BEFORE THE
PUBLIC UTILITIES COMMISSION
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-____

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

January 24, 2018

I. INTRODUCTION AND QUALIFICATIONS

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

A. My name is David Phillips and I am employed by Apex Clean Energy, Inc. ("Apex"). My business address is 246 E. High Street, Charlottesville, VA 22902.

Q. What is your position with Apex?

A. I am the Vice President of Environmental for Apex.

Q. Briefly describe your relevant experience and educational background.

A. I am responsible for managing environmental compliance across Apex's portfolio of wind and solar projects, including providing overall guidance on wildlife and environmental issues to the development, construction, and asset management teams. In that role, I proactively identify and address permit risk issues to ensure that projects are developed, constructed, and operated in compliance with State and Federal regulations. I am an established technical expert for resolution of environmental conflicts through permitting, studies, and agency interaction for industrial development projects. I have substantial experience with the National Environmental Policy Act ("NEPA"), Endangered Species Act, Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, Clean Water Act, National Historic Preservation Act ("NHPA"), National Pollution Discharge Elimination System, and other relevant local, State, and Federal environmental regulations applicable to development, construction and operation of utility scale power generation and transmission projects. Likewise, I have significant experience managing and working with diverse interdisciplinary teams (legal, financing, development, land, engineering, construction, biological, social, cultural, construction) to accomplish permitting, construction, and operational compliance objectives.

I have a B.S. in Environmental Science-Biology/Forestry from Stephen F. Austin State University, and a M.S. in Wildlife Ecology/Statistics from the University of Maine. I am a Certified Wildlife Biologist with The Wildlife Society, a board member of the American Wind Wildlife Institute, and a member of the American Wind Energy Association Siting

Committee and Wildlife Subcommittee, the Raptor Research Foundation, and The Wildlife Society's Renewable Energy Working Group. A copy of my curriculum vitae is provided as Exhibit 1.

Q. What is your role with respect to the Dakota Range Wind Project ("Project")?

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

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

A. Yes, Mr. Ryan Henning, a Senior Permitting Manager for Apex, is qualified to discuss the information in my testimony. Mr. Henning is an experienced environmental project manager for utility scale wind and solar, transmission lines, and energy projects. With respect to the Project, Mr. Henning has been involved in overseeing environmental studies and surveys, ensuring compliance with local, State, and Federal environmental regulations, environmental permitting efforts, and environmental agency coordination. Detailed information regarding Mr. Henning's professional experience and educational background is provided in his curriculum vitae, which is provided as Exhibit 2.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide information concerning existing environmental conditions in the Project Area, potential impacts of the Project on the existing environment, and how the Project will avoid, minimize, or mitigate potential impacts. In addition, I describe the environmental survey work conducted on behalf of Dakota Range I, LLC and

Dakota Range II, LLC ("Dakota Range") to analyze the Project Area, as well as the associated consultations with local, State, and Federal agencies.

Q. Please identify the portions of the Energy Facility Permit Application ("Application") that you are sponsoring for the record.

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

- Section 1.0: Introduction
- Section 2.0: Project Development Summary
- Section 3.0: Facility Permit Application
- Section 4.0: Completeness Checklist
- Section 11.0: Environmental Information
- Section 12.0: Effect on Physical Environment
- Section 13.0: Effect on Hydrology
- Section 14.0: Effect on Terrestrial Ecosystems
- Section 15.0: Effect on Aquatic Ecosystems
- Section 16.0: Land Use (Sections 16.1, 16.2, 16.5, and 16.6)
- Section 18.0: Water Quality
- Section 19.0: Air Quality
- Section 21.0: Community Impact
- Section 26.0: Information Concerning Wind Energy Facilities
- Section 27.0: Additional Information in Application
- Appendix A: Figures
- Appendix B: Agency Coordination
- Appendix C: DASK/POSK Habitat Survey
- Appendix D: 2016 Raptor Nest Survey
- Appendix E: 2017 Raptor Nest Survey
- Appendix F: Avian Use Survey
- Appendix G: 2016 Grouse Lek Survey
- Appendix H: 2017 Grouse Lek Survey
- Appendix M: Level I Cultural Resources Report
- Appendix N: Cultural Resource Monitoring and Management Plan
- Appendix O: Architectural Survey Report

II. ENVIRONMENTAL STUDIES CONDUCTED

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

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

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

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

Environmental Studies and Surveys for the Dakota Range Project		
Study	Dates	Status
Microwave beam path study	November 2015	Complete
Raptor nest surveys	April 2016; April 2017	Complete
Avian use surveys	December 2015 – May 2017 (winter and spring)	Complete
Grouse lek surveys	April-May 2016; April-May 2017	Complete
Dakota skipper/Poweshiek skipperling habitat survey	June 2016; June 2017	Complete
Level I cultural resources records search	June 2017	Complete

Environmental Studies and Surveys for the Dakota Range Project		
Level III intensive cultural resources survey of High Probability Areas within Project disturbance footprint (in accordance with the Cultural Resources Monitoring and Management Plan)	December 2017	Field survey complete; analysis results pending
Additional cultural resources survey for sensitive tribal resources in coordination with the Sisseton-Wahpeton Oyate	Initiated in December 2017	Ongoing
Historical/Architectural Survey	November 2017	Complete
Wetland and Stream Delineation	September 2017	Complete

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

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

A. Dakota Range is in the process of coordinating with the Sisseton-Wahpeton Oyate ("SWO") regarding potential tribal resources within the Project Area, and plans to complete additional field review and coordination in the spring of 2018 to inform micrositing of project facilities. In addition, while the Level III intensive cultural resource survey has been completed, the survey results are in the process of being analyzed and the associated report prepared. Geotechnical soil borings will also be completed at each planned turbine location prior to construction, which may influence foundation design and/or turbine siting.

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

A. No, the remaining study work is not anticipated to affect the environmental analysis set forth in the Application, or the conclusion that the Project will meet all applicable State permitting requirements. Additionally, the Project has been designed (and will operate in a manner) so that remaining study work will not affect the Project's ability to comply with other local or Federal permitting requirements.

III. ENVIRONMENTAL SITE ANALYSIS OVERVIEW

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

A. Land use within the Project Area is predominantly agricultural, consisting of a mix of cropland, rangeland, and pastureland. Associated farmsteads and rural residences are scattered throughout the Project Area. Wetlands, ponds, and other waterbodies are also present within the Project Area, as are small areas with trees and shrubs, primarily associated with planted shelterbelts near residences. Six wetland easement parcels, eight grassland easement parcels, and one combined wetland/grassland conservation easement parcel managed by the USFWS as part of the Waubay National Wildlife Refuge Complex are within the Project Area. Four privately owned parcels leased to the SDGFP for public hunting access (known as Walk-In Areas) are also located in the Project Area. For additional details, see Sections 11.0, 14.1, 14.2, 16.1, and 16.2.

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

A. The Project layout was designed to ensure that planned ground disturbance and facilities were consistent with land use regulations governing each affected parcel. Within the approximately 44,500-acre Project Area, it is estimated that up to 647 acres of land would be temporarily impacted during construction of the Project. During the life of the Project, only approximately 65 acres would be impacted, which constitutes less than 0.2 percent of the total land within the Project Area. The table below provides a breakdown of impacts for Project infrastructure (see also Table 11-1 in the Application).

Summary of Dakota Range Ground Disturbance Impacts				
Project Component	Construction Impacts (Temporary)		Operational Impacts (Long-Term)	
	Dimensions	Total Acreage	Dimensions	Total Acreage
Turbines	150-foot radius	117 acres	25-foot radius	4 acres
Access roads	50-foot wide	140 acres	16-foot wide	45 acres
Crane paths	50-foot wide	210 acres	N/A	N/A

Summary of Dakota Range Ground Disturbance Impacts				
Collector lines	30-foot wide	160 acres	10-foot by 5-foot junction box	0.03 acre
Collector substation	10 acres	10 acres	10 acres	10 acres
Met towers	50-foot by 50-foot area	0.3 acres	42-foot by 42-foot area	0.3 acres
O&M facility	5 acres	5 acres	5 acres	5 acres
Laydown/staging/ batch plant areas	10 acres	10 acres	N/A	N/A
	Total:	**647 acres**	**Total:**	**65 acres**

The proposed Project is compatible with the existing agricultural land uses in areas surrounding the Project facilities. Agricultural uses will continue within the Project Area during construction and operation of the Project. Untilled areas temporarily disturbed due to construction 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).

As discussed in more detail later in my testimony, the Project has been designed to minimize impacts to wetlands and streams, trees and shrubs, and sensitive wildlife resources. No Project facilities will be placed on USFWS Wetland and Grassland Easements, and only five turbines and associated infrastructure will be located on three of the Walk-In Area parcels. In all areas proposed for ground disturbance, Dakota Range will coordinate with the landowners to minimize impacts to the extent practicable so as to maintain opportunities to continue current land uses.

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. No developed or potential economic mineral resources are 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 dissolution by water. In addition, no historic underground

mining operations that could lead to subsidence potential exist within the Project Area. The risk of seismic activity in the vicinity of the Project Area is low. For additional details regarding geologic resources within the Project Area, see Section 12.1 of the Application.

The soils in the Project Area are generally conducive to crop production. Soils in the Project Area are not highly susceptible to erosion, and slopes range from 0 to 40 percent, with the majority of slopes at 1 to 6 percent. For additional details regarding soil characteristics within the Project Area, see Section 12.2 of the Application.

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

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

As discussed in Section 12.2.2 of the Application, to minimize soil impacts, the Project layout has been designed to limit construction cut and fill work and construction in steep slope areas. For example, the current layout has sited access roads to avoid steep slopes as much as possible, and the underground collector lines similarly avoid crossing steep ravines whenever feasible.

Measures to reduce the potential for soil erosion, compaction, and sedimentation will be implemented during construction. The Project will obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities issued by the South Dakota Department of Energy and Natural Resources ("SDDENR"). A condition of this permit is the development and implementation of a Storm Water Pollution Prevention Plan ("SWPPP"), which prescribes Best Management Practices ("BMPs") to control erosion and sedimentation. The BMPs may include use of silt fences, straw wattles, erosion control

blankets, temporary storm water sedimentation ponds, re-vegetation, or other features and methods designed to control storm water runoff and mitigate erosion and sedimentation. Additional BMPs may include noxious weed control, segregating topsoil from subsurface materials, reseeding of disturbed areas, the use of construction equipment appropriately sized to the scope and scale of the Project, ensuring access road grades fit closely with the natural terrain, proper on-site disposal of soil cuttings from turbine foundation construction, and maintaining proper drainage.

Q. Discuss the hydrologic resources, including surface and underground resources, present within the Project Area.

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

- Hydrogeology Resources: The groundwater system underlying the parts of South Dakota that are east of the Missouri River, including the Project Area, is nearly exclusively based on glacial outwash aquifers. Glacial drift and alluvium aquifers in South Dakota vary in depth from 0 to 400 feet, with a range of yield from 3 to 50 gallons per minute.
- Watersheds: The majority of the Project Area is located within the Big Sioux watershed, part of the Missouri River Basin surface water drainage system. Drainage from the Project Area is to the southwest into the Big Sioux River via the Indian River, Soo Creek, Mahoney Creek, Mud Creek, and their tributaries. The northeastern portion of the Project Area is located within the Minnesota River watershed, and drainage is to the east into the Minnesota River via the South Fork Whetstone River and its tributaries.
- Wetlands and Waterbodies: Dakota Range completed a wetland and waterbody delineation in accordance with USACE-approved methodology to identify wetlands and streams warranting avoidance. Based on the delineation, 122 wetlands consisting of 567 acres are present in the area surveyed and 80 waterbodies (60 constructed (cattle) ponds, 10 stream reaches, and 10 impoundments) consisting of 107 acres are present in the area surveyed.

- Existing and Planned Water Uses: The Grant-Roberts Water District supplies rural water to the Project Area and maintains a network of distribution lines within the Project Area. Private wells that supply water for domestic and irrigation purposes are also located throughout the Project Area. Perennial streams within the Project Area, including the Big Sioux River, Indian River, Soo Creek, Mahoney Creek, Mud Creek, and their tributaries provide habitat for fish and wildlife and support recreational activities, such as fishing.
- Floodplains: Within the Project Area, narrow floodplains exist along major streams, including Indian River, Soo Creek, and Mud Creek, as well as along several unnamed tributaries to these streams. According to the Federal Emergency Management Agency-mapped floodplain zones, all floodplains within the Project Area are mapped as Zone A, indicating no base flood elevations have been determined.
- National Park Service Nationwide Rivers Inventory ("NRI"): There are no NRI-listed rivers within the Project Area. The nearest NRI-listed rivers are the South Fork of the Yellow Bank River, located approximately 12 miles southeast of the Project Area, and the North Fork of the Whetstone River, located approximately 12 miles north of the Project Area.
- Impaired Waters: The section of the Big Sioux River that extends through the Project Area is listed as impaired on South Dakota's 2016 303(d) list for exceedance of *Escherichia coli* (*E. coli*) and dissolved oxygen standards. This section of the Big Sioux is classified for the following beneficial uses: warmwater semipermanent fish life propagation; limited contact recreation; fish and wildlife propagation, recreation, and stock watering; and irrigation. An unnamed tributary in Grant County that extends through the Project Area is also on the 303(d) list and classified for the following beneficial uses: warmwater marginal fish life propagation; limited contact recreation; fish and wildlife propagation, recreation, and stock watering; and irrigation.

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

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

- Hydrogeology Resources: Groundwater dewatering is not anticipated to be a major concern within the Project Area, because wind turbines are generally placed at higher elevation where the water table tends to be deeper. Should groundwater be encountered that must be dewatered, the necessary permits would be obtained and associated requirements implemented. In addition, the duration of dewatering would be limited to the extent possible. Dewatered groundwater would be properly handled to allow sediments to settle out and be removed before the water is discharged, to reduce soil erosion and sedimentation of surface waters
- Watersheds: The Project has been designed to avoid impacts on surface water resources to the extent practicable. Therefore, the Project is not expected to cause significant changes in runoff patterns or volume of runoff, nor is it expected to have adverse impacts on existing hydrology. Appropriate storm water BMPs will be implemented during the construction and operation of the Project to control erosion and reduce potential for sediment runoff from exposed soils during precipitation events.
- Wetlands and Waterbodies: A detailed inventory and mapping of wetlands and waterbodies was generated by a qualified contractor using appropriate field methods. The data was used to inform siting to avoid and minimize impacts to the maximum extent practicable. The Project has been designed to limit permanent wetland impacts to five areas, consisting of minor impacts associated with access road crossings of emergent wetlands. During construction, short-term, small scale, temporary disturbance will occur within 37 wetlands, due to installation of access roads and collector lines, but each will be restored to their natural contours after construction is complete. No permanent or temporary wetland impacts will result from turbine foundations, substations, permanent met towers, construction laydown or O&M areas. Boring will be used for the installation of collector lines under two perennial surface water features (both sections of Indian River), thus avoiding impacts. Any portion of a collector line crossing an ephemeral or intermittent ditch would be crossed via

open-cut method or via boring, where appropriate, with the disturbed area restored to pre-construction conditions following installation. Impacts to wetlands and waterbodies are anticipated to be minor and would be authorized under the USACE Nationwide Permit 12 for utility lines and associated facilities with no preconstruction notification requirements to the USACE.

- Existing and Planned Water Uses: The proposed Project facilities would not have impacts on either municipal or private water uses in the Project Area. The Project is not anticipated to require major dewatering; therefore, interruption of groundwater availability caused by dewatering is unlikely, and no adverse impacts to drinking waters of the State are anticipated. The Project will comply with all applicable permit requirements for water rights and the protection of groundwater quality. The Project will have no impact on surface water availability or use for communities, agriculture, recreation, fish, or wildlife.
- Floodplains: Based on the current layout, the underground collector system and some of the existing roads to be upgraded for the Project would cross floodplains associated with Indian River, Soo Creek, and several tributaries. The underground collection system may temporarily impact flood storage areas during construction where the collection system is trenched through these floodplain areas; however, these impacts would be short-term, and existing contours and drainage patterns are expected to be restored within 24 hours of trenching. Where floodplain crossings cannot be avoided for construction of access roads, appropriately designed culverts or low water crossings would be placed to maintain the free flow of water. Construction or fill within floodplains would be designed in accordance with Codington or Grant County floodplain development regulations.
- National Park Service NRI: Due to the lack of NRI-listed rivers within the Project Area, construction and operation of the Project will not impact to these resources.
- Impaired Waters: SDDENR indicated that because of the beneficial use classifications of the Big Sioux River and the unnamed tributary in Grant County, special construction measures may be necessary to prevent exceedance of the 30-day average total suspended solids ("TSS") standard of 90 milligrams per liter (mg/L) for the Big Sioux and 150 mg/L for the unnamed tributary (see letter from SDDENR

dated July 26, 2017, in Appendix B of the Application). Any special construction measures necessary to prevent exceedance of the TSS standards for the Big Sioux River and the unnamed tributary in Grant County would be identified in the SWPPP prepared in connection with the General Permit for Storm Water Discharges Associated with Construction Activities issued by the SDDENR.

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

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

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 completed an analysis to identify potential native grasslands within the Project Area. In field investigations completed in June 2016 and June 2017 (see DASK/POSK Habitat Survey, in Appendix C of the Application), most of the grassland areas were found to be dominated by cool-season invasive grasses, such as bluegrass and smooth brome. Fifteen listed species of noxious weeds have the potential to occur and are regulated within Codington and/or Grant Counties.

The Project facilities have been sited to avoid treed areas and native 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 and northern long-eared bat, and the state-endangered peregrine falcon 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.

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

A. No. Between June 12-14, 2016 and June 16-19, 2017, Dakota Range completed field evaluations of 2,952 acres of untilled grassland within the Project Area. No suitable habitat for the Poweshiek skipperling was identified in the Project Area and one approximately 5-acre area of potential Dakota skipper habitat was identified just outside the northeast corner of the Project Area. This area of suitable habitat has been completely avoided through Project design with the nearest planned ground disturbance approximately 0.7 miles away. Due to the lack of suitable habitat and avoidance of potential habitat, impacts to these species are not anticipated. For additional detail, see Sections 14.3.1.2 and 14.3.2.1 of the Application.

The Project Area contains very few trees or areas of open water that would provide suitable habitat for the northern long-eared bat; therefore, the USFWS agreed that the period of risk to bats, including the listed northern long-eared bat, is primarily during fall migration To minimize potential impacts to the northern long-eared bat, turbines and access roads have been sited to avoid wooded draws and shelterbelts (potential northern long-eared bat habitat)

to the extent possible, and minimal tree removal is expected. If tree removal is necessary, removal will occur between August 1 and May 31 to minimize potential impacts to roosting northern long-eared bats, as well as other tree-roosting bats. In addition, risk of collision will be reduced by feathering the turbines to manufacturer's cut in speed from sunset to sunrise during the bat active period (Apr 15-Oct 15) to avoid potential impacts to bats flying and/or migrating through the Project Area. For additional detail, see Sections 14.3.1.2 and 14.3.2.1 of the Application.

With respect to State-listed species, only one peregrine falcon was observed during 221 hours of systematic avian study, suggesting that use of the Project by this species and associated risk of impact is very low. For additional detail, see Sections 14.3.1.3 and 14.3.2.2 of the Application.

Q. Discuss the analysis conducted of eagle use of the Project Area.

A. In April 2016 and April 2017, Dakota Range completed aerial raptor nest surveys for the Project Area plus a ten-mile buffer for eagles in accordance with agency recommendations. During the April 2016 survey, three occupied bald eagle nests were recorded within the survey area, but all outside the Project Area. During the April 2017 survey, five occupied bald eagle nests were recorded, all outside the Project Area. The nearest known occupied bald eagle nest is approximately 1.8 miles west of the Project boundary, and the distance between the closest occupied bald eagle nest to a proposed turbine location is more than 3.7 miles.

Eagle use point-count surveys were completed during winter and spring from December 2015 through May 2017 in accordance with agency recommendations. No golden eagles were observed, and two bald eagles were observed in 221 hours of study. For further detail regarding the surveys, see Section 14.3.1.4.1 and Appendices D, E, and F.

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

A. No. The survey results indicate very low use of the Project Area by eagles and no impact is anticipated. However, operations staff will be trained to recognize eagles. If observed, risk

will be evaluated to determine if the risk profile is changing over time and if any management action is necessary to minimize risk. Thus, impacts are not anticipated to bald or golden eagles during construction or operations.

Q. What measures will Dakota Range implement to avoid, minimize, or mitigate impacts to wildlife species?

A. In coordination with the USFWS and the SDGFP, Dakota Range completed various wildlife surveys in accordance with Tier 3 of the WEG and Stage 2 of the Eagle Conservation Plan Guidance, including raptor nest surveys, eagle/avian use surveys, and prairie grouse lek surveys. Dakota Range reviewed the results of site-specific studies with the USFWS and SDGFP, and the following impact minimization and avoidance measures were agreed upon as appropriate to avoid or minimize potential negative biological impacts during construction and operation of the Project (see also Section 14.3.2.5 of the Application):

- Minimize ground disturbance/clearing of native grasslands;
- Avoid potentially suitable Dakota skipper habitat;
- Avoid siting turbines in wetland/waterbodies;
- Avoid siting turbines within 0.3 mile of active or potential grouse leks and follow construction timing recommendations within 2 miles;
- Feather blades to manufacturer's cut-in speed from sunset to sunrise during the bat active period (April 15 – October 15);
- Avoid tree removal from June 1 through July 31 to minimize risk of impact to northern long-eared bat maternal roosts and other tree roosting habitat;
- Train staff to recognize whooping cranes and eagles, and if observed, evaluate risk and respond appropriately; and
- Monitor direct impacts during operations in year 1 to assess low risk conclusions.

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

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

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

A. In June 2017, a Level I Cultural Resources Records Search (see Appendix M of the Application) was completed for the Project in accordance with SHPO survey guidelines. The records search was completed to provide an inventory of previously recorded cultural resources within the Project Area and a 1-mile buffer. The records search indicated that 41 known sites were located within the Project Area, of which 40 have been determined eligible for listing in the National Register of Historic Places ("NRHP"), with the remaining site determined not eligible for listing. All of the eligible sites previously recorded within the Project Area are Native American cairns, stone circles, or alignments, and may also be traditional cultural properties.

Ninety-two historic/architectural resources have been previously inventoried, including 43 within the Project Area and an additional 49 within the 1-mile buffer. These resources include 73 structures, 16 bridges, and 3 cemeteries. One structure (located outside of the Project Area), a farmstead, is listed in the NRHP and two other structures (one within and one outside of the Project Area) have been determined eligible for an NRHP listing.

In coordination with the SHPO, a Cultural Resources Monitoring and Management Plan ("CRMMP") (see Appendix N of the Application) was developed to avoid or minimize potential impacts to cultural resources during design and construction of Project facilities and to comply with the South Dakota Public Utilities Commission's Energy Facility Permit requirements. The CRMMP identifies the methodology for completing Level III intensive cultural resources surveys and historical/architectural surveys for the Project. The CRMMP also identifies the proposed management plan for archeological or architectural resources that are identified during the surveys and provides a plan for unanticipated discovery of sensitive cultural resources, should any be unearthed during construction.

In accordance with the CRMMP, Level III intensive cultural resource surveys were completed in December 2017, in areas of potential ground disturbance determined to have high probability of sensitive cultural resources (i.e., High Probability Areas ["HPAs"]).

HPAs consist of areas most likely to contain intact archaeological sites in the region and are primarily found on uncultivated and undisturbed land areas and around water sources such as rivers, streams, and lakes. The analysis results are pending; however, based on preliminary results, no cultural resources were identified that would require turbine location modifications.

In accordance with the CRMMP, an historical/architectural survey (see Appendix O of the Application) was also completed for the Project in November 2017. The architectural survey consisted of windshield reconnaissance within the Project Area and 1-mile buffer (indirect or visual area of potential effects ["APE"]) to document all resources 45-years-of-age or older that have not been recorded in previous surveys or have been previously recorded but have undetermined NRHP-eligibility status. The results of the survey indicate a low concentration of NRHP-eligible architectural resources. No historic architectural resources were identified within the proposed Project footprint, or direct APE. Within the visual APE, there are three structures recommended eligible for listing on the NRHP; however, the Project will have no adverse effect on the resources.

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

Q. Please discuss further Dakota Range's consultation regarding potential tribal resources within the Project Area.

A. As discussed in Section 27.2 of the Application, Dakota Range has voluntarily engaged in ongoing coordination with the SWO. Apex initially met with the SWO to discuss the Project and company intentions, and sought input on measures to identify and avoid impact to resources that would be considered important to tribes with connection to the region. The SWO requested that they be included in field surveys and in decisions regarding tribal resources found, thus allowing the SWO opportunities to review finds and participate in eligibility recommendations and avoidance plans for sensitive tribal resources.

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

A. The Project has been designed to avoid direct impacts to previously identified NRHP-eligible or unevaluated cultural and architectural/historical resources based on adherence to recommendations from the SHPO and SWO. In the event cultural or tribal resources are identified or unearthed during construction, the CRMMP outlines the proposed management plan that will be implemented, which includes notification of the SHPO and SWO and implementation of measures to avoid impacts to sensitive resources prior to resuming construction. In accordance with the Siting Guidelines for Wind Power Projects in South Dakota 8(c), and informal consultation completed between Dakota Range and the SWO, disruption of sensitive resources that are identified as important to Native Americans will be avoided by marking them with orange snow fencing and ensuring facilities are set back in accordance with recommendations from the SWO, or as practicable and consistent with applicable State and Federal regulations.

Both SHPO and the SWO have agreed that the measures outlined in the CRMMP are appropriate to avoid negative impacts to landmarks and cultural resources of historic, religious, archaeological, scenic, natural, or other cultural significance.

IV. AGENCY COORDINATION

Q. Discuss Dakota Range's coordination with Federal, State, and local agencies regarding the Project.

A. Throughout Project planning and development, Dakota Range has coordinated with various Federal, State, Tribal, and local agencies to identify potential concerns regarding the proposed Project. Copies of agency correspondence and meeting summaries are included in Appendix B to the Application. In addition, a summary of Dakota Range's agency consultation efforts is provided in Section 27.2 of the Application.

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

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

V. CONCLUSION

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

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

Q. Does this conclude your testimony?

A. Yes.

Dated this 24 day of January, 2018.

Dave Phillips

David Phillips