BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY ENGIE NORTH AMERICA, INC. FOR A PERMIT FOR A WIND ENERGY FACILITY IN HYDE AND HUGHES COUNTIES, SOUTH DAKOTA, FOR NORTH BEND WIND FARM

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PRE-FILED DIRECT TESTIMONY OF **MARTIN PIORKOWSKI**, BIOLOGICAL RESOURCES, WESTERN ECOSYSTEMS TECHNOLOGY, INC., ON BEHALF OF ENGIE NORTH AMERICAN, INC.

June 16, 2021

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Q. Please state your name, employer and business address for the record.

A. Martin Piorkowski. Employed by Western EcoSystems Technology, Inc. or WEST. 415 West 17th Street, Cheyenne, Wyoming

Q. Briefly describe your educational background.

A. I have a Bachelor's degree from The Pennsylvania State University and a Master's degree from Oklahoma State University.

Q. Briefly describe your professional experience.

A. I have been employed as a consultant with WEST for 5 years, and have been working on many aspects of wind-wildlife related evaluation across the U.S. during this time. I have 19 years of professional experience with various federal and state agencies in addition to academia with a focus on wind energy development.

Q. Have you attached a resume or CV.

A. Yes, my resume is attached.

Q. Have you previously submitted or prepared testimony in this proceeding in South Dakota?

A. No, I have not.

Q. What is the purpose of your direct testimony?

A. I will be addressing portions of Section 9 of the application, which discusses anticipated impacts on Terrestrial Ecosystems. This section discusses the existing terrestrial ecosystem, the Project's potential impacts to it and potential avoidance, minimization and mitigation techniques to minimize impacts. Terrestrial ecosystem wildlife and vegetation data was identified and gathered through literature searches, federal and state agency reports and consultations, natural resource databases, and field studies. Biologists from WEST conducted field surveys on behalf

of ENGIE North America, Inc. (hereafter ENGIE or North Bend) within and surrounding the North Bend Wind Project (Project Area) to provide site-specific information on terrestrial resources. The results of these surveys are summarized in Section 9 of the application.

Q. Did you categorize project lands by vegetation types?

A. Yes. The Project Area is located within the Northwestern Glaciated Plains Level III Ecoregion, an area characterized by significant surface irregularity and high concentrations of seasonal and semi-permanent wetlands (prairie potholes). As provided in the application, North Bend estimated 52.0 percent of the Project Area is mapped as grassland pasture or grassland herbaceous and approximately 43.9 percent is mapped as cultivated crops. As shown in Table 9-1 of the application, the remainder is developed land, wetlands, open water, barren land, and shrub/scrub.

Q. How will the project impact grasslands?

A. Grasslands are important and valuable communities, providing habitat to a diverse range of taxa, including highly specialized, habitat-specific birds, rare and economically-important pollinators and a wide range of mammals. Once covering millions of acres across North America, it is estimated by some that mixed grass prairies have declined by approximately 68 percent. Aside from direct impacts, another concern associated with turbine development in grasslands, particularly native or unbroken grasslands, is habitat fragmentation created by the development of access roads and displacement of some birds from around turbines once operating. Fragmented habitat not only supports edge-generalist species such white-tailed deer and American robins, but simultaneously deters many species that require large areas of undisturbed land to breed. North Bend is working with SDGFP to explore ideas to support ongoing conservation initiatives for grasslands given that the layout cannot completely avoid

grassland areas found within the Project Area. Best efforts were made to avoid grasslands and utilize croplands and planted grasslands for turbine placement and use existing disturbed corridors (e.g., roads, transmission lines, fence rows) to reduce habitat fragmentation and direct impacts to grassland vegetation. Turbines placed within areas mapped by SDSU as potentially undisturbed land will be inspected for signs indicative of past disturbance or tillage by a qualified biologist prior to construction in order to confirm if these areas are undisturbed grasslands. In areas where impacts to undisturbed grasslands cannot be avoided, North Bend will employ BMPs such as revegetation with native grasslands and erosion control measures and will restore areas of disturbed soils as soon as possible after construction activities have been completed.

Q. Have you considered noxious weeds relative to the project?

A. Noxious and invasive weeds are regulated by state and federal rules and regulations (SDCL 38-22 and 7 Code of Federal Regulations [CFR] 360, respectively) designed to stop the spread of plants that are detrimental to the environment, crops, livestock, and/or public health. According to the South Dakota Department of Agriculture (SDDOA), there are 9 listed species of noxious weeds that have the potential to occur and are regulated within Hyde and Hughes counties. In addition, there are seven statewide listed species with infestations listed for Hyde and Hughes counties.

Noxious weeds have the potential to spread through a variety of mechanisms. They are often carried on vehicles' undercarriage and tires and thrive in highly disturbed areas, rapidly out-competing native vegetation – particularly when exposed soil conditions are present. It is anticipated that pockets of noxious and invasive weed populations are currently present within the Project Area. With construction activities potentially taking place nearby, the threat of these

species spreading via work crews, vehicles or other vessels exists. North Bend will develop and implement a Noxious and Invasive Weed Management Plan that will identify and establish the procedures to prevent the introduction and spread of noxious and invasive weeds during construction and ongoing operations. This plan will be based on the construction schedule and the potential for weeds to be spread during that timeframe. During restoration, North Bend will utilize seed mixes free of noxious and invasive weeds. North Bend will coordinate with SDGFP, USFWS, USDA NRCS and landowners on seed mixes to be used during restoration efforts. Therefore, North Bend will work to have beneficial impact in the Project Area by reducing and controlling the spread of noxious and invasive species that are already present and by restoring disturbed areas with approved reseedings and controlling weeds in restored areas.

Q. What impacts to tree cover are anticipated?

A. Based on digitized data, the land cover Trees classification comprises less than 0.7 percent or 331.3 acres, of the Project Area. Typical trees include shelterbelts with a mixture of evergreen and deciduous species located along field borders and near residences. As part of the Northern Long-eared Bat (NLEB) Habitat Assessment (Appendix C of the application), WEST conducted a desktop assessment of potential suitable habitat, which included deciduous forest, evergreen forest, mixed forest and woody wetlands. Two forested areas greater than 10 acres in size were mapped inside of the Project Area and eight additional forested patches (greater than 10 acres) were mapped within 2.5 miles of the Project Area. As demonstrated in Table 9-3 of the application, North Bend has avoided nearly all permanent impacts to trees, including the areas greater than 10 acres in size that occur adjacent to the Project Area identified as potential NLEB habitat (as described in the NLEB Assessment, Appendix C of the application) by more than 1,000 feet. No major tree clearing activities are anticipated.

Q. Have you quantified the acres impacted by the project?

A. Yes, those are found in the application. Based on information from North Bend and the Project layout, the Project will permanently impact approximately 99.42 acres and temporarily impact approximately 595.2 acres. Table 9-3 of the application identifies North Bend's calculated acreages of National Land Cover and WEST-digitized land cover classes that will be directly affected by construction and operation of the Project. Permanent impact acreages provided in Table 9-3 of the application identifies amounts of vegetation that will be permanently removed and replaced by wind turbine foundations, MET towers, collector substation, transmission poles, and permanent access roads.

Q. What impacts have been analyzed to grassland vegetation in the project area?

A. Based on the WEST-digitized land cover classification, Project construction activities have the potential to impact various vegetation categorized as grassland/herbaceous and grassland pasture. A subet of this category, areas of potentially undisturbed grassland as mapped using data from SDSU, could result in approximately 51.67 acres being impacted.

Q. Does the Project impact USFWS easements in the area?

A. The Project has been designed to avoid impacts to USFWS grassland easements and the identified protected features associated with the USFWS wetland easement program. North Bend will continue to coordinate with USFWS to confirm that impacts to the identified protected features within USFWS wetland easement programs are avoided.

Q. How did you analyze the project area for effects on biological resources?

A. In accordance with USFWS Wind Energy Guidelines (WEG or Guidelines) Tiers 1 and 2, a landscape-level site analysis was conducted utilizing desktop resources to identify potential sensitive species or habitats that could be located near the Project. Resources reviewed included

South Dakota Natural Heritage Program, SDGFP Wildlife Action Plan, USFWS Information, Planning and Consultation (IPaC), NLCD mapping, aerial imagery, eBird, USGS Breeding Bird Survey (BBS), NatureServe, and USGS Gap data, among other sources.

Q. How did North Bend start to determine bird use of the area?

A. In an effort to characterize potential use of the Project Area by breeding birds, the two nearest USGS BBS routes, the Crow Creek BBS and Fort Thompson BBS, were analyzed. Each route is approximately 24.5 miles (39.4 kilometer [km]) long, with survey points located every half-mile. Standard survey protocol dictates that all birds seen or heard are tallied for a 3-minute period at each point along the route. In 2011, 2,242 individual birds of 80 species were observed along the two routes surveyed (1,146 individuals of 64 species in Crow Creek and 1,096 birds of 53 species in Fort Thompson). The most abundant species observed were the brown-headed cowbird, western meadowlark, common grackle, dickcissel, red-winged blackbird, mourning dove, and cliff swallow.

Q. Were raptors analyzed differently?

A. Following a desktop assessment of potential raptor roosting habitat, prey base and species distributions, a total of 13 diurnal raptors (excluding bald and golden eagles), one vulture, and six owls were determined to have the potential to occur within the Project Area. Of these species, five species have the potential to nest near or within the Project Area (Table 9-4 of the application). Surveys for raptor nests were conducted by WEST biologists in 2016, 2018, 2019, and 2020 within the Project area and extending two miles beyond. Additionally, avian use surveys were conducted by WEST biologists from 2016 to 2021 which included raptor use within the Project area.

Q. Are there potential effects on native gamebirds found in the area?

A. The Project Area occurs within the occupied range of greater prairie-chicken and sharp-tailed grouse, hereafter referred to as prairie grouse for both species combined. These two species of gamebirds are native to the Great Plains of North America and thus prefer large expanses of grasslands with tall residual grass or shrubs that can provide cover while nesting and short or sparse grass on slightly elevated ground for leks (area where prairie grouse congregate during spring for mating), which provides maximum visibility for female grouse while simultaneously enabling a clear view of avian and mammalian predators.

WEST identified a total of 20 prairie grouse leks during aerial and ground lek surveys within the Project Area and its 1-mile survey area during the 2016, 2018, 2019, and 2020 breeding season (Figure 6 in Appendix C of the application). Four lek locations were active in 2016, seven in 2018, three in 2019 surveys, and eight in 2020; of these identified and potential leks, one was a sharp-tailed grouse lek and 19 were greater prairie-chicken leks. Siting of turbines within agricultural fields and avoiding disturbance or fragmentation of large blocks of grasslands may help reduce potential impacts to prairie grouse and their breeding habitat within the Project area.

Q. What about bats and bat mortality?

A. Based on range maps, eight bat species are possible residents and/or migrants in the Project Area (Table 9-5 of the application). Two of the eight species are included due to range, but are unlikely to occur in the Project Area based on habitat restrictions: the Townsend's big-eared bat and the western small-footed myotis. The six remaining species that have potential to occur in the Project Area based on range maps (Table 9-5 of the application) and have been documented as fatalities at wind energy facilities. These species include big brown bat, eastern red bat, hoary bat, little brown bat, northern long-eared bat, and silver-haired bat.

Q. Are there endangered species likely to occur in the Project area?

A. Six wildlife species were listed as federally threatened or endangered under the Endangered Species Act have been verified to occur or have the potential to occur in Hughes and Hyde counties. This included four federally listed avian species (whooping crane, red knot, piping plover, and least tern), one federally listed bat species (northern long-eared bat), and one federally listed fish species (pallid sturgeon). As of January 2021, the least tern has been removed from the list of species protected under the Endangered Species Act. The remaining five species are described in Table 9-6 of the application.

Q. Will the Project have a mitigation strategy?

A. North Bend Wind has sited the layout to avoid or minimize impacts to federally and state-protected species, avoid impacts to high quality prairie habitat, and to realign linear corridors, such as the access roads, collector system, crane pathways, and transmission lines to follow existing disturbed corridors (e.g., roads, fence rows) in an effort to reduce fragmentation. Pending completion of pre-construction avian and bat studies and reporting, North Bend will prepare a Bird and Bat Conservation Strategy (BBCS) that will be implemented during construction and operation of the Project. The BBCS will consist of North Bend's corporate standards for minimizing impacts to avian and bat species during construction and operation of the wind energy project and will be developed in a manner that is consistent with the USFWS Land-Based WEG. It will include North Bend's commitments to wind project siting, construction practices and design standards, operation practices, permit compliance and construction and operation worker training. These are all further discussed in greater detail in Section 9.2.3 of the application.

Dated this 16th day of June, 2021.

Martin Piorkowski, Western EcoSystems Technology, Inc.