BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY BASIN ELECTRIC POWER COOPERATIVE FOR ENERGY FACILITY PERMITS FOR A 230 KV TRANSMISSION FACILITY IN HAAKON COUNTY, SOUTH DAKOTA

SD PUC DOCKET EL25-___

PRE-FILED DIRECT TESTIMONY OF RYAN KING
ON BEHALF OF BASIN ELECTRIC POWER COOPERATIVE

August 15, 2025

I. INTRODUCTION AND QUALIFICATIONS

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

A. My name is Ryan King. I am employed by Basin Electric Power Cooperative (Basin Electric) as an Environmental Coordinator. My business address is 1717 East Interstate Avenue, Bismarck, North Dakota.

Q. On whose behalf are you providing this testimony?

A. I am providing this testimony on behalf of Basin Electric in support of its Facility Permit Application (Application) to the South Dakota Public Utilities Commission (Commission). The Application is for a permit for a .95-mile extension of the existing 230-kilovolt (kV) Philip to Philip Tap transmission line (Project). The Project will consist of up to 7 structures and will support the interconnection of the Philip Wind energy project (Philip Wind Energy Project), owned by Philip Wind Partners, LLC (Philip Wind).

Q. Briefly describe your educational background and professional experience.

A. I received a Bachelor of Science in Construction Management and a Masters of Natural Resources Management from North Dakota State University. I have 12 years of environmental permitting experience. I was hired by Basin Electric in September 2023 and have worked on a variety of transmission and energy conversion facility siting applications.

II. PURPOSE OF TESTIMONY

Q. What is your role with respect to the Project?

A. I am responsible for overseeing environmental permitting and related matters, including preparation of the Application, regarding the Project within Basin Electric and coordinating with our consultants and the Philip Wind team.

Q. Are you familiar with the contents of Basin Electric's Application to the Commission?

A. Yes. I am familiar with the Application's contents and assisted in its preparation.

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to describe the environmental review conducted by Western Area Power Administration (WAPA) as part of the Project's interconnection request. I also describe the methodology, with respect to environmental considerations, used to design the proposed Project. My testimony, together with the Application and other supporting evidence, will demonstrate that the Project will have minimal adverse impacts on the environment and human welfare and that it is compatible with environmental preservation and the efficient use of resources.

Q. Identify the sections of the Application that you are sponsoring for the record.

A. I am sponsoring the following portions of the Application:

- Section 11.0: Environmental Information
- Section 12.0: Effect on Physical Environment and Geological Resources
- Section 13.0: Effect on Hydrology
- Section 14.0: Effect on Terrestrial Ecosystems
- Section 15.0: Effect on Aquatic Ecosystems
- Section 18.0: Effect on Water Quality
- Section 19.0: Effect on Air Quality
- Appendix C: Level III Cultural Resources Survey Report (Confidential)
- Appendix D: Finding of No Significant Impact

III. WAPA ENVIRONMENTAL REVIEW

Q. Has the Project been subject to federal environmental review?

A. Yes. The Project and the Philip Wind Energy Project have, together, been the subject of federal National Environmental Policy Act review by WAPA as part of WAPA's consideration of the Wind Project's interconnection request. WAPA issued a final environmental assessment (EA) and Finding of No Significant Impact (FONSI) in May 2025. The FONSI noted that "the [Philip Wind Energy Project and the Project] will not significantly impact the environment because of its commitment to avoidance and minimization measures."

Q. Was the Project part of the WAPA environmental review process?

A. Yes. The Project was within the scope of the outreach conducted for the Philip Wind Energy Project, which included coordination with local community members; local officials; Tribes; and federal, state, and local agencies. For example, multiple years of coordination and consultation occurred with the U.S. Fish and Wildlife Service; South Dakota Game, Fish, and Parks; and the South Dakota State Historical Society, which serves as the State Historic Preservation Office (SHPO) for South Dakota. Although much of this coordination was focused on the Philip Wind Energy Project, the coordination also supported the development and routing of this Project to avoid and minimize impacts to sensitive resources.

IV. ENVIRONMENTAL STUDIES AND ANALYSES

Q. What environmental analyses were performed for the Project?

A. The environmental and resource studies and field surveys conducted for the entire Philip Wind Energy Project were available to the Basin Electric Project team for siting consideration. Specific to the Project were a water resource analysis, a Level I cultural resource records search, and a Level III cultural resource survey. Additionally, wildlife studies and avian use studies related to raptors, migratory birds, bats, and other special-status species were conducted for the Philip Wind

Energy Project, including the area in which the Project Route is proposed, between 2017 and 2023.

Q. Please provide a general overview of the area within and around the Project right-of-way (ROW).

A. In 2022, biologists completed field surveys to verify and update the data provided by the National Land Cover Database in the Project Route. The entirety of the Project Route is classified as grassland/herbaceous.

Q. Discuss the wetland analysis performed for the Project.

A. Mapped waterbodies, including ponds, lakes, streams, and rivers crossed by the Project Route were determined through desktop analysis and field verification. A site reconnaissance visit was conducted on October 13 and 14, 2022. The aquatic resources within the Project ROW consists of intermittent streams and a few depressional “pothole” wetlands adjacent to the streams.

Q. What was the result of the wetland analysis, and how will Basin mitigate impacts to wetlands?

A. Wetland areas occur throughout 1.0% of the Project Route. The potential impacts to wetlands are expected to be minor, temporary, and within the threshold for authorization under the United States Army Corps of Engineers (USACE) Nationwide Permit Program without preconstruction notification. Basin Electric will analyze structure placement during final design to avoid permanent impacts to wetlands. If wetland impacts occur, the Project will comply with the Clean Water Act and USACE Nationwide Permit Program requirements.

Q. Discuss the measures the Project is implementing to minimize potential impacts to existing groundwater.

A. No groundwater resources will be used for construction or operations and maintenance of the Project. Water use for the Project will be restricted to dust control and foundation construction. This water will be sourced offsite and

transported to the Project area as needed. The amount of water required for the Project is considered minimal. Construction will require coverage under the South Dakota Department of Agriculture & Natural Resources (SDDANR) Stormwater Permit for Construction, which identifies requirements for water use and dewatering and will specify appropriate Best Management Practices (BMPs). Following construction, the Project will not require new water uses or water rights. Additionally, the Project is not anticipated to have impacts on either public water supply systems or private wells in the vicinity of the Project.

Q. Discuss the potential impact to surface water resources.

A. The Project is not anticipated to cause changes to existing drainage patterns. During construction, there is the possibility of sediment reaching surface waters as the ground is disturbed by excavation, grading, and construction traffic; however, the use of appropriate BMPs will alleviate this to the maximum extent possible. As I note above, water use for the Project will be restricted to dust control and foundation construction and will be pumped from local surface waters. Impacts to floodplain storage capacity, if any, will be negligible due to the long spans between transmission structures and the relatively small volume of foundation material used at the structures.

Q. What steps will Basin Electric employ to mitigate potential impacts to surface water?

A. The Project has been designed to avoid surface water features whenever feasible. Structure foundations will be located outside of all streams and wetlands. It is anticipated that crossing of streams and drainage ways will be avoided by the temporary access roads; if impacts occur, they will be temporary and restored in accordance with applicable requirements. As I note above, Basin Electric will obtain coverage under the SDDANR's General Permit Authorizing Stormwater Discharges Associated with Construction Activities, which includes the development and implementation of a Stormwater Pollution Prevention Plan which

would prescribe BMPs to control erosion and avoid and/or minimize the potential for sediment to reach surface waters.

Q. What steps have been or will be employed to avoid, minimize, and/or mitigate potential impacts to geologic and soil resources?

A. Primary impacts to soil resources include ground-disturbing activities (e.g., grading, trenching, and excavating). Clearing vegetation removes protective cover and exposes soil to the effects of wind and precipitation, which may increase the potential for soil erosion and movement of sediments into sensitive environmental areas. Grading and equipment traffic may compact soil, reducing porosity and percolation rates, which could result in increased runoff potential. Contamination from release of fuels, lubricants and coolants from construction equipment could also impact soils. The majority of these impacts are temporary and related to construction activities; however, there would be long-term impacts associated with aboveground facilities during operations and maintenance. Following completion of construction, all temporary construction workspaces would be restored to preconstruction conditions pursuant to the easement agreements. The Project would permanently impact less than 0.1 acre of soils.

Geotechnical borings will be completed, and soil samples will be tested to determine the engineering characteristics of the site subgrade soils and develop Project-specific design and construction parameters. Adjustments to structure locations would be made for unsuitable soils as needed. I also note that the risk of seismic activity near the Project Route is extremely low, and the characteristics of the geologic materials in the vicinity of the Project generally limit the risks of impacts from the Project.

Q. Will the Project implement measures to minimize potential impacts to air quality?

A. Yes. Basin Electric anticipates that any air quality effects resulting from construction will be short-term and limited to the duration of construction activities,

without exceeding the National Ambient Air Quality Standards for particulate matter or significantly increasing greenhouse gas emissions. BMPs will be implemented during construction to suppress fugitive dust emissions, and regular inspections and preventive maintenance will be conducted on equipment during operation and maintenance to minimize leaks. Operation of the Project is not expected to result in any adverse impact to air quality.

Q. Discuss the vegetation present within the Project ROW, and how impacts have been or will be avoided, minimized, or mitigated.

A. In 2022, a grassland habitat assessment was conducted that included the Project Route. As noted, the entire Project Route was identified as grassland/herbaceous. The Project Route is also entirely on uncultivated land and no impacts to crops are anticipated. The Project has been routed to have the least impact on vegetation communities, including native prairies, grasslands with native plant communities, and wetlands.

Basin Electric will mitigate temporary impacts to vegetation through the use of BMPs, such as revegetation and the use of erosion control devices. Other indirect impacts, such as the spread of noxious weed species and increased potential for erosion or sedimentation due to ground disturbance, would be addressed through a combination of mechanical mowing, selective herbicide applications, and other BMPs. The Project has also been sited to minimize impacts to these sensitive habitats. There would be no impacts to undisturbed grasslands and no tree clearing will occur for this Project.

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

A. No. The Project has been sited to avoid or minimize impacts to federally listed and other special-status wildlife species. Effects on terrestrial habitats will be minimized by not altering stream channels, wetlands, or drainage patterns, and restoration of temporary disturbance areas. Temporary impacts would also be minimized by

utilizing erosion and sedimentation BMPs that minimize or prevent sediment from reaching adjacent waterways and that protect topsoil.

Q. Is the Project anticipated to impact other wildlife species?

A. No. There is the potential for wildlife in the vicinity of the Project to be temporarily impacted during construction. However, following construction, wildlife species are expected to adapt to the presence of the Project, as they have to the existing infrastructure and agricultural uses. I also note that trees for nesting or roosting are limited within the Project Route and no tree removal is anticipated for the Project.

Q. Discuss the Level I cultural and historic architectural resource review conducted for the Project.

A. There was a Level I cultural resource records search performed in October 2022 in accordance with SHPO guidelines to provide an inventory of previously recorded cultural resources. No historic properties were recorded within 1 mile of the area of potential effect (APE) of the Philip Wind Energy Project. The APE included the Project.

Q. Was a Level III cultural resource survey conducted?

A. Yes. A Level III pedestrian survey was conducted on October 27 and 28, 2022. The survey recorded no archaeological resources or aboveground resources of historic age within the APE for the Philip Wind Energy Project. Per WAPA, the existing Philip Tap switching station and the existing Basin Electric transmission line were built in 1974 or later, and the Oahe to New Underwood transmission line entered service in 1966 and is unevaluated for listing on the National Register of Historic Places (NRHP). No alterations of this line are contemplated for this Project.

Q. What did the cultural resource surveys conclude?

No NRHP-listed or eligible resources will be adversely affected by the Project because no eligible resources located within the direct APE were identified. Likewise, WAPA determined that the Project would have no adverse effects on historic properties; SHPO concurred with this determination. Thus, no impacts are anticipated.

Q. Discuss the Project's tribal coordination efforts.

A. The Project has been included within the scope of the outreach conducted for the Philip Wind Energy Project, which included coordination with Tribes. For example, several federally recognized Native American Nations indicated to WAPA that they were interested in consulting on the Philip Wind Energy Project. Tribal Cultural Specialists from the Rosebud Sioux Tribe, the Standing Rock Sioux Tribe, the Cheyenne River Sioux Tribe, and the Santee Sioux Nation previously participated in a cultural resources survey in 2018 for the Philip Wind Energy Project (which included the Project ROW), during which time no Tribal cultural resources or properties of traditional religious and cultural significance were identified.

Q. Does the Project pose a threat of serious injury to the environment or to the social and economic condition of inhabitants or expected inhabitants in the Project area?

A. No. WAPA's EA and FONSI demonstrate that the Project will not significantly impact the environment because of its commitment to avoidance and minimization measures, and Basin Electric's assessment, survey, and studies performed in the Project area also support this conclusion.

Q. Will the Project substantially impair the health, safety or welfare of the inhabitants in the Project area?

A. No. Basin Electric has designed and routed the Project to minimize potential impacts to inhabitants in the Project area.

V. CONCLUSION

Q. Based on the analysis Basin Electric has conducted, has the Project been sited to minimize potential environmental impacts?

A. Yes. As detailed in the Application, my direct testimony, and Mr. Bradley Wilkinson's direct testimony, the Project has been thoughtfully routed and designed to avoid or minimize potential environmental impacts.

Q. Does this conclude your testimony?

A. Yes.

Dated this 15th day of August, 2025

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Ryan King