration of bald eagle use in the Project area in either spring or fall migration in the first year of surveys. When we were informed of the potential concentration of eagles at Reid Lake, we did do more intense surveys at that location. While we documented bald eagles roosting in trees next to Reid Lake and flying over the Lake itself during these surveys in late October, November, and early December 2017, we did not document bald eagles at survey points near this Lake in higher numbers compared to survey points elsewhere in the Project during these months.

Q. On lines 70-79 of his testimony, Mr. Stevens discusses the lek surveys conducted for the Project. What are you looking for in a lek survey?

A. Our biologists were looking for groups of larger birds on the ground, during the early morning hours when grouse species congregate at leks. Transects spaced a quarter mile apart were flown north-south through the Project boundary, with two biologists and a skilled pilot looking for communal gatherings of greater prairie-

1 chickens and/or sharp-tailed grouse. The transects in the Project were flown two full
2 times during this period, with surveys occurring within 0.5 to 3 hours around sunrise,
3 on days with relatively light wind, no rain and good visibility. If individual or small
4 groups of grouse were observed, these were also noted by the biologists.

5
6 **Q. Mr. Stevens states that he has “seen as many as fifty Sharptail Grouse on our
7 farm in a single outing late on a fall day.” Is this observation inconsistent with
8 the results of your study?**

9 A. No. The fact that you see large groups of sharptail grouse in the fall does not mean
10 there are corresponding locations of communal leks in the Project area. First,
11 grouse lek in the spring, and then disperse, so there could be gatherings of grouse
12 in other seasons that do not correspond to leks. Second, as noted in our report
13 (Exhibit 3), there are no state records of leks in the Project area, which is consistent
14 with the results of our study.

15
16 **Q. Mr. Stevens also states that he has never seen a grouse from the air and that
17 “[u]sing an aircraft for Sharptail Grouse Lek studies would likely yield
18 erroneous results.” Do you have a response?**

19 A. Yes. Both ground-based and aerial surveys are accepted techniques to survey for
20 leks. In the ground-based method, biologists drive along public roads, pausing
21 every half a mile or so to listen for and look for leks. The booming sounds the males
22 make can be heard for miles in some cases. At this Project, WEST conducted the
23 surveys from the air, partially due to the fact that there is not a full grid of publicly
24 accessible roads. A ground-based survey therefore may be able to hear leks in the
25 distance, but would not be able to accurately triangulate their location. While aircraft
26 may cause the leks to flush, it is still possible to see the flushing birds and identify
27 them as a lekking grouse species. Having two biologists, plus an experienced pilot,
28 looking in both directions as the plane flies up and down the transects provides good
29 coverage of the entire Project area, and WEST uses the aerial survey approach on
30 many grouse lek surveys, including those for the rare lesser prairie-chicken.

31

1 **Q. In lines 83-85 of his testimony, Mr. Stevens identifies two bald eagle nests**
2 **which he asserts have not been identified by the Applicant. Do you have a**
3 **response?**

4 A. Yes. First, to clarify, the language quoted by Mr. Stevens is from a report detailing
5 the results of 2016 survey. As I have discussed above, we have also conducted
6 surveys in 2017 and will conduct additional surveys this year. With respect to the
7 eagle nest identified by Mr. Stevens as being 4.2 miles southwest of the nearest
8 turbine, this nest was identified in our 2017 survey. The nest identified by Mr.
9 Stevens as being 2.2 miles south of the Project was not identified in 2016 or 2017
10 but, as discussed previously, is being investigated during 2018 surveys.

11
12 **Q. At lines 199-200 of his testimony, Mr. Stevens asserts that “[w]ind turbines**
13 **eliminate habitat for many species of ground nesting birds.” Do you agree?**

14 A. No – this statement is too broad. Although some grassland bird species may avoid
15 habitat around wind turbines, this is not the case for every species. Indirect impacts
16 have been documented for some grassland passerine species, which may be due to
17 the birds avoiding turbine noise and maintenance activities. Indirect impacts may
18 also occur to some grassland-dependent species. However, these species would be
19 expected to move to adjacent grassland areas (which exist both within and adjacent
20 to the Project area) during the breeding season.

21
22 **IV. RESPONSE TO TESTIMONY OF GALE PAULSON**

23
24 **Q. Mr. Paulson asserts that the Project will have a detrimental effect on waterfowl**
25 **and hunting in the area. Do you agree?**

26 A. No. At a high level, it is not true that high avian use necessarily equates to high
27 avian mortality in areas with wind turbines. More specifically, the data available from
28 other studies in the Midwest where pre-construction use and post-construction
29 fatality data is available indicate that, while wind projects located in proximity to
30 waterfowl migration stopover and breeding habitat have resulted in some mortality,
31 the rates do not appear to approach levels that would affect populations. Notably,

1 some studies have shown no mortality at all, even in areas with high waterfowl use
2 during wind project operations.

3
4 **Q. Mr. Paulson recommends that no wind turbines be located within three miles
5 of Round/Reid Lake. Do you agree that this setback is appropriate?**

6 A. No. With respect to this Project, specifically, our surveys do not support a conclusion
7 that a three-mile setback would offer any greater avian protection than the existing
8 setback from Round/Reid Lake. In addition, I am not aware of three miles being
9 used as a standard setback recommendation from areas of high waterfowl use.

10
11 **Q. Mr. Paulson takes issue with several statements in the BBCS and asserts that
12 “[s]aying that the waterfowl does not appear to be a higher density in the
13 Project area than in the surrounding areas certainly does not alleviate the
14 problems caused by the towers in the project area.” Do you agree?**

15 A. I think I understand what Mr. Paulson is saying, and no, I do not agree. As noted
16 above, studies at other wind projects located near high use waterfowl areas do not
17 show a clear correlation between use and fatality rates for waterfowl. In other
18 words, high pre-construction (and in some cases post-construction) use by waterfowl
19 does not mean high mortality post-construction. Additionally, if there were some
20 displacement of waterfowl during the summer season, the fact that there is adjacent
21 similar habitat (grassland, potholes and foraging areas in cropfields) within/adjacent
22 to parcels with turbines, as well as outside of the Project boundary, would be
23 expected to limit the effects of such displacement.

24
25 **Q. Mr. Paulson asserts that Crocker downplays the importance of the Round/Reid
26 Lake Complex Waterfowl Refuge (In. 139-184) and did not consider waterfowl
27 use of Round/Reid Lake in siting the Project (In. 54-59). Do you have a
28 response to Mr. Paulson’s assertions?**

29 A. Yes. I do not agree with Mr. Paulson. As I noted earlier, the purpose of our surveys
30 was to analyze avian use of the Project area. The Round/Reid Lake Complex
31 Waterfowl Refuge is not within the Project area. Nonetheless, we placed survey

1 points intended to capture avian use within the Project area that would record birds
2 coming into the Project area from the direction of the Refuge, so our surveys do take
3 the Refuge into account.

4

5 **V. CONCLUSION**

6

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

8 A. Yes.

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1 Dated this 13th day of April, 2018.

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A handwritten signature in cursive script that reads "Joyce Pickle". The signature is written in dark ink and is positioned to the right of a vertical line.

3

4 Joyce Pickle

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