

BEFORE THE
PUBLIC UTILITIES COMMISSION
STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION OF DAKOTA RANGE III, LLC FOR AN
ENERGY FACILITY PERMIT OF A WIND ENERGY CONVERSION FACILITY AND A
345-KV TRANSMISSION LINE FOR THE DAKOTA RANGE III PROJECT

SD PUC DOCKET EL 18-_____

PREFILED TESTIMONY OF RYAN HENNING
ON BEHALF OF DAKOTA RANGE III, LLC

October 26, 2018

1 **I. INTRODUCTION AND QUALIFICATIONS**

2

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

4 A. My name is Ryan Henning and I am employed by Apex Clean Energy, Inc. (“Apex”). My
5 business address is 310 4th Street Northeast, Suite 200, Charlottesville, Virginia 22902.

6

7 **Q. What is your position with Apex?**

8 A. I am a Senior Permitting Manager for Apex.

9

10 **Q. Briefly describe your relevant experience and educational background.**

11 A. I am responsible for project management and overseeing environmental compliance for
12 assigned wind and solar projects across Apex’s portfolio, including providing overall
13 guidance on wetlands, wildlife including threatened and endangered species, cultural
14 resources and required environmental permits to the development and construction teams.
15 In that role, I proactively identify environmental regulations and address required permits to
16 ensure that projects are developed, constructed, and operated in compliance with State and
17 Federal regulations and laws. I have substantial experience with the National Environmental
18 Policy Act (“NEPA”), Endangered Species Act, Bald and Golden Eagle Protection Act,
19 Migratory Bird Treaty Act, Clean Water Act, National Historic Preservation Act (“NHPA”),
20 National Pollution Discharge Elimination System, and other relevant local, State, and Federal
21 environmental regulations applicable to development, construction and operation of utility
22 scale power generation and transmission projects. Likewise, I have significant experience
23 managing and working with diverse interdisciplinary teams (legal, financing, development,
24 land, engineering, construction, biological, social, cultural, construction) to accomplish
25 permitting, construction, and operational compliance objectives.

26

27 I have a B.S. in Biological Sciences from the University of North Dakota and a M.S. in
28 Biological Conservation from the California State University, Sacramento. A copy of my
29 curriculum vitae is provided as Exhibit 1.

30

31 **Q. What is your role with respect to the Dakota Range III Project (“Project”)?**

1 A. I am responsible for the Project’s compliance with local, State and Federal environmental
2 regulations. My role includes overseeing coordination with governmental agencies such as
3 the United States Fish and Wildlife Service (“USFWS”), the South Dakota Game, Fish, and
4 Parks (“SDGFP”), the United States Army Corps of Engineers (“USACE”), and the State
5 Historic Preservation Office (“SHPO”). In addition, I oversee the selection of and work of
6 consultants completing environmental and wildlife studies and surveys for the Project that
7 are used to comply with regulations and inform siting of project facilities and to avoid or
8 minimize risk to sensitive resources or those resources protected by regulation.
9

10 **Q. In the event you are not available to testify at a public hearing, is there another**
11 **individual qualified to discuss the information in your testimony?**

12 A. Yes, Mr. David Phillips, the Vice President of Environmental for Apex, is qualified to
13 discuss the information in my testimony. Mr. Phillips is an experienced environmental
14 project manager for utility scale wind and solar, transmission lines, and energy projects.
15 With respect to the Project, Mr. Phillips has been involved in overseeing environmental
16 studies and surveys, ensuring compliance with local, State, and Federal environmental
17 regulations, environmental permitting efforts, and environmental agency coordination.
18 Detailed information regarding Mr. Phillips’s professional experience and educational
19 background is provided in his curriculum vitae, which is provided as Exhibit 2.
20

21 **Q. What is the purpose of your testimony?**

22 A. The purpose of my testimony is to provide information concerning existing environmental
23 conditions in the Project Area, potential impacts of the Project on the existing environment,
24 and measures incorporated for the Project to avoid, minimize, or mitigate potential impacts.
25 In addition, I describe the environmental studies and survey work conducted on behalf of
26 Dakota Range III, LLC (“Dakota Range III”) to analyze the Project Area, as well as the
27 associated consultations with State and Federal agencies.
28

29 **Q. Please identify the portions of the Energy Facility Permit Application (“Application”)**
30 **that you are sponsoring for the record.**

31 A. I am sponsoring, in whole or in part, the following portions of the Application:

- 1 • Section 11.0: Environmental Information
- 2 • Section 12.0: Effect on Physical Environment
- 3 • Section 13.0: Effect on Hydrology
- 4 • Section 14.0: Effect on Terrestrial Ecosystems
- 5 • Section 15.0: Effect on Aquatic Ecosystems
- 6 • Section 16.0: Land Use (Sections 16.1, 16.2, 16.5, and 16.6)
- 7 • Section 18.0: Water Quality
- 8 • Section 19.0: Air Quality
- 9 • Appendix A: Figures
- 10 • Appendix B: Agency Coordination
- 11 • Appendix D: Avian Use Survey
- 12 • Appendix E: Raptor Nest Survey
- 13 • Appendix F: Prairie Grouse Lek Survey
- 14 • Appendix L: WEST Transmission Line Memo

15

16 **II. ENVIRONMENTAL STUDIES CONDUCTED**

17

18 **Q. What was the overall approach to environmental analysis of the Project site?**

19 A. Dakota Range III initially completed landscape level site characterization and assessment
20 studies to identify potentially sensitive habitats or resources and ensure the Project was
21 generally sited within an area suitable for wind development as it pertains in particularly to
22 protected birds, bats, plants, aquatic habitats, and known cultural resources. These
23 assessments were reviewed with the appropriate agencies and field study plans were agreed
24 upon with each agency. The surveys and studies were designed to comply with applicable
25 regulations and guidelines, including the USFWS Land-Based Wind Energy Guidelines
26 (“WEG”), USFWS Eagle Conservation Plan Guidance (“ECPG”), state cultural resource
27 protection laws and relevant water resource protection regulations (e.g., Clean Water Act).
28 The results of these efforts were incorporated into the Project design to avoid or minimize
29 impacts to protected or sensitive resources during Project construction and operations and
30 confirm appropriate environmental permitting requirements, if any.

31

32 **Q. Discuss the environmental surveys and/or studies conducted for the Project.**

1 A. The studies and surveys conducted for the Project, the dates of those studies/surveys, and the
 2 status of each is provided in the table below (see also Section 2.0 of the Application).

Study	Dates	Status
Radio Frequency Impact Study	September 19, 2018	Complete
Raptor nest surveys	April 2018	Complete
Avian use surveys	December 2015 – May 2017 and September 2017 – August 2018	Complete
Prairie grouse lek surveys	April – May 2018	Complete
Dakota skipper/Poweshiek skipperling habitat survey	June 2018 and September 2018	Field survey complete, report pending*
Bat acoustic surveys	May 1 – October 15, 2018	Field survey complete; report pending*
Level I cultural resources records search	August 2018	Complete
Level III intensive cultural resources survey within Project disturbance footprint	August, September, and October 2018	Ongoing*
Additional cultural resources survey for sensitive tribal resources in coordination with Sisseton-Wahpeton Oyate	August, September, and October 2018	Ongoing*
Historical/Architectural survey	August 2018	Ongoing*
Wetland and Waterbodies delineation	July, August, September, and October 2018	Ongoing*
Noise modeling	October 2018	Complete
Shadow flicker analysis	October 2018	Complete

3 * Although these studies are listed as either “Ongoing” or “Field survey complete; report pending,” applicable
 4 resource and field survey data from these efforts have been incorporated into the impact conclusions provided in this
 5 Application, unless otherwise noted in the respective resource sections. The results of the bat study is the only
 6 respective section where results have not been included.

7
 8 In addition to these studies, sound and shadow flicker analyses were completed, and those
 9 analyses are discussed in the Direct Testimony of Mr. Robert O’Neal.

10
 11 **Q. Is there any environmental study work yet to be completed for the Project?**

12 A. Yes. Level III intensive cultural resource surveys will be completed in October 2018 and
 13 have been coordinated with SHPO. A report will be prepared for SHPO review and
 14 concurrence. Geotechnical soil borings will also be completed at each planned turbine
 15 location prior to construction, which may influence foundation design and/or turbine siting.

1 In addition, although wetland and waterbody surveys are nearly (approximately 98 percent)
2 complete, the remainder of the surveys will be completed in October 2018, and a report will
3 be prepared.
4

5 **Q. Does the remaining environmental study work need to be completed to determine**
6 **whether the Project complies with State siting requirements?**

7 A. No, the remaining study work is not anticipated to affect the environmental analysis set forth
8 in the Application, or the conclusion that the Project will meet all applicable State and local
9 siting or permitting requirements. Additionally, the Project has been designed and sited
10 using all available information to date (and will operate in a manner) so that remaining study
11 work will not affect the Project's ability to comply with other applicable local or Federal
12 permitting requirements.
13

14 **III. ENVIRONMENTAL SITE ANALYSIS OVERVIEW**
15

16 **Q. Could you please provide a general overview of the Project site from a land use**
17 **perspective?**

18 A. Land use within the Project Area is predominantly agricultural, consisting of a mix of
19 cropland and pastureland. Associated farmsteads and rural residences are scattered
20 throughout the Project Area. Wetlands, ponds, and other waterbodies are also present within
21 the Project Area, as are small areas with trees and shrubs, primarily associated with planted
22 shelterbelts near residences or in agricultural fields. One wetland easement parcel, six
23 grassland easement parcels, and one combined wetland/grassland conservation easement
24 parcel managed by the USFWS as part of the Waubay National Wildlife Refuge Complex are
25 within the Project Area. One privately owned parcel leased to the SDGFP for public hunting
26 access (known as Walk-In Areas) is also located in the Project Area. Lastly, there are two
27 parcels of NRCS Emergency Watershed Protection Program land within the Project Area.
28 For additional details, see Sections 11.0, 14.1, 14.2, 16.1, and 16.2.
29

30 **Q. What steps will Dakota Range III take to avoid, minimize, and/or mitigate impacts to**
31 **the existing land uses?**

1 A. The proposed Project is compatible with the existing agricultural land uses and the Project
 2 layout was designed to ensure that planned ground disturbance and facilities were consistent
 3 with land use regulations governing each affected parcel. Agricultural uses will continue
 4 within the Project Area during construction and operation of the Project.

5
 6 Within the approximately 19,000-acre Project Area, it is estimated that up to 600 acres of
 7 land would be temporarily impacted during construction of the Project. During the life of the
 8 Project, only approximately 132 acres would be permanently impacted, which constitutes
 9 less than one percent of the total land within the Project Area. The table below provides a
 10 breakdown of the estimated temporary construction and long-term operational impacts for
 11 Project infrastructure (see also Table 11-1 in the Application).

12

Project Component	Construction Impacts (Temporary)		Operational Impacts (Long-Term)	
	<i>Dimensions</i>	<i>Total Acreage</i>	<i>Dimensions</i>	<i>Total Acreage</i>
Wind Project				
Turbines	150-foot radius	83	25-foot radius	2
Access roads	50-feet-wide	75	16-feet-wide	24
Crane paths	50-feet-wide	135	N/A	N/A
Collector lines	30-feet-wide	155	5-foot by 5-foot junction box	0.0006
Collection substation		10		10
Meteorological towers	75-foot by 75-foot area	0.44	75-foot by 75-foot area	0.44
O&M facility	Apx. 400X600	8	Apx. 400X600	5
Laydown/staging/ batch plant areas	Apx 800X1200	20	Apx 800X1200	20
Wind Project Subtotals:		408 acres		60 acres
Transmission Facility				
Transmission workspace	200-feet-wide*	24 acres per mile*	N/A	N/A
Structures	N/A	N/A	36-inch diameter poles approximately 30 feet apart	0.15 acre (~70 poles)
Switchyard	0	0	0	0

Project	Construction Impacts (Temporary)		Operational Impacts (Long-Term)	
Temporary laydown/staging area	5 acres but will likely use Wind Project staging area	5 acres but will likely use Wind Project staging area	N/A	N/A
Transmission Facility Subtotals:		192 acres (8 miles)		72 acres (8 miles)
Project Totals:		600 acres		132 acres

*This assumes maximum area of impact. Actual impact should be much smaller.

No permanent Project facilities will be placed on USFWS Grassland Easements or within basins subject to USFWS Wetland Easements. SDGFP Walk-In Area parcels, or NRCS Emergency Watershed Protection Program lands. As proposed, the Project avoids all USFWS Grassland, Conservation, or Wetland Easements occurring within the Project Area. However, should turbine G12 (alternate turbine) be selected for operation, a collection line would likely need to cross a USFWS Wetland Easement. However, to avoid any impact to the USFWS Wetland Easement, the Applicant would propose to go around it or apply for a Special Use Permit from USFWS in order to horizontal directionally drill (HDD) the collection line under the defined wetland easement boundary. In all areas proposed for ground disturbance, Dakota Range III will coordinate with the landowners to minimize impacts to the extent practicable so as to maintain opportunities to continue current land uses. Any tilled or untilled areas temporarily disturbed due to construction activities will be re-vegetated with vegetation types matching the surrounding landscape or with appropriate vegetation approved by the landowner for their anticipated land use (e.g., grazing).

Q. Discuss the existing geological and soil resources, seismic risks, and subsidence potential in the Project Area.

A. The geological and soil resources present within the Project Area are compatible with Project development. Commercially viable mineral deposits within Grant and Roberts Counties are limited to sand, gravel, and construction aggregates and there are no other developed or potential economic mineral resources known to occur within the Project Area. The risk for subsidence within the Project Area is considered negligible, as the Pierre Shale bedrock is not known to exhibit karst topography or contain layers or members susceptible to

1 dissolution by water. In addition, no historic underground mining operations that could lead
2 to subsidence potential exist within the Project Area. The risk of seismic activity in the
3 vicinity of the Project Area is low. For additional details regarding geologic resources within
4 the Project Area, see Section 12.1 of the Application.

5
6 The soils in the Project Area are generally conducive to annual crop production. Soils in the
7 Project Area are not highly susceptible to erosion, and slopes range from 1 to 30 percent,
8 with the majority of slopes at 1 to 7 percent. For additional details regarding soil
9 characteristics within the Project Area, see Section 12.2 of the Application.

10
11 **Q. What steps will Dakota Range III take to avoid, minimize, and/or mitigate potential**
12 **impacts to geologic and soil resources?**

13 A. As discussed in Section 12.1.2 of the Application, the geological conditions, including
14 geologic formations, seismic risk, and subsidence potential, within the Project Area are not
15 anticipated to impact construction or operation of the Project. Prior to construction,
16 geotechnical borings and site-specific geophysical surveys will be performed, and
17 engineering design will provide any required modifications to roadway and foundation
18 subgrades to account for specific site conditions, as necessary.

19
20 As discussed in Section 12.2.2 of the Application, to minimize soil impacts, the Project
21 layout has been designed to limit construction cut and fill work and construction in steep
22 slope areas. For example, slopes in the Project Area range from 1 to 30 percent, with the
23 majority of slopes at 1 to 7 percent. The current layout has sited access roads to avoid steep
24 slopes and the underground collector lines similarly avoid crossing steep slopes whenever
25 feasible.

26
27 Measures to reduce the potential for soil erosion, compaction, and sedimentation will be
28 implemented during construction. The Project will obtain coverage under the General Permit
29 for Storm Water Discharges Associated with Construction Activities issued by the South
30 Dakota Department of Energy and Natural Resources (“SDDENR”). A condition of this
31 permit is the development and implementation of a Storm Water Pollution Prevention Plan

1 (“SWPPP”), which prescribes Best Management Practices (“BMPs”) to control erosion and
2 sedimentation. The BMPs may include use of silt fences, straw wattles, erosion control
3 blankets, temporary storm water sedimentation ponds, re-vegetation, or other features and
4 methods designed to control storm water runoff and mitigate erosion and sedimentation.
5 Additional BMPs may include noxious weed control, segregating topsoil from subsurface
6 materials, reseeding of disturbed areas, the use of construction equipment appropriately sized
7 to the scope and scale of the Project, ensuring access road grades fit closely with the natural
8 terrain, proper on-site disposal of soil cuttings from turbine foundation construction, and
9 maintaining proper drainage.

10
11 **Q. Discuss the hydrologic resources, including surface and underground resources, present**
12 **within the Project Area.**

13 A. Sections 13.1, 13.2, 13.3, and 14.2 of the Application describe the following types of
14 hydrologic resources within the Project Area:

- 15 • Hydrogeology Resources: The groundwater system underlying the parts of South
16 Dakota that are east of the Missouri River, including the Project Area, is nearly
17 exclusively based on glacial outwash aquifers. Glacial drift and alluvium aquifers in
18 South Dakota vary in depth from 0 to 400 feet, with a range of yield from 3 to 50
19 gallons per minute.
- 20 • Watersheds: The majority of the Project Area is located within the Big Sioux
21 watershed, part of the Missouri River Basin surface water drainage system. Drainage
22 from the Project Area to the southwest is via the Big Sioux River and its tributaries.
23 Drainage of the northeastern and eastern portions of the Project Area are to the east
24 through Minnesota via numerous unnamed streams.
- 25 • Wetlands and Waterbodies: Dakota Range III completed a wetland and Waters of the
26 U.S. delineation in accordance with USACE-approved methodology to identify
27 wetlands and streams warranting avoidance. Based on the field delineation
28 completed to date, a total of 79 wetlands for a total of 44 acres of wetland are present
29 in the area surveyed. In addition, a total of 44 other waterbodies were delineated

1 during field surveys consisting of 11 constructed ponds and 33 stream reaches and
2 are present in the area surveyed.

- 3 • Existing and Planned Water Uses: The Grant-Roberts Water District supplies rural
4 water to the Project Area and maintains a network of distribution lines within the
5 Project Area. Private wells that supply water for domestic and irrigation purposes are
6 also located throughout the Project Area. Perennial streams within the Project Area,
7 including the Big Sioux River and its tributaries provide habitat for fish and wildlife
8 and support recreational activities, such as fishing.
- 9 • Floodplains: Within the Project Area, narrow floodplains exist along the Big Sioux
10 River as well as its tributaries. According to the Federal Emergency Management
11 Agency (FEMA)-mapped floodplain zones, floodplains within the Grant County
12 portion of the Project Area are areas of minimal flood hazard, and the Roberts County
13 portion are mapped as areas of undetermined flood hazard Zone D. One area within
14 Roberts County, in the northeastern portion of the Project Area, is mapped as Zone A,
15 a special flood hazard area.
- 16 • National Park Service Nationwide Rivers Inventory (“NRI”): There are no NRI-
17 listed rivers within the Project Area. The nearest NRI-listed rivers are the South Fork
18 of the Yellow Bank River, located approximately 25 miles southeast of the Project
19 Area, and the North Fork of the Whetstone River, located approximately 8 miles
20 north of the Project Area.
- 21 • Impaired Waters: There are no sections of the Big Sioux listed as impaired on South
22 Dakota’s 2018 303(d) list.

23
24 **Q. What measures will Dakota Range III employ to avoid, minimize, and/or mitigate**
25 **potential impacts to hydrologic resources?**

26 A. As discussed further in Sections 13.1, 13.2, 13.3, and 14.2 of the Application, Dakota Range
27 III will implement the following measures to avoid or minimize impacts to hydrologic
28 resources within the Project Area:

- 29 • Hydrogeology Resources: Groundwater dewatering is not anticipated to be a major
30 concern within the Project Area, because wind turbines are generally placed at higher
31 elevation where the water table tends to be deeper. Should groundwater be

1 encountered that must be dewatered, the necessary permits would be obtained and
2 associated requirements implemented. In addition, the duration of dewatering would
3 be limited to the extent possible. Dewatered groundwater would be properly handled
4 to allow sediments to settle out and be removed before the water is discharged, to
5 reduce soil erosion and sedimentation of surface waters

- 6 • Watersheds: The Project has been designed to avoid impacts on surface water
7 resources to the extent practicable. Therefore, the Project is not expected to cause
8 significant changes in runoff patterns or volume of runoff, nor is it expected to have
9 adverse impacts on existing hydrology. Appropriate storm water BMPs will be
10 implemented during the construction and operation of the Project to control erosion
11 and reduce potential for sediment runoff from exposed soils during precipitation
12 events.
- 13 • Wetlands and Waterbodies: A detailed inventory and mapping of wetlands and
14 waterbodies was generated by a qualified contractor using appropriate field methods.
15 The data was used to inform siting to avoid and minimize impacts to the maximum
16 extent practicable. The Project has been designed to limit permanent wetland impacts
17 to five areas, consisting of minor impacts associated with access road crossings of
18 emergent wetlands. During construction, short-term, small scale, temporary
19 disturbance will occur due to installation of access roads, crane paths, transmission
20 line and collector lines, but each will be restored to their natural contours after
21 construction is complete. Approximately 0.2 acres of permanent impacts would occur
22 from access roads; however, no other permanent or temporary wetland impacts will
23 result from turbine foundations, substations, permanent met towers, construction
24 laydown or O&M areas. Any portion of a collector line crossing an ephemeral or
25 intermittent ditch would be crossed via open-cut method or via horizontal directional
26 drilling (i.e., boring), where appropriate, with the disturbed area restored to pre-
27 construction conditions following installation. Impacts to wetlands and Waters of the
28 U.S. are anticipated to be minor and would be authorized under the USACE
29 Nationwide Permit 12 for utility lines and associated facilities.
- 30 • Existing and Planned Water Uses: The proposed Project facilities would not have
31 impacts on either municipal or private water uses in the Project Area. The Project is

1 not anticipated to require major dewatering; therefore, interruption of groundwater
2 availability caused by dewatering is unlikely, and no adverse impacts to drinking
3 waters of the State are anticipated. The Project will comply with all applicable permit
4 requirements for water rights and the protection of groundwater quality. The Project
5 will have no impact on surface water availability or use for communities, agriculture,
6 recreation, fish, or wildlife.

- 7 • Floodplains: Based on the current layout, the underground collector system would
8 cross floodplains associated with Big Sioux and its tributaries. The underground
9 collection system may temporarily impact flood storage areas during construction
10 where the collection system is trenched through these floodplain areas; however,
11 these impacts would be short-term, and existing contours and drainage patterns are
12 expected to be restored within 24 hours of trenching. Where floodplain crossings
13 cannot be avoided for construction of access roads, appropriately designed culverts or
14 low water crossings would be placed to maintain the free flow of water. Construction
15 or fill within floodplains would be designed in accordance with Grant County or
16 Roberts County floodplain development regulations.
- 17 • National Park Service NRI: Due to the lack of NRI-listed rivers within the Project
18 Area, construction and operation of the Project will not impact to these resources.
- 19 • Impaired Waters: There are no CWA 303(d) listed waters within the Project Area;
20 therefore, no impacts or special construction measures to mitigate impacts to impaired
21 water are required.

22
23 **Q. Are aquatic ecosystems present in the Project site and, if so, what measures will Dakota
24 Range III employ to avoid, minimize, and/or mitigate potential impacts?**

25 A. As discussed above, wetlands and waterbodies are present within the Project Area, but
26 impacts have been avoided and minimized to the extent practicable. The primary potential
27 for impact to aquatic ecosystems would be from increased sedimentation or increased TSS
28 due to soil erosion during Project construction; however, this risk is managed via
29 implementation of the SWPPP required prior to construction. Based on discussions with the
30 USFWS and SDGFP, no federally- or state-listed aquatic species will be impacted by the
31 Project.

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Q. What vegetation is present within the Project Area, and how will impacts be avoided, minimized, or mitigated?

A. As discussed in Section 14.1, the majority of the Project Area is in agricultural use, and, therefore, vegetation is predominantly cultivated crops and grassland for grazing (pasture). Trees within the Project Area are found mainly around housing sites, windbreaks, and along some of the streams. As recommended by the USWFS and SDGFP, Dakota Range III completed an analysis to identify potential undisturbed grasslands within the Project Area. In field investigations completed in June and September 2018, most of the remnant undisturbed grassland tracts are primarily located in drainages and swales, and mostly exist in a degraded state due to land management practices, the application of agricultural pesticides, and noxious weed expansion.. Ten listed species of noxious weeds have the potential to occur and are regulated within Roberts and/or Grant Counties.

The Project facilities have been sited to avoid treed areas and undisturbed grasslands and shelterbelts to the extent practicable. In areas where impacts cannot be avoided, temporary impacts would be minimized through construction BMPs and landowner coordination. To avoid the spread of noxious weeds, the Project will use appropriate seed mixes in non-cultivated areas to restore vegetation in temporarily disturbed areas. If listed noxious weed infestations are found in non-cultivated disturbed areas after construction activities are completed, each area will be evaluated and addressed separately, in coordination with landowner input.

Q. Are any federally-listed species, federally-designated critical habitat, or state-listed species present within the Project site?

A. The federally-endangered Poweshiek skipperling, the federally-threatened Dakota skipper, western prairie fringed orchid and northern long-eared bat were determined in early screening and agency coordination to have potential to occur within the Project Area. There is no federally-designated critical habitat within the Project Area.

1 **Q. Is the Project anticipated to impact federally-listed species, federally-designated critical**
2 **habitat, or state-listed species?**

3 A. No. In June 2018, Dakota Range III completed field evaluations of potentially suitable
4 Dakota skipper and Poweshiek skipperling habitat on 2,494 acres of undisturbed grasslands
5 within the Project Area. Two parcels (designated as North and South) totaling 114 acres were
6 evaluated as potential habitat for either or both butterfly species. A further habitat evaluation
7 survey was conducted in September 2018 by a regional butterfly expert to determine if
8 habitat suitability criteria were met for either or both species in the North and South Parcels.

9
10 The North Parcel was deemed to contain some areas of fair to good quality habitat for either
11 for both butterfly species during the June 2018 habitat assessment and field evaluation and
12 the September 2018 evaluation determined that there were patches of prairie dropseed
13 scattered through the wet-mesic areas and also a healthy forb component in those specific
14 areas. Based on the grass and forb composition of this parcel, it was defined as potential
15 Dakota skipper and Poweshiek skipperling habitat. Based on this assessment, Project
16 infrastructure was sited to avoid this habitat parcel by placing project infrastructure in an area
17 determined as previously tilled using the information from the Quantifying Undisturbed
18 (Native) Lands in Eastern South Dakota: 2013 digital data layer (Bauman et al., 2016).
19 Therefore, there are no potential direct or indirect impacts anticipated to either listed butterfly
20 species in this habitat parcel.

21
22 The South Parcel was deemed to contain some areas of potential fair to good quality habitat
23 for the Dakota skipper during the June 2018 habitat assessment and field evaluation. The
24 September 2018 evaluation revealed an isolated nature of this grassland tract combined with
25 a current and past grazing regimen. The land use management has resulted in a limited
26 amount of larval resources and nectar resources. While larval host plant grasses and nectar
27 plants may be present, they were very scarce and/or patchy in their distribution. Based on the
28 planned transmission line construction immediately adjacent to a public road, the South
29 Parcel was determined unlikely to support either Dakota skippers or Poweshiek skipperlings.
30 Therefore, no modifications to the Project layout were made with respect to this parcel.

31

1 For additional detail, see Sections 14.3.1.2 and 14.3.2.1 of the Application.

2
3 The Project Area contains very few trees or areas of open water that would provide suitable
4 habitat for the northern long-eared bat; therefore, the USFWS agreed that the period of risk to
5 bats, including the listed northern long-eared bat, is primarily during fall migration. To
6 minimize potential impacts to the northern long-eared bat, turbines have been sited to avoid
7 wooded tracts greater than 15 acres by 1,000 feet. If tree removal is necessary, removal will
8 occur between August 1 and May 31 to minimize potential impacts to any roosting northern
9 long-eared bats, as well as other tree-roosting bats. In addition, risk of collision will be
10 reduced by feathering the turbines to manufacturer's cut in speed from sunset to sunrise
11 during the bat active period (Apr 15-Oct 15) to avoid potential impacts to bats flying and/or
12 migrating through the Project Area. For additional detail, see Sections 14.3.1.2 and 14.3.2.1
13 of the Application.

14
15
16 **Q. Discuss the analysis conducted of eagle use of the Project Area.**

17 A. In April 2018, Dakota Range III completed aerial raptor nest surveys for the Project Area plus
18 a ten-mile buffer for eagles in accordance with agency and ECPG recommendations. During
19 the April 2018 survey, no eagle nests were located within the Project Area. Within the 10-
20 mile survey buffer area, five occupied active eagle nests, one occupied inactive bald eagle
21 nest, two unoccupied potential eagle nests, and one nest (nest ID #8) occupied by a great
22 horned owl that was previously occupied by bald eagles in 2017 (WEST, 2017), were
23 identified. The nearest occupied bald eagle nests are approximately 2.9 miles east and 4.9
24 miles northeast of the Project Area, and the nearest unoccupied bald eagle nest is
25 approximately 4.8 miles north. .

26
27 Eagle use point-count surveys were completed during winter and spring from December
28 2015 through May 2017 and September 2017 to August 2018 in accordance with agency and
29 ECPG recommendations. No golden eagles were observed during surveys and three bald
30 eagles were observed in spring during the December 2015 to May 2017 surveys. During the
31 September 2017 – August 2018 surveys, no golden eagles were observed, and one bald eagle

1 was observed. For further detail regarding the surveys, see Section 14.3.1.4.1 and
2 Appendices D, E, and F.

3
4 **Q. Is the Project anticipated to impact bald and golden eagles?**

5 A. No. The survey results indicate very low use of the Project Area by eagles and impacts are
6 not anticipated to bald or golden eagles during construction or operations. However,
7 operations staff will be trained to recognize eagles. If observed, risk will be evaluated to
8 determine if the risk profile is changing over time and if any management action is necessary
9 to minimize risk.

10
11 **Q. What measures will Dakota Range III implement to avoid, minimize, or mitigate
12 impacts to wildlife species?**

13 A. In coordination with the USFWS and the SDGFP, Dakota Range III completed various
14 wildlife surveys in accordance with Tier 3 of the WEG and Stage 2 of the Eagle
15 Conservation Plan Guidance, including acoustic bat surveys, raptor nest surveys, eagle/avian
16 use surveys, Dakota skipper and Poweshiek skipperling habitat assessments, and prairie
17 grouse lek surveys. Dakota Range III has committed the following impact minimization and
18 avoidance measures to avoid or minimize potential wildlife impacts during construction and
19 operation of the Project (see also Section 14.3.2.5 of the Application):

- 20 • Site wind turbines more than 1,000 feet from shelterbelts and woodlots greater than 15
21 acres in size;
- 22 • Minimize ground disturbance/clearing of native grasslands;
- 23 • Avoid and/or minimize impacts to potentially suitable habitat for the Dakota skipper and
24 Poweshiek skipperling;
- 25 • Avoid siting turbines in wetlands and waters of the U.S.;
- 26 • Feather blades to manufacturer's cut-in speed from sunset to sunrise during the bat active
27 period (April 15 – October 15);
- 28 • Avoid tree removal from June 1 through July 31 to minimize risk of impact to potential
29 maternal roosts and other tree roosting habitat;
- 30 • Train staff to recognize eagles, and if observed, evaluate risk and respond appropriately;
31 and

- 1 • Conduct monitoring for two years during operations to assess low risk conclusions.

2 **Q. Is the Project anticipated to impact existing water or air quality?**

3 A. No, as discussed in Sections 18.0 and 19.0 of the Application, no material impacts on
4 existing water or air quality are anticipated.

5
6 **Q. With respect to cultural resources, what steps has Dakota Range III taken to identify
7 cultural resources within the Project site?**

8 A. A Cultural Resources Records Search was completed for the Project in August 2018 in
9 accordance with SHPO guidelines to provide an inventory of previously recorded cultural
10 resources within the Project Area and a 1-mile buffer. Also, in coordination with the SHPO,
11 an intensive Level III cultural resource investigation is underway and in coordination with
12 the SHPO. The survey and report will make NHRP recommendations in an effort to avoid or
13 minimize potential impacts to cultural resources during design and construction of Project
14 facilities and to comply with the South Dakota Public Utilities Commission’s Energy Facility
15 Permit requirements. The Level III intensive cultural resources survey reporting will include
16 measures to avoid impacts including specific reporting measures for archeological or
17 architectural resources that are identified during the surveys and provides a plan for
18 unanticipated discovery of sensitive cultural resources, should any be unearthed during
19 construction.

20
21 Lastly, in coordination with the SHPO, an historical/architectural survey was also completed
22 for the Project in August 2018. The architectural survey consisted of windshield
23 reconnaissance within the Project Area and 1-mile buffer (indirect or visual area of potential
24 effects [“APE”]) to document all resources 45-years-of-age or older that have not been
25 recorded in previous surveys or have been previously recorded but have undetermined
26 NRHP-eligibility status. The results of the survey indicate a low concentration of NRHP-
27 eligible architectural resources. No historic architectural resources were identified within the
28 proposed Project footprint, or direct APE. Within the visual APE, there are three structures
29 recommended eligible for listing on the NRHP; however, the Project will have no adverse
30 effect on the resources.

31

1 For additional detail regarding Dakota Range’s cultural resources analysis, see Section 21.5
2 of the Application.

3
4 **Q. Please discuss further Dakota Range III’s consultation regarding potential tribal
5 resources within the Project Area.**

6 A. As discussed in Section 28.2 of the Application, Dakota Range III has voluntarily engaged in
7 ongoing coordination with the SWO. Apex initially met with the SWO to discuss the Project
8 and company intentions and sought input on measures to identify and avoid impact to
9 resources that would be considered important to tribes with connection to the region. One
10 specific request of the SWO was to include their trained archaeologists in the planned field
11 surveys. The SWO’s primary focus is to survey and identify Traditional Cultural Properties
12 and also be informed in decisions regarding these tribal resources, if found. Apex has
13 embedded SWO trained archaeologists into the cultural resources surveys. The results of the
14 Traditional Cultural Properties surveys will be compiled into a report and shared with SWO
15 for the SWO to review finds and participate in eligibility recommendations and avoidance
16 plans for sensitive identified Traditional Cultural Properties.

17
18 **Q. What steps will Dakota Range III take to avoid, minimize, and/or mitigate impacts to
19 cultural and tribal resources?**

20 A. The Project has been designed to avoid direct impacts to previously identified NRHP-eligible
21 or unevaluated cultural and architectural/historical resources based on adherence to
22 recommendations from the SHPO and SWO. In the event cultural or tribal resources are
23 identified or unearthed during construction and as specified in Section 21.5.2; if, during
24 Project construction or operation, unanticipated discoveries of cultural or tribal resources
25 occur, the following steps would be taken:

- 26 • The cultural resource specialist would make a recommendation on the NRHP eligibility
27 of the resource and request SHPO concurrence on the recommendation. There is no
28 federal agency with jurisdiction over this Project; therefore, this recommendation would
29 be made directly to the SHPO.

- 1 • Sites identified as potentially eligible for NRHP listing would be addressed by micro-
2 siting facilities to avoid impacts. If complete avoidance cannot be achieved, Dakota
3 Range III would work with the SHPO to minimize impacts to the extent practicable.
- 4 • In accordance with the Siting Guidelines for Wind Power Projects in South Dakota 8(c),
5 and in accordance with informal consultation completed between the Project and tribes,
6 disruption of sensitive resources that are identified as important to Native Americans
7 would be avoided by marking them with orange snow fencing and verifying facilities are
8 set back in accordance with recommendations from the SWO, or as practicable and
9 consistent with applicable State and federal regulations.

10 Both SHPO and the SWO have agreed that the avoidance and minimization measures
11 outlined above are appropriate to avoid negative impacts to landmarks and cultural resources
12 of historic, religious, archaeological, scenic, natural, or other cultural significance.

13 14 **IV. AGENCY COORDINATION**

15 16 **Q. Discuss Dakota Range III's coordination with Federal, State, and local agencies 17 regarding the Project.**

18 A. Throughout Project planning and development, Dakota Range III has coordinated with
19 various Federal, State, Tribal, and local agencies to identify potential concerns regarding the
20 proposed Project. Copies of agency correspondence and meeting summaries are included in
21 Appendix B to the Application. In addition, a summary of Dakota Range III's agency
22 consultation efforts is provided in Section 28.2 of the Application.

23 24 **Q. Will the Project require a federal environmental assessment or environmental impact 25 statement pursuant to NEPA?**

26 A. No. No federal nexus that would require Project-specific review under NEPA will occur as a
27 result of development, construction or operation of the Project.

28

1 **V. CONCLUSION**

2

3 **Q. Based on the analysis Dakota Range III has conducted of the Project Area, has the**
4 **Project been sited so as to minimize environmental impacts?**

5 A. Yes. By utilizing the results of surveys and studies conducted, and incorporating the input of
6 agencies and other stakeholders, the Project has been designed to avoid or minimize potential
7 negative impacts to the environment. Further, Dakota Range III will implement the BMPs
8 and other measures discussed above and in the Application during construction and operation
9 of the Project. As a result, the Project is not anticipated to have any long-term negative
10 impacts on environmental resources in or around the Project Area.

11

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

13 A. Yes.

14

15 Dated this 26th day of October, 2018.



16

17

18 Ryan Henning