

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 ADAM HOLVEN
ON BEHALF OF CROCKER WIND FARM, LLC

April 13, 2018

1 **I. INTRODUCTION AND QUALIFICATIONS**

2

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

4 A. My name is Adam Holven. I am employed by Tetra Tech, and my business address
5 is 2001 Killebrew Drive, Suite 141, Bloomington, Minnesota 55425.

6

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

8 A. I have a Bachelor of Science in Geology from the University of Northern Iowa, a
9 Bachelor of Arts in Anthropology from the University of Northern Iowa, and a Master
10 of Arts in Anthropology from Iowa State University. I have 14 years of performing
11 identification, evaluation, registration, and treatment activities for archaeological
12 resources. Within South Dakota, I have been the Principal Investigator for
13 Archaeology for numerous projects, from telecommunication sites to wind farms. A
14 copy of my resume is attached as **Exhibit 1**.

15

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

17 A. Tetra Tech was engaged by Crocker Wind Farm, LLC (“Crocker”), to conduct
18 cultural resources and wetland investigations for the Project. I am the Tetra Tech
19 Project Manager overseeing the completion of those investigations.

20

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

22 A. No.

23

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

25 A. The purpose of my Rebuttal Testimony is to respond to testimony submitted by Ms.
26 Paige Olson on behalf of the South Dakota Public Utilities Commission Staff
27 (“Staff”). I will also respond briefly to testimony submitted by Mr. Darren Kearney on
28 behalf of Staff.

29

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

31 A. The following exhibits are attached to my testimony:

- 1 • **Exhibit 1**: Resume
- 2 • **Exhibit 2**: Crocker Wind Farm – Cultural Resources Survey
- 3 Methods and Preliminary Field Results (April 13, 2017) – Memo
- 4 from Tetra Tech to Paige Olson
- 5

6 **II. STATUS OF CULTURAL RESOURCE INVESTIGATIONS**

7

8 **Q. Please describe the status of cultural resource investigations for the Project.**

9 A. Cultural resource investigations for the Project began in 2016 and are ongoing. As
10 discussed in more detail below, the investigations include: (1) desktop review; (2)
11 pedestrian surveys; (3) shovel-testing; and (4) historic structures review.

12

13 First, a Level I cultural resource file search was completed in October 2016 and
14 updated in April 2018. The file search included a review of previously documented
15 archaeological and architectural resources and previously conducted investigations
16 within the applicable survey corridor¹ and one-mile buffer from the survey corridor.

17

18 Second, a systematic pedestrian surface survey (Level III Intensive Survey) was
19 conducted in the survey corridor to determine the presence of cultural resources on
20 the surface in October-November 2016, August-September 2017, and November
21 2017. To date, Tetra Tech has conducted pedestrian survey of approximately 3,639
22 acres. Within the current Project survey corridor, Tetra Tech has surveyed 2,040.1
23 acres, or 85 percent of the Project survey corridor, and all proposed turbine locations
24 have been surveyed. The pedestrian survey of the remaining areas will be
25 completed in late April or early May of 2018; this survey will account for shifts in
26 Project facilities made since the initial pedestrian surveys.

27

¹ The survey corridor used for this work is identified on page 1 of Exhibit 2.

1 Third, where we determined that additional investigation (beyond pedestrian
2 surveys) should be conducted to assess the presence or absence of archaeological
3 materials, Tetra Tech has conducted or will conduct shovel testing. Crocker is
4 exceeding applicable requirements by conducting shovel tests throughout the
5 Project area, as appropriate, with the purpose of identification and avoidance of
6 cultural resources. In my experience, Crocker is conducting more on-the-ground
7 survey work than is typically done for similar projects. Tetra Tech already conducted
8 648 shovel tests in October 2017 at locations determined to have a high potential for
9 cultural resources. We anticipate that an additional approximately 2,700 shovel
10 tests will be completed in the spring and early of summer 2018. The shovel testing
11 model for the remaining shovel tests will be presented for approval to the South
12 Dakota State Historic Preservation Office (“SHPO”) and U.S. Fish and Wildlife
13 Service (“FWS”) prior to conducting this work.

14
15 Fourth, we completed an historic structures review in 2016 to assess the Project’s
16 potential visual effects on architectural resources. In consultation with Ms. Paige
17 Olson, we used a recent Clark County survey to identify structures and assess
18 potential impacts. SHPO recommended that a one-mile buffer from proposed
19 turbines be used to assess impacts; we also included a one-mile buffer around the
20 proposed permanent meteorological towers.

21
22 **Q. Please discuss the results of the cultural resource investigations.**

23 A. Tetra Tech’s Level III pedestrian surveys documented 103 locations that contained
24 cultural resources. Of these locations, 69 resources and their associated avoidance
25 buffer have been avoided by the Project. Of the remaining 34 resources located in
26 the survey corridor:

- 27 • Avoidance is recommended for four Native American lithic scatters and one
28 Native American/Euro-American artifact scatter. If avoidance is not possible,
29 then shovel testing is recommended at these sites to confirm the presence or
30 absence of additional materials;

- 1 • Avoidance is recommended for one Euro-American foundation, one Euro-
2 American fieldstone pile (CR_47), and one Euro-American isolated find;
3 • Shovel testing is recommended for the 13 Native American chipped stone
4 surface find spots to confirm the presence or absence of additional materials.
5 Because these locations are in cultivated agricultural fields, there is a low
6 likelihood that further cultural materials will be identified, in which case we
7 would not recommend avoidance;
8 • A determination if the 5 newly recorded abandoned railroad grade segments
9 are contributing elements of the National Register of Historic Places-eligible
10 Site 39CK2003. If they are determined to be contributing elements to Site
11 39CK2003, then a findings of effect study will be conducted; and
12 • Avoidance is not recommended for four Euro-American isolated finds and for
13 four modern dumps.

14

15 **Q. Have you coordinated with SHPO on this Project?**

16 A. Yes. I have coordinated with SHPO on multiple occasions. Specifically, I have
17 discussed the proposed scope of work for assessing impacts to architectural
18 resources within the Historic Structure Review Area (November 2016), discussed
19 recording and assessing impacts to Euro-American stone lines (December 2017),
20 and provided an informal update on the status of studies (March and April 2018). A
21 copy of the report attached as Exhibit 2 is also being provided to Ms. Olson, and
22 additional consultation with SHPO will be conducted going forward, as appropriate.

23

24 **Q. Is Crocker coordinating with any other agencies for the Project?**

25 A. Yes, Crocker is coordinating with FWS as part of the process for placing Project
26 facilities on FWS grassland easements. SHPO is also being consulted in the FWS
27 process in accordance with Section 106 of the Historic Preservation Act.

28

29 **Q. Will additional cultural resource investigations be conducted?**

1 A. Yes, as stated above, pedestrian surveys and shovel testing are scheduled to be
2 completed in the spring/summer of 2018. These results will be presented to the
3 SHPO in mid- to late summer 2018.

4
5 **Q. If adjustments were made to the Project layout after the results are presented**
6 **to the SHPO, and those adjustments fell outside of the previously surveyed**
7 **areas, would additional cultural resource investigations be conducted?**

8 A. Yes. Any revisions to the Project would be investigated using the same
9 methodology discussed here and would be presented as an addendum report to the
10 SHPO. SHPO concurrence with the findings of the addendum report would be
11 received prior to any ground-disturbing activities in the newly surveyed areas.

12
13 **Q. Has Crocker committed to avoiding cultural resources for this Project?**

14 A. Yes. I understand that Crocker has committed to avoiding cultural resources for the
15 Project. The extensive study and survey work that has already been completed, and
16 the additional work that will be completed before construction, has and will continue
17 to enable Crocker to identify and avoid cultural resources. Further, consistent with
18 best practices, Crocker is developing an Unanticipated Discoveries Plan that will
19 govern the process for addressing any additional resources encountered during
20 construction.

21
22 **III. RESPONSE TO TESTIMONY OF PAIGE OLSON**

23
24 **Q. Have you reviewed the recommendations identified by Ms. Olson on pages 3-4**
25 **of her testimony?**

26 A. Yes. Ms. Olson makes four recommendations, and I will address each below.

27
28 **Q. What is your response to Ms. Olson's first recommendation?**

29 A. Ms. Olson recommends that an official record search be conducted for the Project,
30 and this has been completed. Specifically, a Level I cultural resource file search
31 was completed in October 2016 and updated in April 2018. It included a review of

1 previously documented archaeological and architectural resources and previously
2 conducted investigations within the survey corridor and one-mile buffer from the
3 survey corridor.
4

5 **Q. What is your response to Ms. Olson’s second recommendation?**

6 A. Ms. Olson recommends that a Level III Intensive Survey be completed for the
7 Project Area. As explained above, a systematic pedestrian surface survey has been
8 conducted on 85 percent of the Project. As set forth in Exhibit 2, this survey located
9 known cultural resources and identified additional previously unrecorded resources
10 within the Project area. The remaining areas will be surveyed this spring/summer,
11 and SHPO concurrence with the findings of the report resulting from this effort will be
12 received prior to ground-disturbing activities.
13

14 **Q. What is your response to Ms. Olson’s third recommendation?**

15 A. Ms. Olson recommends that we analyze the visual effects to architectural resources
16 located within one mile of the Project. This has been completed. Specifically,
17 through consultation with Ms. Olson, we used a recent county-wide survey to
18 analyze the Project’s potential visual effects to architectural resources located within
19 one mile of the Project boundaries. There are no structures within one mile of a
20 proposed turbine location. The Bradley First Lutheran Church is within one mile of a
21 permanent meteorological tower location, and we are recommending a Findings of
22 Effect Study to determine potential impacts on that structure. In addition, the
23 Crocker Grain Elevator is located 150 feet beyond the one-mile review area, and we
24 are recommending a Findings of Effect Study for that structure, as well.
25

26 **Q. What is your response to Ms. Olson’s fourth recommendation?**

27 A. Ms. Olson recommends that Tribal Historic Preservation Officers (“THPOs”) in South
28 Dakota be contacted. For this Project, tribal consultation is being conducted by
29 FWS as part of its obligation under the National Historic Preservation Act (“NHPA”),
30 and that consultation is ongoing. Specifically, as I discussed above, Crocker is
31 coordinating with FWS as part of that agency’s review of Project facilities in FWS

1 grassland and wetland easements. As part of that process, FWS is leading nation-
2 to-nation consultation with THPOs in South Dakota pursuant to the NHPA. I
3 understand that FWS has sought comment from THPOs concerning the Project and
4 that further consultation will occur as appropriate based on those comments. This is
5 a well-established process governed by federal statute and regulations that has a
6 specific process for consultation, identification of resources, treatment of those
7 resources, and a mechanism for resolving any disputes concerning identification and
8 treatment.

9
10 In my experience, while applicants support the federal nation-to-nation consultation,
11 they typically do not engage in their own direct coordination because, outside of the
12 federal process, there is no law or regulation defining or guiding a private party's
13 coordination with THPOs. Thus, there is no mechanism for determining significance
14 or resolving disagreements about identification or treatment of a resource. Also,
15 where (as with this Project), a project is located entirely on private property,
16 coordination outside of the federal process is typically not conducted for several
17 additional reasons. First, where property has been privately owned for many years,
18 it is unlikely that tribal members have been conducting religious or cultural practices
19 on the property because the property is not publicly accessible. Second, private
20 landowners are generally free to do with their property as they wish; even if a
21 resource was located on that property, a landowner is not obligated to preserve or
22 allow access to it. Third, as a practical matter, any surveys on private property are
23 subject to the landowner's permission.

24
25 **Q. Ms. Olson notes that additional shovel testing will occur for the Project this**
26 **spring. Can you explain further?**

27 A. Yes, as discussed previously, shovel testing and pedestrian survey will be ongoing
28 to identify undocumented cultural resources within the Project survey corridor in the
29 spring and summer of 2018. If cultural resources are documented, avoidance may
30 be recommended. If this situation occurs, previously unsurveyed areas will be

1 surveyed following the methodology described above. Additional details regarding
2 the shovel testing methodology are provided in Exhibit 2.

3
4 **Q. Is it possible that the 2018 shovel testing and pedestrian surveys will**
5 **necessitate further shifts in Project facilities?**

6 A. It is possible. Tetra Tech typically recommends avoidance for resources that: (1)
7 are potentially eligible for listing on the NRHP; (2) may be deemed culturally-
8 sensitive; or (3) have not been evaluated for eligibility on the NRHP. To the extent
9 that avoidance is recommended for a resource that is identified during further shovel
10 testing or survey, I would anticipate that Crocker would avoid such a resource, as it
11 has committed to doing. It is possible that this avoidance would require turbine
12 shifts.

13
14 **Q. Can you anticipate the distance turbines may need to shift to avoid cultural**
15 **resources?**

16 A. It is difficult to say, as it will depend on the type of cultural resource identified.
17 However, based on the shovel testing conducted to date, turbine shifts of up to 300
18 feet would have been required to avoid the resources identified. However, even a
19 recommended shift of 300 feet (or sometimes less) can required a larger shift as
20 turbine locations are often constrained by factors such as setbacks, wetland and
21 other natural resources, and constructability. The recommendations for avoidance
22 based on the shovel testing conducted to date required some turbines to be shifted
23 up 1,200 feet to comply with all constraints. As I noted previously, the areas
24 selected for shovel testing in 2017 were located on non-FWS easements lands and
25 had a higher priority of containing cultural resource. The remaining areas to be
26 shovel tested will include FWS easement lands with a higher priority of containing
27 cultural resource; therefore, it is likely that cultural resources will be identified that
28 will need to be avoided.

29
30 **IV. RESPONSE TO TESTIMONY OF DARREN KEARNEY**

31

1 **Q. Mr. Kearney states that he believes Crocker has not adequately addressed**
2 **ARSD 20:10:22:23(6). Do you have a response?**

3 A. Yes. I understand that ARSD 20:10:22:23(6) requires an applicant to provide a
4 “forecast of the impact on landmarks and cultural resources of historic, religious,
5 archaeological, scenic, natural, or other cultural significance.” As I have explained
6 above, and as set forth in considerably more detail in the report attached as Exhibit
7 2, Crocker has already conducted a significant level of study to identify both known
8 and previously unknown resources of cultural significance in and around the Project
9 area. Further, additional field survey work is planned, in excess of any applicable
10 requirements. In my opinion, this work, taken together with Crocker’s commitment to
11 avoiding cultural resources, provides a credible and comprehensive “forecast” of the
12 Project’s impact on resources of cultural significance.

13

14 **V. CONCLUSION**

15


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

17 A. Yes.

18

1 Dated this 13th day of April, 2018.

2

3 

4

Adam Holven

5

6