Ex. A6

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY SWEETLAND WIND FARM, LLC FOR FACILITY PERMITS OF A WIND ENERGY FACILITY AND A 230-KV TRANSMISSION FACILITY IN HAND COUNTY, SOUTH DAKOTA FOR THE SWEETLAND WIND FARM PROJECT

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PRE-FILED DIRECT TESTIMONY OF TODD MABEE
ON BEHALF OF SWEETLAND WIND FARM, LLC

March 6, 2019

I. INTRODUCTION AND QUALIFICATIONS

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

A. My name is Todd Mabee. I am employed at Western EcoSystem Technology, Inc. ("WEST"), 2725 NW Walnut Blvd., Corvallis, OR 97330.

Q. Briefly describe your educational and professional background and duties.

A. I am a senior ecologist with WEST. I have a Bachelor of Arts in Population and Organismic Biology from the University of Colorado and a Master of Science in Zoology from Colorado State University. I have more than 30 years of experience as a terrestrial ecologist conducting field studies for a variety of industry sectors, including renewable energy, oil and gas, and timber. During my career, I have worked extensively on avian and bat issues at renewable projects in the United States and Mexico. A copy of my resume is attached as **Exhibit A6-1.**

Q. What is your role with respect to the Sweetland Wind Farm and associated transmission line (together, the "Project")?

A. WEST was engaged by Sweetland Wind Farm, LLC ("Sweetland"), to conduct certain environmental surveys and studies for the Project.

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

A. Yes, Ms. Joyce Pickle, research biologist with WEST, and Mr. Kenton Taylor, ecologist/senior manager at WEST, are each qualified to discuss the information in my testimony. Detailed information regarding Ms. Pickle's and Mr. Taylor's qualifications and experience is included in their resumes, attached as **Exhibits A6-2** and **A6-3**, respectively.

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to describe the environmental surveys and studies conducted by WEST for the Project.

Q. Please identify which sections of the Application you are sponsoring for the record.

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

- Section 13.1: Vegetation
- Section 13.2: Wildlife
- Appendix E: Native Grasslands Habitat Report
- Appendix F: Presence/Absence Surveys for Northern Long-Eared Bat
- Appendix G: Whooping Crane Habitat Review
- Appendix H: Eagle and Raptor Nest Surveys
- Appendix I: Avian Use Surveys
- Appendix J: Acoustic Bat Surveys

III. ENVIRONMENTAL STUDIES AND SURVEYS CONDUCTED BY WEST

Q. Describe the environmental studies and surveys conducted by WEST for the Project.

A. As described in more detail in the Application, WEST conducted the following environmental studies and surveys for the Project: Native Grasslands Habitat Report (Appendix E); Bat Summer Presence/Absence Survey Report (Appendix F); Whooping Crane Stopover Habitat Assessment Report (Appendix G); Eagle and Raptor Nest Surveys 2017 (Year 1) Report and Eagle and Raptor Nest Surveys 2018 (Year 2) Report (each included in Appendix H); Baseline Avian Study, Year 1 Report (Appendix I); and Bat Activity Study 2017 Report and Bat Activity Study 2018 Report (each included in Appendix J). In addition, WEST is assisting Sweetland with the preparation of the Project's Bird and Bat Conservation Strategy ("BBCS").

Q. What vegetation is present within the Study Area?

A. Herbaceous/grassland (51.9 percent), cultivated crop (24.2 percent), and hay/pasture (19.2 percent) compose the majority of the land cover/land use within the Project Area, while the remaining land use/land cover makes up 4.7 percent of the Project Area.

As described in more detail in Section 13.1 of the Application, a site-specific grassland habitat assessment of the Study Area was conducted between July 17 and September 14, 2018, to provide an assessment of the quality of all Project grasslands, both disturbed and previously undisturbed (Appendix E) and to therefore provide information to the Applicant to avoid and minimize impacts to higher quality undisturbed grasslands. This assessment determined that most grassland tracts in the Project are dominated by a mix of non-native grasses and are considered "Average". Overall, the review of the grassland tracts in the Study Area reveals a fragmented landscape due to land conversion and vegetation loss primarily associated with agriculture, but also due to invasive and noxious species, pesticides, urbanization through road construction, distribution and transmission lines, pipelines, fiber optic lines, gravel pits, and residential development. No "Excellent" undisturbed native grasslands were documented in the Study Area, and only limited, isolated patches of "Above Average" grasslands (e.g., native species are common but introduced species are also prevalent) were found, generally limited to the edges of ravines.

Q. How does the Project avoid, minimize, or mitigate impacts to vegetation?

A. Project facilities have been sited to minimize impacts to the isolated patches of "Above Average" grasslands. Only a small amount of the Project's temporary impacts (12.1 acres or 1.7 percent) occur in Above Average grasslands. Similarly, only a small amount (1.3 acres or 1.7 percent) of the Project's permanent impacts occur in Above Average grasslands. To further minimize impacts to grasslands, the Project facilities have generally been sited in areas where disturbance has previously occurred. Additional minimization measures

include utilizing existing roads for access, limiting construction of new roads, and restoring areas of temporary disturbance to minimize impacts.

I understand that the Applicant would restore and regrade disturbed soils after construction. The construction contractor would coordinate with the Natural Resources Conservation Service and/or the landowner on seed mixes for revegetation. The seed mixes and revegetation plan would be developed as part of the Stormwater Pollution Prevention Plan for the Project.

Q. Discuss the analyses conducted of avian use in the Study Area.

A. To determine the presence, relative abundance, and relative seasonal use of avian species that occur within the Study Area, the Applicant completed various surveys in accordance with Tier 3 of the Wind Energy Guidelines ("WEG"), Stage 2 of the Eagle Conservation Plan Guidance ("ECPG"), the federal regulations regarding eagle permits,[1] and U.S Fish and Wildlife Service ("USFWS") and South Dakota Game, Fish and Parks ("SDGFP") guidance. Avian studies included raptor nest surveys, eagle/avian use surveys, prairie grouse lek surveys, and a whooping crane habitat assessment. Eagle/avian use point-count surveys were completed once monthly from May 2017 to April 2018 during Year 1. The Year 2 surveys are ongoing and will continue through April 2019.

Q. Discuss the analyses conducted of bat use in the Study Area.

A. The Applicant conducted general acoustic bat surveys for 2 years, 2017 and 2018. During 2017, surveys lasted from June 1 to October 15, and during 2018, surveys lasted from May 7 to October 15. Both years showed similar results, with an average of 2.93 bat passes per detector night during 2017, and 3.63 bat passes per detector night during 2018 (Appendix J). These analyses indicated that bat activity overall is generally low at the Project.

[1] *See* US Fish and Wildlife Service (USFWS). 2016. Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests; Final Rule. 50 CFR 13 and 22. Department of the Interior Fish and Wildlife Service. 81 Federal Register (FR) 242: 91494-91554. December 16, 2016.

Q. Are any federally-listed species or state-listed species present within the Study Area?

A. Three federally listed terrestrial species have the potential to occur in the Study Area: northern long-eared bat ("NLEB"); Rufa red knot; and whooping crane. The whooping crane is also a state-listed endangered species. In addition, bald and golden eagles have the potential to occur in the Study Area. See Section 13.2.1 of the Application for additional discussion.

Q. Is the Project anticipated to impact federally-listed species or state-listed species?

A. No. As discussed in Section 13.2.1 of the Application, the NLEB, Rufa red knot, and whooping crane are unlikely to occur within the Project. There are no bald or golden eagle nests within the Study Area. The closest bald eagle nest is approximately 5.5 miles north of the Study Area.

Q. Based on the analyses you have described, please discuss the anticipated Project impacts on wildlife species.

A. Wildlife species could be impacted during the construction phase of the Project as a result of habitat disruption and, potentially, direct mortality, although the potential for these impacts is low. The Project, including the gen-tie line, will result in minimal and localized habitat loss, and the Project will follow various best management practices ("BMPs") to minimize these impacts, as discussed in Section 13.2.2 of the Application. With respect to wildlife impacts, the primary concern associated with wind energy facility construction and operations relates to birds and bats. These species may be directly impacted by the Project. However, the Project has been sited and designed to avoid and minimize impacts to birds and bats. As discussed in Section 13.2.2 of the Application, impacts from the Project are anticipated to be similar to other facilities in the region.

Q. What measures will the Applicant implement to avoid or minimize impacts on wildlife species?

A. As discussed in Section 13.2.2 of the Application, I understand that, as part of the Project's federal environmental review process, the Project will comply with applicable mitigation measures specified in the Upper Great Plains Programmatic Environmental Impact Statement. I also understand that the Applicant is committed to avoiding and/or minimizing impacts to avian species through Project design, construction, and operation by implementing measures that include:

- Preparing a BBCS in accordance with the USFWS WEG that will be implemented to minimize impacts to avian and bat species during construction and operation of the Project;
- Designing transmission lines and facilities using Avian Power Line Interaction Committee ("APLIC") guidance to minimize the risk of electrocution and collision to avian species;
- Training operations and maintenance staff to recognize eagles and other sensitive species;
- Conducting construction monitoring during whooping crane migration seasons, and stopping construction activities within one mile of observed whooping cranes until the crane leaves the area;
- Conducting operational monitoring during whooping crane migration seasons; operations staff will be trained to identify whooping cranes, and if any are noted in the Project Area, turbines will be shut down within two miles of the crane until it leaves the area;
- Conducting post-construction fatality monitoring for two years to assess impacts;
- Siting turbines and other above-ground wind facility infrastructure away from prairie grouse leks to the extent possible and conducting two years of post-construction lek monitoring;
- Avoiding siting turbines and access roads in USFWS Grassland or Wetland Easements;

- Avoiding siting turbines in wetlands and waterbodies; and
- Minimizing disturbance to Above Average grasslands.

In addition, the Project avoids and/or minimizes impacts to bat species through its design, construction, and operation by implementing measures that include:

- Locating the Project in an area with minimal bat habitat (limited wooded areas in isolated small patches);
- Minimizing siting turbines in wooded patches;
- Minimizing tree removal as much as feasible to reduce impacts to bat roosting habitat;
- Avoiding tree removal from June 1 through July 31 to reduce potential impacts to roosts and other tree roosting habitats for bats;
- Feathering blades to manufacturer's cut in speed from sunset to sunrise, when the temperature is above 50 degrees Fahrenheit, from July 15 to October 15.

IV. CONCLUSION

Q. Does this conclude your direct testimony?

A. Yes.

Dated this 6th day of March, 2019.

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Todd Mabee

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