Ex. A2

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

SD PUC DOCKET EL 19-____

PRE-FILED DIRECT TESTIMONY OF MARK WENGIERSKI
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 Mark Wengierski. I am a Project Manager at Scout Clean Energy. My business address is 4865 Sterling Drive, Suite 200, Boulder, Colorado 80301.

Q. Briefly describe your background and qualifications.

A. I have 12 years of experience in the renewable energy industry. In my current role, I oversee wind energy assets from inception to construction, which includes permitting the wind farms at the local, state and federal levels. Prior to joining Scout Clean Energy, I was the Development Manager for E.ON Climate & Renewables where I focused on greenfield development (new site selection) for wind energy, which involved outreach with elected officials, landowners, and other stakeholders, and coordinating analysis of issues such as airspace constraints, desktop environmental reviews, transmission accessibility, permitting, zoning and tax review, and impact of existing land use on potential development. I have experience throughout the stages of a project's lifespan, from greenfield prospecting to taking an existing development asset into construction. I have a Bachelor of Science degree in Biomedical Science and a Master's degree in Land Economics and Real Estate. A copy of my statement of qualifications is included as **Exhibit A2-1**.

Q. Could you explain the relationship between Scout Clean Energy and Sweetland Wind Farm, LLC ("Sweetland" or "Applicant") with respect to the proposed Sweetland Wind Farm and associated Generation Tie-In Transmission Facility (collectively, the "Project")?

A. Sweetland Wind Farm, LLC is a wholly-owned subsidiary of Scout Clean Energy and Scout Clean Energy is assisting with Project development.

Q. Could you please describe Scout Clean Energy's experience in the renewable energy industry, particularly its experience developing wind projects?

A. Scout Clean Energy is a North American renewable energy development company focused on utility scale wind development. The Scout Clean Energy team has an extensive track record developing large scale wind energy projects. Scout Clean Energy's project experience includes the Ranchero 300-MW project in Crockett County, Texas (under construction, anticipated Commercial Operations Date of September 2019) and the Persimmon Creek 200-MW project in Woodward County, Oklahoma (Commercial Operations Date of August 2018). Prior to forming Scout Clean Energy, members of the team were integral in the successful development, marketing, and financing of over 5 gigawatts of utility scale wind facilities across the United States and Canada.

Scout Clean Energy is a portfolio company of Quinbrook Low Carbon Power Fund LP and Quinbrook Low Carbon Power Parallel Fund (US) LP (collectively, the "Fund"). The Fund is an infrastructure fund with approximately $1 billion in capital raised with investments in the United States, Europe, and Australia. With support from the Fund, Scout Clean Energy has the experience, skills, personnel, financial backing, and proven capability to successfully manage wind project development, construction, and operations and maintenance.

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

A. I am the Project Manager.

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your Direct Testimony?

A. The purpose of my testimony is to provide an overview of the Project's development history, including: site selection; site analysis; layout and facility design; land use compatibility; and permitting. I will also provide an overview of Project construction, operation, and decommissioning.

Q. Please identify which sections of the Application to the South Dakota Public Utilities Commission for Facility Permits ("Application") that you are sponsoring for the record.

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

- Section 1.0: Introduction
- Section 2.0 (excluding Sections 2.2 and 2.5): Project Development Summary
- Section 4.0: Names of Participants
- Section 5.0: Name of Owner and Manager
- Section 6.0: Purpose and Demand for the Facility
- Section 7.0: Estimated Cost of the Project
- Section 8.0: General Site and Project Component Description
- Section 9.0: Alternate Sites and Siting Criteria
- Section 15.2: Public Lands and Facilities
- Section 15.6: Electromagnetic Interference
- Section 16.0: Local Land Use Controls
- Section 19.0: Time Schedule
- Section 20.0 (excluding Section 20.5): Community Impact
- Section 21.0: Employment Estimates
- Section 22.0: Future Additions and Modifications
- Section 23.0: Decommissioning of Wind Energy Facilities
- Section 24.0: Reliability and Safety
- Section 25.0: Information Concerning Wind Energy Facilities
- Section 26.0: Information Concerning Transmission Facilities
- Section 27.1: Permits and Approvals
- Section 27.2: Agency Coordination
- Section 28.0: Testimony and Exhibits
- Appendix A: Figures
- Appendix C: Hand County Documents
- Appendix D: Setback Requirements
- Appendix N: Airspace and Communications Systems

- Appendix P: Decommissioning Plan

III. PROJECT OVERVIEW

Q. Who will own and operate the Project?

A. Sweetland Wind Farm, LLC will construct, own, and operate the Project.

Q. Please provide a general description of the Project, including where it is located.

A. The Project consists of an approximately 200-megawatt ("MW") wind farm and associated facilities ("Wind Farm") and an up to approximately 7-mile 230-kilovolt ("kV") generation tie-in transmission facility ("Gen-Tie Line") to be located in Hand County, South Dakota. The Project components include:

- Up to 71 primary wind turbine locations and 15 alternate locations;
- Access roads to each wind turbine;
- An operations and maintenance ("O&M") facility;
- Up to four permanent meteorological towers;
- Electrical power underground collection lines and communications system;
- A Project substation;
- An up to approximately 7-mile-long, 230-kV Gen-Tie Line;
- A switchyard; and
- Additional temporary construction areas, including crane paths, pull sites, access roads, a batch plant, and laydown yard.

Q. Has Sweetland secured the necessary private property rights for the Project?

A. Yes. As discussed further in Section VII of my testimony, one couple has not yet executed an agreement for the Project with respect to their land. However, even without that land, Sweetland has secured sufficient voluntary Wind Energy Lease and Easement Agreements ("Wind Leases") or similar agreements with landowners for development of the Project.

Q. How and where will the Project interconnect to the electric grid?

A. The Project would interconnect to the transmission grid via an approximately 7-mile long, 230-kV Gen-Tie Line that would carry the electricity from the Project substation to a switchyard connected to the Western Area Power Administration's ("WAPA") existing Fort Thompson to Huron 230-kV transmission line, located in Hand County, South Dakota.

Q. Has the Project identified an off-taker for the energy it will produce?

A. No. The Project does not currently have a Power Purchase Agreement or Off-Take Agreement, but we are currently in discussions with interested parties.

Q. What is the proposed development schedule for the Project?

A. Construction is anticipated to begin in the Fourth Quarter of 2019, with the Project being operational by the Fourth Quarter of 2020. More detailed information regarding Project milestones are provided in Table 19-1 of the Application.

IV. OVERVIEW OF SITE SELECTION

Q. Why did Sweetland initially identify a site in Hand County for development of the Project?

A. The Project site was identified in 2016 after reviewing Clipper Windpower Development Company's ("Clipper") historic development assets. In 2005, Clipper began signing wind leases with landowners in Hand County for what was then called the Rolling Thunder Wind Farm. Clipper's leasing efforts culminated in an approximately 500,000-acre wind farm area before the formation of a Joint Venture ("JV") with BP Alternative Energy ("BP"). Upon formation of the JV, the project was renamed the Titan Wind Farm. BP built the first phase of the Titan Wind Farm in 2009 on approximately 8,000 acres in Hand County, utilizing ten Clipper Liberty wind turbines, with the power being sold to Northwestern Energy. Due to transmission constraints, market forces, and economic factors, BP did not construct any additional phases of the Titan Wind Farm in Hand County. BP subsequently exited the wind

farm development business in 2013. With the exception of the leases tied to the initial phase of the Titan Wind Farm, leases held by Clipper/BP expired.

In late 2016, Sweetland met with the U.S. Fish and Wildlife Service ("USFWS") to discuss the historical 500,000-acre Titan Wind Farm (a.k.a., Rolling Thunder) site and to solicit feedback as to where the agency would recommend siting a project within the site. USFWS suggested a site in the southeasterly area of Hand County for a number of reasons, including minimizing impacts to USFWS Wetland and Grassland Easements, siting away from the Missouri River, minimal historic sage grouse lek locations, low historic avian and bat use, and compatibility with existing land use (i.e., farming and ranching). The USFWS's recommendations, along with strong support from local landowners within the Project Area, wind resource data demonstrating a quality wind source, ready access to the transmission grid, and compatibility with existing land use, led Sweetland to identify the current proposed 20,979-acre Project Area in Pearl, Hulbert and Rose Hill Townships in Hand County, South Dakota.

Q. Please provide an overview of the development work conducted by Sweetland to determine that the site was suitable for wind development.

A. Sweetland has undertaken extensive development activities since 2016, including: landowner outreach and easement acquisition; local, state, and federal agency and entity coordination; desktop and field environmental studies and surveys of the Project Area; and Project design and refinement of the configuration. *See* Sections 2.0 and 9.1 of the Application for further discussion of these development activities. In addition, further information regarding the specific environmental studies and surveys conducted, and Sweetland's coordination with agencies, is provided in the Direct Testimony of Todd Mabee, Douglas Shaver, and Carrie Barton.

Q. Please discuss in more detail the coordination Sweetland had with local officials and the local community.

A. Sweetland's outreach efforts have included meeting with individual landowners, regulatory agencies, local government units, and the general public to discuss the Project and gather input. Sweetland began meeting with landowners in the fall of 2016 to discuss wind development on their property, and has secured 32 Wind Leases and four Good Neighbor Agreements for the Project.

Additionally, Sweetland presented Project updates to the Board of Hand County Commissioners at meetings in 2017 and 2018, where the public could ask questions and voice concerns. As discussed further in the next section, the Project voluntarily entered into a Development Agreement with Hand County in December 2018. Overall, the Project has received strong support from the Hand County Commission and other local stakeholders (for example, local business owners, as well as Hand County Economic Development).

V. Local Permitting

Q. Has the Project obtained the land use approvals required for the Project from Hand County?

A. Wind energy facilities (with the exception of the Project substation and switchyard) are considered a permitted use under Hand County's Zoning Ordinance (included in Appendix C of the Application). Therefore, conditional use permits are required only for the Project substation and switchyard, and Hand County has requested that those conditional use permits be obtained after the Commission has issued Energy Facility Permits for the Project. As noted above, Sweetland entered into a Development Agreement with Hand County, which was approved by the County Commission on November 8, 2018, and executed December 4, 2018. A copy of the Development Agreement, which includes commitments regarding setbacks and sound and shadow flicker levels, is also provided in Appendix C of the Application.

Q. Is the Project compatible with existing land uses and future development in and around the Project Area?

A. Yes. The Project is compatible with the existing land uses, which are primarily agricultural (e.g., crop production, pasture land, hay production). Wind development is particularly compatible with agricultural land because the existing uses can continue within the Project Area during construction and operation. As a result, wind development allows landowners to diversify their operations with minimal disruption to existing agricultural uses. Further, the Project has been designed to comply with the Hand County Zoning Ordinance and the Development Agreement, and Sweetland will obtain all applicable federal, state, and local permits required for the Project. Sweetland is not aware of any specific development proposed in the vicinity of the Project, and the Project is not anticipated to interfere with landowners' existing or planned uses of their land.

VI. TURBINE MODEL SELECTION

Q. Has the Applicant made a final turbine model selection for the Project?

A. Sweetland is currently considering using the General Electric ("GE") 2.82/127 turbine model with a rotor diameter of 127 meters (417 feet) and a hub height of either 89 or 114 meters (290 or 374 feet, respectively). GE has indicated it may adjust this turbine's megawatt output, with all other specifications remaining the same, in which case Sweetland may use the adjusted megawatt turbine. However,

While Sweetland currently anticipates using the identified GE turbine model, Sweetland requests the flexibility to select a different turbine model to ensure the best turbine technology available can be utilized for the Project. Regardless of the turbine model selected, the turbine locations would be chosen from the same 86 turbine locations, and the Project layout would comply with applicable County and State setback, sound, and shadow flicker requirements and commitments.

VII. PROJECT CONFIGURATION

Q. Is the Project's proposed configuration depicted in Figure A-2 of the Application?

A. Yes.

Q. Please describe the Wind Farm configuration shown in Figure A-2.

A. Figure A-2 shows the proposed layout of the Wind Farm. The configuration consists of 71 primary wind turbine locations and 15 alternate turbine locations. Figure A-2 also shows the proposed locations of access roads, and underground collection and communication lines.

Q. Please describe the Gen-Tie Line routes, and explain why two routes are proposed.

A. Figure A-2 depicts two route options for the Gen-Tie Line (preferred and alternate) between the Project substation and the point of interconnection, both of which are wholly within the proposed Project Area for the wind energy facility. While Sweetland would prefer to utilize the preferred route, a portion of the route is not currently under easement, as the landowners would prefer to wait until after energy facility permits have been issued by the Commission before deciding whether to participate in the Project. Therefore, Sweetland has identified an alternative route located on land currently under easement so a fully secured right-of-way option is available to facilitate interconnection of the Project. The routes are discussed in more detail in Section 8.3 of the Application.

Q. Is the configuration sited so as to minimize potential environmental impacts?

A. Yes. As discussed in the Direct Testimony of Todd Mabee, Douglas Shaver, and Carrie Barton, and in Sections 10.0 through 14.0, 17.0, and 18.0 of the Application, through preliminary desktop analysis, site-specific field studies, and ongoing coordination with agencies, such as the USFWS, South Dakota Game, Fish and Parks ("SDGFP") and SHPO, Project facilities within the site were located to avoid or

minimize potential adverse impacts to wetlands, grasslands, wildlife species of concern, and cultural resources, among other resources. For example, no Project turbines, access roads, laydown yard, Project substation, switchyard, or meteorological towers will be placed on USFWS Wetland or Grassland Easements. Further, any Project impacts from the installation of underground collection lines or transmission structures on USFWS Grassland Easements will be coordinated with and authorized by the USFWS.

Q. Please identify the applicable specific setbacks for the Project and other requirements and commitments that affect turbine setbacks.

A. The applicable setbacks, requirements, and commitments are listed in Table 9-1 of the Application and provided below:

Category	Requirements/Commitments
State Requirements	
Setbacks	Turbines shall be set back at least 500 feet or 1.1 times the height of the tower, whichever is greater, from any surrounding property line, unless the owner of the wind turbine tower has a written agreement with an adjacent land owner allowing the placement of the tower closer to the property line (SDCL 43-13-24).
Hand County Development Agreement	
Setbacks	Project wind turbines shall be set back 1,320 feet from currently occupied residence, unless waived in writing by the owner of the occupied residence
	Project wind turbines shall be set back from maintained County roadway, unless waived in writing by the County, by 1.1 times the wind turbine tip height
	Project wind turbines shall be set back from maintained township roadway, unless waived in writing by the applicable township, by 1.1 times the wind turbine tip height
	Project wind turbines shall be set back from existing overhead distribution and transmission lines, unless waived in writing by the infrastructure owner, by 1.1 times the wind turbine tip height
	Pursuant to SDCL 43-13-24, Project wind turbines shall be set back from property lines 500 feet or 1.1 times the height of the wind turbine tower, whichever is greater, unless the Developer has a written agreement with the adjacent landowner allowing the placement of the tower closer to the property line, in which case, the tower may be placed closer to the property line shared with that adjacent land owner.
Noise	Sound levels resulting from Project wind turbines will not exceed 50 dBA at

	the currently occupied residences of participating landowners and 45 dBA at the currently occupied residences of non-participating landowners, unless waived in writing by the owner of the occupied residence.
Shadow Flicker	Limit shadow flicker resulting from Project wind turbines at currently occupied residences to 30 hours per year or less, unless waived in writing by the owner of the occupied residence.

To comply with applicable setbacks, a total of 64 primary and 9 alternate wind turbines are proposed to have a hub height of 114 meters, and a total of 7 primary and 6 alternate wind turbines are proposed to have a hub height of 89 meters. Setback distances are calculated using the maximum potential rotor diameter of 127 meters (417 feet) and hub heights of 89 or 114 meters (292 or 374 feet). The hub height planned for each turbine location, as well as the buildable area for turbines after considering the setbacks in the table above, are depicted on the siting constraints map provided as Figure A-5 of the Application.

VIII. FINAL MICRO-SITING AND FLEXIBILITY

Q. Where is the Project at with respect to micro-siting of the turbines?

A. As discussed previously in my testimony, significant analysis has been completed to identify the Project configuration shown in Figure A-2 of the Application. Final micro-siting of Project facilities will continue to occur between now and summer 2019, based on a Phase I Environmental Site Assessment; remaining wetland and waterbodies evaluations, cultural and tribal resource surveys, and a geotechnical analysis; and final engineering design.

Q. Could remaining work require changes to the turbine locations?

A. Yes. The remaining work could necessitate minor shifts to the proposed turbine locations.

Q. What is the Applicant's request with respect to flexibility for future minor shifts in the turbine locations presented in Figure A-2 of the Application?

A. Consistent with prior Commission decisions, Sweetland requests that the permit allow turbines to be shifted within 250 feet of the turbine locations identified in the Application without prior Commission approval, as long as the turbine shifts comply with county and State setback requirements and commitments, and specified noise and shadow flicker commitments; cultural and tribal resource impacts are avoided or mitigated in consultation with SHPO; and wetland impacts are avoided. Prior to implementing the turbine adjustment, the Applicant would file in the docket an affidavit demonstrating compliance with the limitations set forth above. Any turbine adjustment that does not comply with the aforementioned limitations would be considered a "material change," and the Applicant must file a request for approval of the "material change" prior to making the adjustment pursuant to the following approval process outlined in Section 8.2 of the Application.

Q. What is the Applicant's request with respect to flexibility for future minor shifts in the location of the Gen-Tie Line presented in Figure A-2 of the Application?

A. As discussed above, two potential Gen-Tie Line route options are considered (preferred and alternate). For either of the two route options, Sweetland requests the ability to adjust structures as long as they remain within the 150-foot-wide right-of-way identified in the Application, and as long as impacts to cultural resources, sensitive habitat, and wetlands are avoided. Any adjustments that fall outside of the 150-foot-wide right-of-way identified in the Application, or do not meet the above-stated limitations, would be considered a "material change." If there were a "material change" the Applicant would follow the same process for review of the proposed "material change" as is outlined above and in Section 8.2 of the Application for turbine adjustments.

Q. With respect to other facilities, what is the Applicant's request with respect to final micro-siting?

A. As a result of final micro-siting and the utility coordination needed to facilitate Project interconnection, shifts in the access roads and underground

collection/communication systems, as well as changes in the locations of the O&M facility, meteorological towers, Project substation, switchyard, and laydown yard, may be necessary. Therefore, the Applicant requests that the permit allow those facilities to be modified, as needed, so long as the new locations are on land leased for the Project; cultural and tribal resources are avoided or mitigated in coordination with SHPO; wetland impacts are avoided; and all other applicable regulations and requirements are met.

IX. PROJECT DESIGN AND CONSTRUCTION

Q. Please describe the foundations that will be constructed for the turbines.

A. The foundation provides structural support to the assembled turbine. The wind turbine towers will be connected to a concrete foundation. The permanent turbines and foundations would each impact a 50-foot radius area. Prior to construction, geotechnical borings would be performed at all wind turbine locations to develop the specific design and construction parameters.

Q. Will the collection system be installed underground?

A. Yes. The underground collection lines would be installed in a trench at least 42 inches below the ground to avoid potential impact from the existing land uses. A fiber-optic cable and an additional separate ground wire would also be installed with the underground collection system.

Q. Could you describe the Project substation?

A. The Project substation would be constructed and operated on a 2-acre, fenced area and would consist of a substation transformer, circuit breakers, switching devices, auxiliary equipment, a control enclosure (containing equipment for proper control, protection, monitoring, and communications), and associated equipment and facilities. Approval for the Project substation would be subject to Hand County's Conditional Use Permit process.

Q. Please describe the switchyard that will be constructed for the Project.

A. The Project would have a switchyard constructed by WAPA (or constructed by Sweetland utilizing WAPA specifications in accordance with the Interconnection Agreement), which would serve as the electrical interconnection between the Project and the electrical grid. The switchyard would be constructed adjacent to the existing Fort Thompson to Huron 230-kV transmission line. Approval for the switchyard would be subject to Hand County's Conditional Use Permit process.

Q. Please describe the O&M facility that will be constructed for the Project.

A. The O&M facility would comprise a single- or two-story building, which would house operating personnel, offices, operations and communication equipment, parts storage and maintenance activities, and a vehicle parking area. An area for outdoor storage of larger equipment and materials would also be included within a fenced area for safety and security. As discussed further in Section 8.2.3, two potential O&M facility locations within the Project Area are currently being evaluated.

Q. Please discuss the design and installation of the permanent meteorological towers.

A. Up to four permanent meteorological towers would be installed as part of the Wind Farm. These meteorological towers are used to obtain wind data for performance management once the Wind Farm is operational. The meteorological towers would be either free-standing or guyed, with heights not to exceed the hub height of the wind turbines. Sweetland has committed to siting the meteorological towers outside of USFWS Wetland and Grassland Easements and outside of Above Average grasslands (as described in Section 13.1 of the Application).

Q. Discuss the Project's access roads and temporary crane paths.

A. The permanent access roads for the Wind Farm would be all-weather, gravel surfaced, and generally 16 feet in width for the drivable area and additional width for the shoulder and drainage (if necessary). During construction, some of the access

roads would have temporary widths generally not exceeding 50 feet. No permanent access roads will be required for the Gen-Tie Line.

Separate access may be required for the cranes used to erect the wind turbines. In such cases, temporary 36-foot-wide crane paths would be constructed between turbine locations. Following completion of construction, the temporary crane paths would be removed (if required), and the area restored (as needed), in accordance with industry standards.

The final access road design for all 86 turbines (71 primary turbines and 15 alternate turbines) would be dependent on geotechnical information obtained during the engineering phase and final turbine placement. For the purposes of the Application, Sweetland has conservatively assumed an access road network for all 86 turbines of approximately 24.5 miles of new private roads.

Q. Please discuss the design and installation of the Gen-Tie Line.

A. The up to 7-mile long, 230 kV Gen-Tie Line will extend from the Project substation located in Section 18, Township 111N, Range 66W at the intersection of Vayland Road (a.k.a., 369th Avenue, or Highway 9) and 205th Street in Hulbert Township, to the switchyard located in Section 9, Township 110N, Range 66W in Rose Hill Township. At the switchyard, the power would transfer to the existing Fort Thompson to Huron 230-kV transmission line, part of the Southwest Power Pool ("SPP") transmission line portfolio. Both routes require a permanent easement up to 150 feet wide, plus additional space outside the easement area at angle points for guys/anchors to secure the Gen-Tie Line. An additional 50 feet of temporary construction workspace would be needed adjacent to the permanent easement, for a total temporary construction easement width of 200 feet.

Q. What structure design is Sweetland considering for the Gen-Tie Line?

A. The Gen-Tie Line design selected for the Project would be a single circuit transmission facility constructed on either (1) two-pole wooden H-frame structures,

or (2) single steel monopole structures. The selected structure type would depend on cost due to the current uncertainty of steel prices due to tariffs. Three-pole structures may be used at angles and dead ends. Both the two-pole wooden H-frame structures and single steel monopole structures for the Gen-Tie Line would be directly embedded in the ground. Guy wires would secure turning structures (angles) and dead-ends for safety. Sweetland would use 795 Aluminum Conductor Steel Reinforced ("ACSR") Drake reinforced conductors or conductors of comparable capacity. Fiber optic cable would run the full length of the Gen-Tie Line for communications.

Q. Discuss the personnel that that will be involved in construction of the Project.

A. During construction, the Project is anticipated to result in up to 200 temporary construction jobs over 12 months for approximately 400,000 to 420,000 labor-hours to support Project construction. The construction crews would include skilled labor, such as foremen, carpenters, iron workers, electricians, millwrights, and heavy equipment operators, as well as unskilled laborers.

X. PROJECT OPERATION AND MAINTENANCE

Q. Discuss the personnel that will be involved in operation and maintenance of the Project.

A. During operation, the Project would employ approximately eight to ten full-time personnel as facility managers, site managers, and turbine technicians.

Q. Discuss the inspections that will be conducted?

A. During operations, the O&M staff would perform scheduled, preventive maintenance on the turbines, and monitor and address any performance issues. The onsite operations team also would drive throughout the Project on a regular basis conducting unrecorded visual inspections of the Project.

Q. How will the Project be monitored between inspections?

A. Safety and control mechanisms are included in the Project design. These mechanisms are generally monitored using a Supervisory Control and Data Acquisition ("SCADA") system. Each turbine is connected to the SCADA system via fiber-optic cable, which allows the turbines to be monitored in real time by the O&M staff as well as remotely. The fiber-optic cable would be installed in the same trench as the underground collection lines. The SCADA system also allows the Project to be remotely monitored, thus increasing Project oversight, as well as the performance and reliability of the turbines. Not only would the local O&M office have full control of the wind turbines, but a 24/7 remote operations facility would also have control of the individual turbines. These two teams coordinate to operate the wind turbines safely and efficiently. A third mechanism for safety and control is the turbines themselves. Each turbine monitors the wind speed and direction to ensure its current position is most efficient to produce electricity. This data is also used for feathering the blades; applying the brakes in high wind speeds or if there is ice build-up on the blades; and to tell the turbine when the wind is strong enough to begin turning the generator and producing electricity at the "cut-in" wind speed.

Q. How reliable will the Project be?

A. With respect to a wind energy facility, reliability (or availability) is defined as the ability of the turbines to generate electricity when sufficient wind is available. GE's current turbine availability rate is 98 percent. Additionally, Sweetland requires availability guarantees from turbine manufacturers and O&M service providers to maintain the turbine at 98 percent availability or higher. The average annual availability of transmission infrastructure is very high, in excess of 99 percent.

XI. DESIGN, CONSTRUCTION, AND OPERATIONAL CONSIDERATIONS

Q. What safety features will be incorporated into the Project?

A. The Project Area is located in an area of low population density. Construction and operation of the Wind Farm would have minimal impacts on the security and safety

of the local population. The following safety measures would be taken to reduce the chance of physical and property damage, as well as personal injury, at the site:

- The wind turbine towers would be sited at distances away from existing roadways and residences per the applicable planned setback requirements.
- Security measures would be implemented during the construction and operation of the Wind Farm, including temporary (safety) and permanent fencing, warning signs, and locks on equipment and wind power facilities.
- Access to each tower would be only through a solid steel door that would be locked and accessed only by authorized personnel.
- Tower exteriors would be designed to be unclimbable.
- Turbines would conform to applicable industry standards.
- A professional engineer would certify that the foundation and tower design of the turbines is within accepted professional standards, given local soil and climate conditions.

The proposed Gen-Tie Line will be designed in compliance with local, State, and good utility standards regarding clearance to ground, clearance to utilities, clearance to buildings, strength of materials, and right-of-way widths. Breakers and relays will be located where the line connects to the Project substation and would de-energize the line in the event of an emergency. In addition to protective devices, proper signage would be posted warning the public of the safety risks associated with the energized equipment, and vegetation in the easement area will be maintained to avoid interference with the conductors, allow for ground-based inspections, and enable access to Gen-Tie Line structures when maintenance is required.

Q. Will the Project participate in the South Dakota One-Call program?

A. Yes. The Project will utilize the One-Call program to locate underground infrastructure prior to construction. In addition, once construction is completed, the Project will register its facilities with the One-Call program.

Q. With respect to use of existing local roads as haul roads, will the Applicant coordinate with local road authorities regarding the use and restoration of those roads?

A. Yes. Sweetland plans to enter into a Road Haul Agreement with Hand County and affected townships governing the use, improvement, repair, crossing with Project infrastructure, and restoration of roads within the county, as needed. In addition, Sweetland will obtain from each road authority any road crossing, approach, and/or utility permits required for the Project.

Q. What steps will the Project take to prepare for a potential emergency situation at the Project site during construction and when the Project is operational?

A. During Project construction, the designated contractor would work with local and county emergency management to develop procedures for response to emergencies, natural hazards, hazardous materials incidents, manmade problems, and potential incidents concerning construction. The contractor would provide site maps, haul routes, construction schedules, contact numbers, training, and other requested information to local and county emergency management. During operations, the Project would coordinate with local and county emergency management to protect the public and the property related to the Wind Farm during natural, manmade, or other incidents. The Project would register each turbine location and the O&M facility with the rural identification/addressing (fire number) system and 911 systems.

Q. Has Sweetland analyzed the potential impact of the Project existing communications systems?

A. Yes. Sweetland conducted several studies to document existing communications systems in the Project Area, including: AM and FM radio report, off-air TV analysis, microwave point-to-point path analysis, obstruction evaluation and airspace analysis, and National Telecommunication Information Agency (“NTIA”) notification.

The Project is not anticipated to interfere with AM and FM radio signals, microwave paths, or NTIA radio frequencies. Likewise, Sweetland has sited the wind turbines such that they would not impact any air traffic control, air defense, homeland security, or weather radar sites.

There is a potential for scattering of over-the-air television signals in certain areas, especially those that would have line-of-sight to at least one wind turbine but not to the television station antenna. However, as discussed in Section 15.6.2.1, Sweetland is committed to avoiding and/or minimizing impacts to television reception caused by the Project at existing dwellings and structures.

Q. Will the Project be designed, constructed, and operated in compliance with all applicable federal, state, and local regulations?

A. Yes.

XII. PERMITS AND APPROVALS

Q. In addition to Energy Facility Permits from the Commission and the Conditional Use Permits from Hand County, what other permits or approvals are required for the Project?

A. The permits and approvals needed for the Project are outlined in Table 27-1 of the Application.

Q. Will the Project obtain all local, state, and federal permits and approvals required for the Project?

A. Yes.

XIII. DECOMMISSIONING

Q. What is the estimated life of the Project?

A. The anticipated life of the Project is approximately 35 years (including a potential repower and/or retrofit of the turbines and power system with upgrades based on new technology).

Q. Will the Project be decommissioned at the end of its useful life?

A. Once the facilities constructed have reached the end of their useful life, it may be determined that it is appropriate to retrofit or otherwise upgrade the Project facilities and continue operations. If retrofitting or upgrading is not done, then the Project will be decommissioned.

Q. If the Project is decommissioned, will the Project comply with all applicable state and local requirements for structure removal and site restoration?

A. Yes. The Project will be decommissioned in accordance with applicable regulations, as well as requirements set forth in the Project's Wind Leases.

Q. Has the Applicant analyzed the cost of decommissioning the Project?

A. Yes. A decommissioning cost estimate for the Project is included in Appendix P, and the estimated net decommissioning costs for the Project are summarized in that document. The decommissioning cost estimate assumed 71 GE 2.82/127 turbines and either 89-meter or 114-meter hub height. The net decommissioning cost (in 2019 U.S. dollars) is estimated to be $2.6 million assuming 89-meter hub height and $2.9 million assuming 114-meter hub height. The decommissioning cost per wind turbine is estimated to be $37,091 assuming 89-meter hub height and $40,956 assuming 114-meter hub height. These estimates are based on the decommissioning approach outlined in the decommissioning cost estimate and assume salvage of wind turbine and transmission facility components.

Q. Who will be responsible for covering all anticipated decommissioning costs?

A. Sweetland will be responsible for covering all anticipated decommissioning costs.

XIV. PROJECT BENEFITS

Q. Please describe the local and state benefits the Project will provide.

A. As discussed in Section 6.0 of the Application, the electricity generated by the Project would help meet electricity demand, provide zero-emission cost electricity to the grid, and provide price stability.

The Project will also provide a variety of local economic benefits. During construction, the Project is anticipated to result in approximately 200 temporary construction jobs over approximately 12 months. During operation, the Project would employ approximately eight to ten full-time personnel. Construction and operation are also anticipated to inject millions of dollars into the local economy as the result of purchase of goods and services.

Sweetland would pay more than $35 million in taxes on the Wind Farm over the anticipated 35-year life of the Project, which would significantly increase the revenue available for a variety of local needs. A breakdown of the projected tax revenue distribution is provided in Table 20-5 of the Application.

Additionally, over the expected 35-year life of the Project, the Project is anticipated to generate approximately $21.0 million in Wind Lease payment to Project landowners, and approximately $22.5 million in wages paid to approximately 10 full-time operations and maintenance employees. Thus, the Project is anticipated to provide significant economic benefits locally, as well as within the State.

XV. CONCLUSION

Q. Based on the analysis Sweetland has conducted of the Project Area, has the Project been sited so as to minimize human and land use impacts?

A. Yes. By incorporating the applicable state setback requirement and Hand County Development Agreement setback, sound, and shadow flicker commitments into

Project design, the Project has minimized potential impacts to inhabitants, resources, and land use in and around the Project. Through implementation of best management practices and other measures discussed in the Application, the Project is not anticipated to have any long-term negative impacts on inhabitants or land use in or around the Project Area.

Q. Does this conclude your Direct Testimony?

A. Yes.

Dated this 6th day of March, 2019.

Mark Wengierski

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