

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION OF DAKOTA RANGE I, LLC AND DAKOTA
RANGE II, LLC FOR AN ENERGY FACILITY PERMIT TO CONSTRUCT
A WIND ENERGY FACILITY

SD PUC DOCKET EL-18-003

PREFILED REBUTTAL TESTIMONY OF DAVID PHILLIPS
ON BEHALF OF DAKOTA RANGE I, LLC AND DAKOTA RANGE II, LLC

May 21, 2018

1 **I. INTRODUCTION**

2
3 **Q. Please state your name.**

4 A. My name is David Phillips.

5
6 **Q. Did you provide Direct Testimony in this Docket on January 24, 2018?**

7 A. Yes.

8
9 **Q. What is the purpose of your Rebuttal Testimony?**

10 A. The purpose of my Rebuttal Testimony is to respond to the testimony of Paige Olson
11 and Tom Kirschenmann, submitted on behalf of the South Dakota Public Utilities
12 Commission Staff ("Staff").

13
14 **Q. Are there any exhibits attached to your Rebuttal Testimony?**

15 A. The following exhibit is attached to my Rebuttal Testimony:

- 16 • **Exhibit 1**: South Dakota State Historical Society Letter, dated February 14,
17 2018.
- 18 • **Exhibit 2**: Dakota Range Grassland Impacts Figure.

19
20 **Q. Do you have any updates to your Direct Testimony?**

21 A. Yes. After my Direct Testimony was prepared, Dakota Range received a letter from
22 the South Dakota State Office of the State Historic Preservation Officer ("SHPO")
23 stating that it concurred with the results of the Level III Archaeological Inventory
24 Report and Reconnaissance Level Architectural Survey Report for the Project, and
25 that the Project will not encroach upon, damage or destroy any property or environs
26 of such property that is listed on the State or National Register of Historic Places.
27 The letter also recommends that all eligible and unevaluated archeological
28 properties be avoided and that we work with local Tribal Historic Preservation
29 Officers to identify and avoid any sensitive areas associated with their tribes. A copy
30 of the letter is attached as **Exhibit 1**. These recommendations have been adhered
31 to during the development of the Project.

1
2 **II. RESPONSE TO TESTIMONY OF PAIGE OLSON**
3

4 **Q. Ms. Olson states that “Dakota Range will need to provide the Commission with**
5 **SWO’s findings and recommendations, if available.” Do you have a response?**

6 A. Yes. This recommendation goes above and beyond the recommendation provided in
7 the letter from the SHPO provided as Exhibit 1. The Project has worked diligently
8 with the SWO to complete surveys of the entire footprint. These surveys were
9 recently completed and Dakota Range has identified ways to microsite the Project
10 so as to address SWO’s concerns (see also the Rebuttal Testimony of Brenna
11 Gunderson). The information and recommendations resulting from this work is, in
12 my opinion, the property of the SWO, and the Project is not at liberty to disclose this
13 information. However, if we are able to make the facility shifts identified, I
14 understand that the SWO concerns will have been addressed to their satisfaction.
15

16 **Q. Ms. Olson recommends that the Commission impose a condition related to**
17 **avoiding direct impacts to cultural resources. Do you agree that this condition**
18 **is appropriate in this case?**

19 A. No, not as written by Ms. Olson. Specifically, Ms. Olson recommends the following
20 condition:

21 The Applicant agrees to avoid direct impacts to cultural
22 resources that are unevaluated, eligible for or listed in the
23 National Register of Historic Places (NRHP). When NRHP
24 unevaluated, eligible or listed site cannot be avoided,
25 Applicant shall notify the State Historic Preservation Office
26 (SHPO) and the Commission of the reasons that complete
27 avoidance cannot be achieved in order to coordinate
28 minimization and/or treatment measures.
29

30 As an initial matter, it is important to remember that the Project is sited on private
31 property, where SHPO has limited authority. As such, any avoidance, minimization,

1 and/or treatment measures would need to take landowner preferences into account
2 and would, ultimately, likely be subject to landowner approval.

3
4 In addition, as discussed in my direct testimony and acknowledged by Ms. Olson,
5 Dakota Range developed a Cultural Resources Monitoring and Management Plan
6 ("CRMMP") (see Appendix N of the Application) to avoid or minimize potential
7 impacts to cultural resources during design and construction of Project facilities.
8 Among other things, the CRMMP identifies the proposed management plan for
9 archaeological or architectural resources that are identified during the surveys and
10 provides a plan for unanticipated discovery of sensitive cultural resources, should
11 any be unearthed during construction. Specifically, the CRMMP provides:

12
13 Sites identified as potentially eligible for NRHP listing will be
14 addressed by micrositeing facilities to avoid impacts. If
15 complete avoidance cannot be achieved, Dakota Range
16 Wind will work with SHPO to minimize impacts to the
17 maximum extent practicable.

18 a. An example of an avoidance measure that may
19 be implemented is rerouting a collector line road around a
20 resource, or boring under it to avoid ground disturbance.

21 b. If sites must be impacted that are afforded
22 regulatory protection and would require mitigation, SHPO will
23 be engaged to ensure regulatory compliance is achieved.

24 I believe that the language in the CRMMP is more appropriate under these
25 circumstances than the condition proposed by Ms. Olson. As I noted, the CRMMP
26 was developed in coordination with SHPO. In addition, the language in the CRMMP
27 is more specific than the language proposed by Ms. Olson. For instance, achieving
28 regulatory compliance (as required by the CRMMP) is a measurable goal, whereas
29 coordinating minimization and/or treatment measures is less clear, especially since,

1 as I noted, SHPO has limited authority on private property. It is important to note
2 that compliance with South Dakota Codified Law 1-19A-11.1 has been met by the
3 Project and will be met in the event of future micrositeing.
4

5 **Q. Ms. Olson recommends that the Commission impose a condition related to an**
6 **unanticipated discovery plan. Do you agree that this condition is appropriate**
7 **in this case?**

8 A. Yes. Ms. Olson recommends a condition that states: "The Applicant agrees to follow
9 the unanticipated discovery plan outlined in the document entitled 'Cultural
10 Resources Monitoring and Management Plan for the Dakota Range I Wind Project.'"
11 Dakota Range developed that Plan in coordination with SHPO, and the preparation
12 of an unanticipated discovery plan for use during construction is, in my experience,
13 appropriate for this Project. Therefore, Dakota Range has no objection to this
14 condition being part of the permit issued.
15

16 **Q. Ms. Olson recommends that the Commission impose a condition related to**
17 **consultation with American Indian tribes. Do you agree that this condition is**
18 **appropriate in this case?**

19 A. No, not as written by Ms. Olson. Specifically, Ms. Olson recommends a condition
20 that states: "The Applicant agrees to consult American Indian tribes in the
21 identification and assessment of the project's impacts to cultural resources that may
22 be of religious and cultural significance to their tribe." Ms. Olson's proposed
23 recommendation is vague in that it does not identify the tribes Ms. Olson believes
24 should be consulted, and it also does not identify any mechanism under state law
25 that would provide a process for evaluating resources on private property or for
26 consulting with tribes. As discussed in my testimony and Section 27.2 of the
27 Application, and as acknowledged by Ms. Olson in her testimony, Dakota Range has
28 already engaged in voluntary coordination with the SWO, and the SWO has had and
29 will continue to have opportunities to review finds and participate in eligibility
30 recommendations and avoidance plans for sensitive tribal resources. Dakota Range
31 made the decision to voluntarily coordinate with the SWO due to the tribe's historical

1 interest in the Project vicinity and the importance of potentially undocumented tribal
2 cultural resources in the area to the SWO.

3
4 **III. RESPONSE TO TESTIMONY OF TOM KIRSCHENMANN**

5
6 **Q. Mr. Kirschenmann notes that GFP has concerns about potential impacts to**
7 **wetlands. Could you address the Project's potential impacts to wetlands?**

8 A. Yes. No turbines are located within wetlands. In total, the Project will permanently
9 impact only five wetland areas, for a total impact of 0.08 acres. The Project's
10 impacts fall under the United States Army Corps of Engineers' nationwide permit
11 threshold, and Dakota Range will comply with the requirements of the applicable
12 permit.

13
14 **Q. Mr. Kirschenmann notes that GFP has concerns about potential grassland**
15 **impacts, particularly undisturbed grasslands. How did Dakota Range analyze**
16 **what types of grasslands were present in the Project Area?**

17 A. In early coordination meetings, GFP recommended that the Project avoid impacts to
18 "all grasslands". It was acknowledged that these grasslands are not protected and
19 that voluntarily avoiding high quality areas first, and lower quality grasslands to the
20 maximum extent practicable, was appropriate to minimize impact to grassland
21 habitats and the species that depend on these habitats.

22
23 As noted in Section 14.1.1 of the Application, as recommended by USFWS and
24 GFP, Dakota Range completed an analysis to identify high quality grasslands.
25 Those areas that had the characteristics of "native prairie" and were likely to support
26 federal and state listed butterfly species were avoided entirely. These areas were
27 identified based on Western Ecosystems Technology, Inc. ("WEST") review of the
28 2016 U.S. Department of Agriculture ("USDA") National Agriculture Imagery
29 Program data, verified by review of the 2016 USDA Cropland Data Layer, and then
30 reviewed with the Quantifying Undisturbed (Native) Lands in Eastern South Dakota:
31 2013 (Bauman, et al., 2016) digital data layer to further evaluate potential for past

1 disturbances. This analysis is captured in Appendix C to the Application (Dakota
2 Skipper/Powershiek Skipperling Habitat Survey Memo). These areas were verified
3 in the field by qualified biologists and mapped for avoidance with Project facilities.

4
5 Additionally, areas held as conservation easements by the USFWS within the
6 Waubay National Wildlife Refuge Complex (i.e., grassland easements, wetland
7 easements, and waterfowl production area easements) were identified via
8 coordination with USFWS and avoided.

9
10 **Q. What were the results of Dakota Range's analysis of grasslands?**

11 A. Using the Bauman et al., (2016) data layer, a total of 8,096 acres of potentially
12 untilled grasslands were identified within the Project Area, as illustrated in **Exhibit 2**.
13 Based on WEST's field verification, it was determined that most of these grassland
14 areas were dominated by cool-season invasive grasses, but some grasslands were
15 found to have more healthy populations of native grass species. These results are
16 discussed further in Appendix C to the Application.

17
18 It should be noted that Figure 11 in the Application inadvertently omitted a portion of
19 the Bauman et al., (2016) data layer. The attached Exhibit 2 includes all of the
20 applicable data, and the total acres of potentially untilled grasslands provided above
21 also reflects all of the Bauman et al., (2016) data layer.

22
23 **Q. How did Dakota Range use this analysis in siting Project facilities?**

24 A. During Project design, areas identified as being dominated by native grass and forb
25 species through the desktop and field assessment completed by WEST, and areas
26 identified as USFWS grassland easement, wetland easement or waterfowl
27 production areas based on coordination with USFWS, were treated as off limits to
28 disturbance, and avoided with all Project facilities. Impacts were then minimized in
29 areas of lesser quality grassland to the maximum extent practicable.

1 **Q. Based on this analysis, what is the Project's potential impact to untilled**
2 **grasslands?**

3 A. As a result of Dakota Range's careful siting practices in response to GFP's
4 recommendations to avoid grasslands, only 9 of the 97 proposed turbine locations
5 are located in the potentially untilled grasslands identified in the Bauman et al.
6 (2016) data. As a result, there will only be 9.8 acres of impact to this habitat type
7 resulting from turbines and turbine access roads, which is less than 0.13 percent of
8 the total grasslands in the Project Area (see Exhibit 2). This is a small amount of
9 impact to this resource given the amount present in the Project vicinity. As a result,
10 the impact is not likely to result in significant adverse effects to the species that rely
11 on these grasslands or to the functionality of the grassland ecosystem in and near
12 the Project.

13
14 **Q. Mr. Kirschenmann testifies that GFP recommended that turbines and**
15 **associated facilities be sited in crop lands and that existing infrastructure be**
16 **utilized. Did Dakota Range consider this recommendation in siting the**
17 **Project?**

18 A. Yes. As an initial matter, it is important to remember that the Project is sited on
19 private property, where GFP has limited authority. As such, any avoidance,
20 minimization, and/or treatment measures would need to take landowner preferences
21 into account and would, ultimately, likely be subject to landowner approval.
22 However, due to Dakota Range's efforts to implement GFP's recommendation, 50 of
23 the 97 proposed turbine locations are in cropland, 38 are in hayfield or pastureland,
24 and 9 are in potentially untilled grassland.

25
26 **Q. In Mr. Kirschenmann's testimony, Mr. Kirschenmann recommends mitigation**
27 **for temporary and permanent impacts to grassland habitat. What is Dakota**
28 **Range's position on mitigation for temporary and permanent impacts to**
29 **grassland habitat?**

1 It is Dakota Range's position that mitigation for temporary impacts is unnecessary.
2 First, the highest quality grasslands have been entirely avoided through Project
3 design. Second, only 1.4 percent of the potentially untilled grasslands identified by
4 Bauman et al. (2016) are temporarily affected and these areas will be reseeded
5 following construction with native seed mixes. With regard to mitigation for
6 permanent impacts to grasslands, it is Dakota Range's position that the Project has
7 avoided high quality grasslands and minimized impacts to lesser quality grasslands
8 through Project design. Additionally, the Project carefully minimized risk to prairie
9 grouse species through implementation of lek setbacks and construction timing
10 stipulations. As a result, the Project introduces only minor impact to the grassland
11 ecosystem and the functionality of this habitat is retained for the species that depend
12 on it. As such, the implementation of avoidance and minimization measures,
13 coupled with extensive baseline studies of the wildlife community done in
14 coordination with USFWS and GFP, demonstrate that significant adverse impacts to
15 the environment or to rare or protected species associated with grasslands are
16 unlikely. Therefore, mitigation would not be necessary.

17
18 It is important to note that although Mr. Kirschenmann references [Bauman et. al.,
19 2016 and Loess at al. 2013) as providing decision support tools based on relevant
20 research data for wind energy projects to use when considering mitigation, GFP
21 does not provide specific detail on how these tools could be utilized at this Project,
22 nor does it clarify the potential effect on these species in light of the avoidance and
23 minimization measures implemented by the Project. Furthermore, GFP clarifies that
24 South Dakota does not have a state mitigation policy and that GFP does not
25 specifically endorse these studies for use in this manner.

26
27 **Q. Mr. Kirschenmann indicates that GFP has concerns regarding habitat**
28 **fragmentation. Can you discuss how Dakota Range has addressed this**
29 **concern in siting the Project?**

30 A. Yes. Habitat fragmentation concerns are generally related to negatively influencing
31 the functionality or carrying capacity of the habitat for the birds that utilize or depend

1 on the habitat. Impacts to grassland and wetland habitat resulting from the Project
2 are minor and primarily related to linear features, such as access roads and
3 collection lines, which do not present obstacles for movement to any of the avian
4 species. While minor loss of vegetated areas will slightly reduce nesting and
5 foraging habitat available to grassland birds, the Project has been designed to
6 ensure habitats remain intact to the greatest extent possible, and are therefore
7 available to all the species that were documented as utilizing them prior to Project
8 installation. Exhibit 2 shows that significant fragmentation has already occurred to
9 the grassland ecosystems in and near the Project, resulting primarily from
10 agricultural conversion. The introduction of the Project to this area, with the careful
11 siting and impact minimization measures incorporated, introduces a minor amount of
12 additional habitat fragmentation.

13
14 **Q. Mr. Kirschenmann testifies that GFP recommended a one-mile buffer around**
15 **prairie grouse leks. Has Dakota Range incorporated this recommendation?**

16 A. We have implemented this recommendation to the extent possible. Lek surveys
17 were completed in 2016 and 2017 to inform siting of facilities. From these surveys,
18 we learned that there were several prairie grouse leks in the Project vicinity, but that
19 the leks were not static on the landscape and changed locations and status (active
20 vs. inactive) from year to year. All leks discovered were considered in Project siting
21 and the Project boundary was modified to avoid two (one greater prairie chicken lek
22 and one sharp-tailed grouse lek) of the three leks by greater than 1 mile with all
23 Project infrastructure. However, in so doing, it was necessary to site three turbines
24 and associated access roads and collection lines within 1 mile of a sharp-tailed
25 grouse lek in the northwestern part of the Project. To minimize potential impacts to
26 this lek, all turbines were sited on only one side of the lek to allow movement of the
27 birds to and from the lek in most directions without interference, and we have
28 committed to conduct construction activities between 3 hours after sunrise and 1
29 hour before sunset from March 1 to June 30 within 2 miles to ensure no disturbance
30 of these birds during the leking and nesting period.

1 **Q. Mr. Kirschenmann states that, “[i]t is recommended to carry out post-**
2 **construction mortality monitoring for at least two years.” Do you have a**
3 **response to this recommendation?**

4 A. Yes. It is Apex's standard practice to complete a minimum of one year of bird and
5 bat fatality monitoring to evaluate the effectiveness of impact avoidance and
6 minimization measures incorporated into a project's design and operation and to
7 evaluate the overall impact of the facility to birds and bats. The Project has been
8 sited in an area and designed in a manner to avoid and minimize impacts to birds
9 and bats, and it is therefore expected that impacts will be within acceptable levels.
10 After one year of monitoring, the Project will meet and confer with GFP and USFWS
11 to review the results. Typically, these studies confirm that impacts are within
12 acceptable levels and no further studies are needed. However, in the event
13 unforeseen impacts are identified that may warrant a management response or
14 further study, additional study may be appropriate (possibly during a particular
15 period or season, or at a particular set of turbines within the overall Project).
16 Therefore, we respectfully suggest that a minimum of one year of study be required
17 for the Project, and that a second year be contingent on USFWS and GFP review of
18 the first year results.

19
20 **Q. Mr. Kirschenmann notes that “[t]here is a chance that the state and federal**
21 **endangered Whooping Crane could occur in the project area.” Has Dakota**
22 **Range considered the whooping crane in the developing and siting of the**
23 **Project?**

24 A. Yes. It was agreed with USFWS and GRP that the Project would have a low risk of
25 impact to threatened and endangered species, including whooping crane, and no
26 permit to authorize potential take of listed species was warranted. More specifically,
27 as discussed in Section 14.3.1.2 of the Application, the whooping crane is very
28 unlikely to occur in the Project Area. The Project Area is more than 150 miles east
29 of the central part of the whooping crane migration corridor and over 50 miles east of
30 where 95 percent of all whooping crane sightings have been recorded, and no
31 whooping cranes were observed during the 2 years of studies completed for the

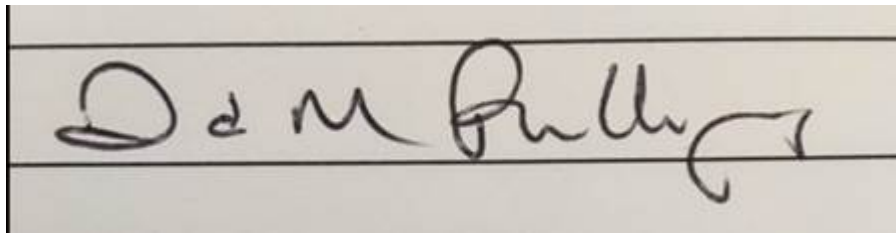
1 Project. Thus, the whooping crane is unlikely to occur within the Project Area.
2 However, as discussed in Section 14.3.2.5, Dakota Range is preparing a Bird and
3 Bat Conservation Strategy ("BBCS") in accordance with FWS Wind Energy
4 Guidelines that will be implemented to minimize impacts to avian and bat species
5 during construction and operation of the Project. The BBCS will include, among
6 many other measures, that Dakota Range will train staff to understand when
7 whooping cranes might occur, to recognize whooping cranes when present, and, if
8 observed, to evaluate risk and respond appropriately. Typically, this response would
9 include immediate curtailment of nearby turbines until the bird or birds left the area,
10 but the response would be determined based on the nature of the sighting (e.g., if
11 whooping cranes were flying at 1,000 feet above ground level, no curtailment would
12 be implemented).

13 14 **IV. CONCLUSION**

15
16 **Q. Does this conclude your Rebuttal Testimony?**

17 A. Yes.
18

1 Dated this 21st day of May, 2018.

2 A handwritten signature in black ink on lined paper. The signature is written in a cursive style and appears to read 'D M Phillips'. It is positioned between two horizontal lines.

2

3

4 David Phillips

5

6



February 14, 2018

Ms. Jennie Geiger
Dakota Range, LLC
C/o Apex Clean Energy, Inc.
310 4th Street NE, Suite 200
Charlottesville, VA 22902

RE: SDCL 1-19A-11.1 Consultation

Project: 180205002S – Dakota Range I Wind, LLC Project in Grant and Codington Counties, South Dakota

Location: Multiple Counties
(PUC)

Dear Ms. Geiger:

Thank you for the opportunity to comment on the above referenced project pursuant to South Dakota Codified Law (SDCL) 1-19A-11.1. The South Dakota Office of the State Historic Preservation Officer (SHPO) would like to provide the following comments concerning the effect of the proposed project on the non-renewable cultural resources of South Dakota.

On February 5, 2018, we received your letter, the archaeology survey report entitled “Level III Archaeological Inventory of the Dakota Range I Wind Project, Archaeological High Probability Areas, Codington and Grant Counties, South Dakota,” prepared by Mark Carpenter, and the architectural survey report entitled “Reconnaissance Level Architectural Survey of the Dakota Range I Wind, LLC Project, Grant and Codington Counties, South Dakota, T119N, R51 & 52W; T120N, R51 & 52W; T121N, R51 & 52W,” prepared by Brenna Moloney.

According to the reports, 20 newly recorded and four previously recorded archaeological properties and 55 architectural properties were identified and recorded during the various surveys. Based on the information provided in the reports, we concur with the following recommendations.

- Previously recorded archaeological properties 39GT0089, 39GT0090, 39GT0117 and 39GT0118 are considered eligible for listing in the National Register of Historic Places (National Register) under Criterion A.
- Newly recorded archaeological properties 39GT0242, 39GT0258, 39GT0259 and 39GT0261 do not meet any of the Criteria for listing in the National Register.

- Newly recorded archaeological properties 39GT0243, 39GT0244, 39GT0245, 39GT0246, 39GT0247, 39GT0248, 39GT0249, 39GT0250, 39GT0251, 39GT0252, 39GT0253, 39GT0254, 39GT0255, 39GT0256, 39GT0257 and 39GT0260 have not been fully evaluated for listing in the National Register.
- Three structures, CD00000066, CD00000617 and GT00000411, out of the 55 recorded are considered eligible for listing in the National Register under Criterion C.

Given the above, we have determined that the proposed project will not encroach upon, damage or destroy any property that is list in the State or National Register of Historic Places or the environs of such property pursuant to SDCL 1-19A-11.1.

However, we recommend that all eligible and unevaluated archaeological properties be avoided by construction activities. We also recommend working with local Tribal Historic Preservation Officers to identify and avoid any sensitive areas that maybe associated with their tribes.

We appreciate Dakota Range I, LLC's efforts to take into consideration the effects of the project on the non-renewable cultural resources of South Dakota. If you have any questions or concerns, please contact Paige Olson at Paige.Olson@state.sd.us or (605) 773-6004.

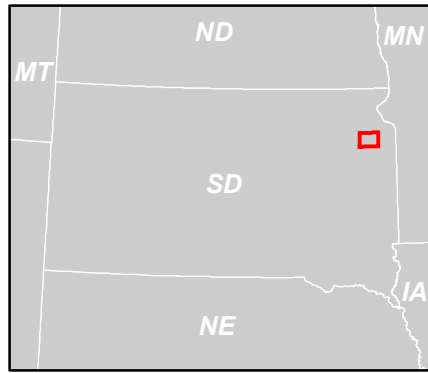
Sincerely,

Jay D. Vogt
State Historic Preservation Officer



Paige Olson
Review and Compliance Coordinator

Cc: Jane Watts and Terri Bruce, Archaeological Research Center
Dianne Desrosiers, Sisseton Wahpeton Oyate Tribal Historic Preservation Officer



Dakota Range Grassland Impacts

- Layout 38**
-  Project Boundary
 -  Primary
 -  Spare
 -  Point of Interconnect
 -  Project Substation
 -  Gentle Line
 -  Laydown Yard
 -  O and M
 -  Potential Substation Location
 -  Underground Collection
 -  Private Access Road
 -  Public Road
 -  Grassland (Bauman 2013)

Date: 5/18/2018 **Author:** MR

Coordinate System: NAD 1983 StatePlane South Dakota North FIPS 4001 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

