

**BEFORE THE STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION**

**BOWMAN WIND, LLC
BOWMAN WIND PROJECT – BOWMAN COUNTY
SITING APPLICATION**

CASE NO. PU-21-121

**PRE-FILED TESTIMONY OF SCOTT JANSEN
ON BEHALF OF BOWMAN WIND, LLC**

August 4, 2021

I. INTRODUCTION AND QUALIFICATIONS

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

A. Scott Jansen. I am employed by Apex Clean Energy, Inc. ("Apex") and my business address is 310 4th St NE, Suite 300, Charlottesville, VA 22902.

Q. What is your position with Apex?

A. I am a Senior Development Manager for Apex.

Q. Briefly describe your work history and education.

I have been a wind energy developer for over five years and have worked in the industry as an independent consultant for an additional three years before my current role. Prior to working for Apex as a Senior Development Manager, I was a Development Manager of wind and solar development for three years with RES Group. Before my work in the renewable energy industry, I had a 15-year career in recreational and rural land development. My educational background includes an accounting background and real estate licenses in WI, MI, and MO. A copy of my statement of qualifications is attached as proposed **BW Exhibit 22-A**.

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

A. I am the Project Manager.

Q. Who will construct, own, and operate the Project?

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

Q. What is the relationship between Bowman Wind and Apex with respect to the Project?

A. Bowman Wind is a wholly-owned subsidiary of Apex. Apex is assisting Bowman Wind with development of the Project.

Q. Please describe Apex's experience in the renewable energy industry.

A. Apex is an independent renewable energy company based in Charlottesville, Virginia. Since its founding in 2009, Apex has evolved into one of the fastest-growing companies in the industry. Nearly 20 Apex-originated wind and solar facilities are now operating around the country, totaling 4.8 gigawatts (“GWs”). Operating assets under management have grown to more than 2.2 GW. Apex has signed contracts for the sale of approximately 30 projects totaling 6.6 GW of capacity, and its development portfolio of approximately 30 GW of wind, solar, and storage projects is one of the largest in the United States. Apex’s mission-driven team of more than 250 renewable energy experts uses a data-focused approach to create solutions for the world’s most innovative and forward-thinking customers.

Q. What proposed hearing exhibits are you sponsoring in your testimony?

A. I am sponsoring the following proposed hearing exhibits:

- BW Exhibit 1: Certificate of Site Compatibility Application (Sections 1.0, 2.0, 3.0, 4.0, 5.0, 6.1, 6.3, 6.4, 6.6, 6.8, 6.9, 6.17, 7.0, 8.0, 9.0, 10.0, 11.0; Appendices A, B, D; Figures)
- BW Exhibit 2: Summary of Project Adjustments
- BW Exhibit 3: Updated Figures 1-12 in support of the Project’s Application for Certificate of Site Compatibility
- BW Exhibit 4: Comparison Figure (comparing preliminary Project layout with current Project layout)
- BW Exhibit 5: Updated Project Receptor Chart
- BW Exhibit 6: Emergency Response Plan
- BW Exhibit 7: Noxious Weed Management and Control Plan
- BW Exhibit 22-A: Jansen Resume
- BW Exhibit 25: Signed Certification Relating to Order Provisions – Wind Energy Conversion Facility Siting, with accompanying Tree and Shrub Mitigation Specifications
- BW Exhibit 26: Bowman County Airport Authority Letter, dated July 2, 2021

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; landowner coordination; site analysis; layout and facility design; land use compatibility; and local permitting and coordination. I will also provide an overview of Project construction, operation, and decommissioning.

II. DESCRIPTION OF THE PROJECT

Q. Could you provide a general description of the Project, including where it is located, its proposed output, and facilities?

A. The Project is within an approximately 41,110-acre Project Area ("Project Area") located in Bowman County, North Dakota. As currently designed, the Project nameplate capacity will be up to 208.7 megawatts ("MW"), with up to 200.1 MWs of electricity delivered to the grid. The Project's facilities would include:

- up to 74 wind turbines (with 12 alternate locations) and related equipment;
- new gravel access roads and improvements to existing roads (as needed);
- underground electrical collection and communication lines, with above-ground junction boxes;
- up to two permanent meteorological ("met") towers;
- light-mitigating technology (currently anticipating use of an Aircraft Detection Lighting System ("ADLS"));
- Operations and Maintenance ("O&M") facility;
- battery storage facility;
- Project substation; and
- additional temporary facilities, including a concrete batch plant, laydown areas for an equipment and construction management facility, intersection improvements to facilitate over-length turning, crane paths and working pads, and staging areas for turbine delivery.

Q. Where will the Project interconnect to the grid?

A. The Project will interconnect to the grid via a new 230 kilovolt ("kV") Gen-Tie transmission line that will be less than a mile in length (up to 0.30 miles or 1,548

feet). The proposed transmission line would extend from the Project substation and interconnect to the existing Rhame Substation located in Section 15, Township 131 North, Range 104 West in Bowman County. The transmission line will be permitted through Bowman County ("County") and is shown on the updated Figure 2 for reference. See proposed **BW Exhibit 3**.

Q. What is the status of executing a Generator Interconnection Agreement ("GIA") for the Project?

A. The Project is in Definitive Interconnection System Impact Study Phase 2 Report/Decision Point 2 and expects to begin GIA negotiations with the Southwest Power Pool ("SPP") in the Fourth Quarter 2021.

Q. Has the Project identified an off-taker for the Project?

A. Bowman Wind is in the process of identifying an off-taker for the Project's output. Potential off-takers include utilities and commercial & industrial customers seeking physical or virtual power purchase agreements ("PPA"). Alternatively, the Project may run "merchant," selling its power directly into the SPP market, or the Project may be sold to a utility who would use the power to directly supply its customer base.

Q. What is the anticipated schedule for the construction and in-service of the Project?

A. Project construction is anticipated to begin as early as Fourth Quarter 2022, and the Project is anticipated to be operational by as early as Third Quarter 2023.

Q. What is the estimated total cost of the Project?

A. The estimated total cost to construct the Project is approximately \$430 million.

III. PROJECT DEVELOPMENT AND PROJECT AREA SELECTION

Q. Please provide an overview of the Project's development history, including the alternatives considered and any changes made to the Project site.

A. Bowman Wind's development of the Project began in 2016 and included a number of changes and refinements to the Project boundary over the course of the almost five-year development history. The history is outlined in more detail in Section 1.2.4.1 of the Application, but the following provides a high level overview.

- In 2016, Bowman Wind identified a general area of wind development interest in southwest North Dakota and northwest South Dakota. In September 2016, Bowman Wind installed two temporary met towers and began collecting and assessing wind resource data.
- In 2017, Bowman Wind initiated consultation with the U.S. Fish and Wildlife Service ("USFWS") and the North Dakota Game and Fish Department ("NDGFD") regarding wildlife and associated study protocols. Also in 2017, Bowman Wind initiated wildlife studies on an approximately 77,000 acre area stretching from U.S. Highway 12 south 18 miles to the South Dakota border.
- In 2018, based on NDGFD's concerns about unbroken grassland and greater sage grouse leks, Bowman Wind expanded its area of interest to add an additional 40 square miles north of U.S. Highway 12, which contains more cultivated cropland. Bowman Wind continued wildlife studies on this enlarged approximately 102,000 area in 2018 and 2019.
- In 2020, Bowman Wind refined the Project area to create distance from the City of Bowman and its area of extraterritorial jurisdiction, and to add additional acreage on the periphery of the Project that contained previously disturbed land. Within the Project area, the layout was iteratively refined to avoid and minimize impacts to wetlands, woodlands, prairie dog colonies, prairie grouse leks, unbroken grasslands, and cultural resources. Several supporting studies were completed in 2020 while land acquisition was ongoing, including sound, shadow flicker, telecommunications, wetlands, and cultural resources.

- In 2021, the Project Area was further refined to include only participating and pending participating parcels. The layout was continually refined based on landowner participation and input, study data, agency input, constructability analyses, and updated studies of the refined layout (e.g., sound and shadow flicker). The result of those efforts is the currently proposed Project Area and Project layout.

Q. What factors make the Project site a good site for wind development?

A. Bowman Wind selected the Project Area because of its extraordinary wind resource, nearby electrical infrastructure for interconnection to the grid, geographic diversification within our portfolio, and local and landowner support. Further, the Project is compatible with the existing land use and environmental features within the Project Area.

Q. Discuss the changes made to the Project boundary between filing the Application with the PSC and submitting the final Project layout.

A. At the time the Application was filed, Bowman Wind was still in the process of trying to secure agreements with landowners for certain parcels, which were identified as "Pending Participant" parcels on the preliminary Project layout map. After the Application was filed and additional agreements were secured, Bowman Wind determined approximately 1,040 of the pending acres were no longer needed for the Project and those parcels were removed from the Project boundary. Additionally, another approximately 160 acres of signed land were removed because of difficulties in securing all the signatures needed for the County permitting process. Finally, Bowman Wind added an 80-acre parcel to the Project boundary as a Pending Participant parcel because the landowner indicated an interest in signing an agreement with the Project.

Q. Has Bowman Wind obtained the necessary property rights to construct the Project within the proposed Project site?

183 A. Yes. Bowman Wind currently holds over 50 agreements with landowner partners
184 covering all land that is needed for the Project.

185
186 **Q. Are you still negotiating any agreements for the Project?**

187 A. Bowman Wind is in the process of signing a good neighbor agreement with one
188 family, and is still in negotiations with another family regarding an underground
189 collection line agreement.

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191 **Q. Can you still construct the Project if you do not obtain agreements for the**
192 **Pending Participation parcels?**

193 A. Yes. If the good neighbor agreement isn't finalized, the Project would need to
194 comply with the County's setback for the residence on that parcel, which would
195 mean we could not use turbine locations T41 or T43. If the underground collection
196 line agreement isn't finalized, Bowman Wind will identify an alternative collection line
197 route on participating land.

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199 **IV. LOCAL OUTREACH**

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201 **Q. Please describe Bowman Wind's community outreach with respect to the**
202 **Project.**

203 A. Bowman Wind has been an active part of the local community throughout the course
204 of the development process. In addition to meetings with individual landowners, the
205 Project hosted community/landowner open houses and dinners in 2017, 2018, and
206 2019, and hosted a booth at the Bowman County Fair to share Project information
207 with the broader community. Due to the challenges and restrictions associated with
208 the COVID-19 pandemic, during 2020 and part of 2021, Bowman Wind shifted to
209 virtual meetings, including several rounds of site plan reviews with individual
210 landowners to receive input on all proposed Project facilities. Then, in late June
211 2021, Bowman Wind hosted a landowner meeting and engaged in further in-person
212 local outreach.

Q. Discuss Bowman Wind’s outreach with the County.

A. Bowman Wind initiated coordination with the County in 2016. In 2018-2020, Bowman Wind participated extensively in the County’s process to amend its Wind Energy Facility Ordinance. On June 25, 2021, Bowman Wind submitted applications for a Wind Energy Facility Siting Permit and certain variances to the County and is currently waiting for the County to schedule a public hearing on the applications.

In February 2021, Bowman Wind also met (via Zoom) with the County’s road supervisor and engineering firm to discuss haul roads, and is in the process of negotiating a Road Use Agreement (“RUA”) with the County. The RUA will be finalized and approved by the Bowman County Commissioners and up to six townships prior to the start of construction.

Q. Were any concerns raised by the community regarding the Project?

A. In addition to typical questions we received regarding wind projects, below is a summary of additional concerns that were raised:

- Participating landowners raised concerns about locating individual batteries on multiple landowners’ properties across the Project Area. We were able to explain that the batteries would be located in one location, near the substation, and not on multiple landowners’ properties.
- Concerns were raised regarding using and not using PLOTS land.
- Concerns were raised regarding avoiding undisturbed grasslands due to loss of opportunity to host Project facilities and placement of facilities on tilled lands.
- Concerns were expressed about our eagle surveys outside the Project Area in 2019. We addressed that concern directly with the landowner.
- Concerns were raised by a non-participating landowner regarding potential visual impacts from the location of turbine S18a. The turbine is approximately 2823 feet from the landowner’s home, and approximately 2210 feet from this landowner’s property line and Bowman Wind meets all of the required setbacks to site turbine S18a in its current location. However, in an attempt

to accommodate the landowner's continued concerns, Bowman Wind coordinated with the non-participating landowner and developed an alternative turbine location, turbine T18b, which would require a setback waiver from the non-participating landowner. Since filing our final layout, the non-participating landowner has indicated he does not want to sign a setback waiver. Assuming this does not change, Bowman Wind would not construct turbine T18b, as it does not meet all applicable non-participating landowner setbacks.

V. PROPOSED PROJECT LAYOUT

Q. Please describe the factors considered when developing the Project layout.

A. Bowman Wind identified preliminary turbine locations based on a wind resource analysis, engineering considerations, site inspections, topography, known environmentally-sensitive areas, and input from local, state and federal agencies and stakeholders.

Q. Discuss the changes made to the Project layout between filing the Application with the PSC and submitting the final Project layout.

A. After filing the Application, Bowman Wind made minor adjustments to the preliminary Project layout to address constructability concerns, accommodate landowner input, coordinate updates between layout iterations, and to ensure compliance with the most restrictive setbacks between County and PSC requirements. Specifically regarding setbacks, it was determined after the preliminary layout was submitted that the County's road and electric line setback (the greater of 500 feet or 1.1x rotor diameter) had been applied to the layout, but the PSC's more restrictive road and transmission line setback (500 feet or 1.1x tip height) had not. That issue was corrected and the layout was re-analyzed to confirm compliance with all setbacks. Additionally, based on landowner input, Bowman Wind added turbine T18b to the layout as an alternate to turbine S18a; only one of these two turbines would be

constructed, if at all. The adjustments to the Project Boundary and the minor layout revisions are shown on proposed **BW Exhibit 4**.

Q. Did Bowman Wind specifically take into consideration landowner input in the Project's design?

A. Yes. Bowman Wind met with landowners who were anticipated to host Project facilities to review the layout and receive feedback before finalizing the layout. Comments and suggestions made by participating landowners were considered and incorporated into the final layout, when possible.

Q. Has Bowman Wind determined what turbine model it will use?

A. No. Bowman Wind is still determining what turbine model to use for the Project.

Q. What turbines are currently under consideration for the Project?

A. The General Electric ("GE")-127 2.82 MW turbine is the turbine under current consideration for the Project and is the turbine model used throughout the Application for analysis purposes. However, Bowman Wind plans to select the most appropriate technology for the Project in terms of cost efficiency and optimization of wind and land resources, which may result in a different turbine model being selected.

Q. Are the turbine sites dependent upon which turbine model or models you select?

A. For 80 of the 86 proposed turbine locations, Bowman Wind has sited the Project such that the proposed turbine locations meet the PSC and County setbacks for a turbine up to 105 meters (345 feet) in hub height, with an up to 158 meter (519 feet) rotor diameter, and with a total tip height of 184 meters (604 feet), which provides flexibility in turbine model selection. The remaining six proposed turbine locations (T1, T6, T17, T9, T14, and S1) are currently designed to use the GE-127 2.82 MW turbine or a turbine with similar (or shorter) specifications. Regardless of the turbine

model selected, the Project will meet all applicable PSC and County setbacks and other requirements.

Q. Will Bowman Wind limit the total number of turbines constructed within the Project Area to up to 74 turbines?

A. Yes. Although a total of 86 turbine locations are proposed, only up to 74 turbines would be installed.

Q. Will Bowman Wind limit the total megawatts of wind energy constructed within the Project Area to up to 208.7 MW?

A. Yes. The Project will have a nameplate capacity of up to 208.7 MW, with up to 200.1 MW delivered to the grid per the Project's interconnection request. Installing up to 208.7 MW will enable the Project to account for and overcome losses that are associated with turbine availability, turbine performance, and electrical losses within the collection system that may otherwise reduce the output below the authorized interconnection threshold.

VI. SETBACKS

Q. Is the Project designed to comply with all the setback requirements in the Siting Act and the PSC's rules?

A. Yes. The Project is designed to comply with all setbacks outlined in Table 4.2-1 in the Application (proposed **BW Exhibit 1**).

Q. Is the Project also designed to comply with all applicable local setback requirements?

A. With the support of the applicable landowners, Bowman Wind has requested variances from the County's section line setback for ten turbines and a turbine setback variance from a pending participating occupied residence. With those variances, the Project complies with applicable local setback requirements.

Q. In calculating your setback distances, did you measure from the edge of the base of the turbine to the closest point of the applicable feature or specified right-of-way?

A. Yes. All setbacks have been applied measuring from the edge of the base of the turbine tower to the closest point of the applicable feature.

Q. Has Bowman Wind prepared a figure that depicts setbacks and other siting constraints for the Project?

A. Yes, that information is depicted in the constraints map provided as updated Figure 5 (proposed **BW Exhibit 3**).

Q. Does the constraints map show participating and non-participating residences?

A. Yes. The orange dots are non-participating occupied residences, and the purple dots are participating occupied residences.

Q. How were occupied residences identified?

A. Bowman Wind applied multiple strategies to identify occupied residences such as publicly available aerial imagery, driving the site and collecting global positioning system ("GPS") locations, getting feedback from members of the community, and using specific planimetric aerial imagery taken in 2020 of the Project Area. As a result of the analysis, 140 residences were identified as receptors. Additionally, to comply with County setback requirements and the PSC's sound requirement, seven community buildings (one church and six schools) were identified as receptors.

Q. Are there any other features to be considered in turbine siting that are not depicted on the map?

A. Yes. This map does not show the location of cultural resources, which are confidential. Additionally, Exclusion Areas are shown on updated Figure 3 and Avoidance Areas are shown on updated Figure 4 (proposed **BW Exhibit 3**).

Q. Has Bowman Wind also prepared an updated chart summarizing information pertaining to receptors in and around the Project Area?

A. Yes, the updated Receptor Chart is provided as proposed **BW Exhibit 5**. This chart is an updated version of the chart filed with the PSC on July 23, 2021. For those residences within or closest to the Project Area, we have planimetric data, which is more precise and is the data we used to confirm setback compliance. We added a column with this data to the chart for reference.

The chart lists the participant status of the structure, the type of structure, the location of the structure with respect to the Project Area, the nearest turbine to each structure, the distance in feet from the nearest turbine to the approximate center of the structure, the distance in feet from the closest turbine to the nearest edge of the structure, the modeled sound power level in dBA, and the modeled shadow flicker in hours per year.

Q. What is the shortest distance between a Project turbine and a participating landowner's occupied residence and a pending participant landowner's occupied residence?

A. The shortest distance between a Project turbine and a participating landowner's occupied residence is 2,680 feet. This is the distance between Receptor R-40 and turbine S8.

The shortest distance between a Project turbine and a pending participating landowner's occupied residence is 2,084 feet. This is the distance between Receptor R-148 and Turbine T41. The owners of this residence are currently in the process of executing administrative documents for a participation agreement. Should the landowners not sign, turbine T41 would not be constructed.

Q. What is the shortest distance between a Project turbine and a non-participating landowner's occupied residence?

A. The shortest distance between a Project turbine and a non-participating landowner's occupied residence is 2,724 feet. This is the distance between Receptor R-24 and turbine T15.

VII. AVIATION COORDINATION

Q. Could you discuss Bowman Wind's consultation with the DOD and Ellsworth AFB?

A. Yes. In 2017, Bowman Wind sought Determinations of No Hazard from the Federal Aviation Administration ("FAA") for a preliminary turbine layout. In connection with that filing, the U.S. Air Force identified potential mission impacts associated with the Project. Specifically, the Power River Training Complex, used for training missions by Ellsworth AFB (located east of Rapid City, South Dakota), includes a portion of Bowman County. In March 2018, Bowman Wind met with the DOD and Ellsworth AFB to discuss the Project and potential mitigation. The coordination continued throughout 2018, 2019, and 2020, ultimately culminating in November 2020 with the execution of an agreement to mitigate potential effects of Project turbines on airborne doppler radar. In the agreement, an area is identified within which the Project can be developed, the maximum height of turbines is limited to up to 700 feet at tip height, and the maximum number of turbines is limited to 100. Additionally, the agreement outlines curtailment measures for training and national security purposes. A copy of the agreement is provided in Appendix D to the Application (proposed **BW Exhibit 1**).

Q. Is the proposed Project site located within the development area authorized in the agreement with the DOD and the U.S. Air Force?

A. Yes.

Q. Has Bowman Wind discussed lighting with the Department of Defense and Ellsworth Air Force Base?

A. Yes. Bowman Wind's agreement with the DOD and the U.S. Air Force provides that Bowman Wind agrees to ensure compliance with North Dakota light-mitigating technology law. See page 16 of Appendix D to the Application (proposed **BW Exhibit 1**). The agreement also provides that Bowman Wind will install Night Vision Goggle compatible lighting on all turbines associated with the Project that are required to have lighting pursuant to FAA requirements.

Q. Please describe the existing public airports and private airstrips in the vicinity of the Project.

A. The Bowman Regional Airport is the nearest public-use airport to the Project Area and is located approximately 9 miles east of the Project Area. The Bowman Regional Airport serves a variety of general aviation users including general aviation, air taxi, and military. There are no private airstrips in the Project Area.

Q. Please describe the Project's coordination with Bowman Regional Airport.

Q. Bowman Wind coordinated with the Bowman Regional Airport Authority in connection with the County's permitting process. The Bowman Regional Airport Authority provided a letter of approval for the current Project layout. See proposed **BW Exhibit 26**.

VIII.EXISTING INFRASTRUCTURE

Q. Did you consider existing infrastructure in Project design?

A. Yes. In addition applying required setbacks from specified structures, Bowman Wind has designed the Project to avoid impacts to other existing infrastructure, including domestic, stock, industrial, and observational water wells and oil and gas wells and storage tanks. For example, Bowman Wind sited turbines at least one rotor diameter (158 meters) from all existing and active above ground oil and gas wellhead and tank battery locations. Prior to and during construction, Bowman Wind will continue to coordinate with existing infrastructure owners to ensure compatibility between the Project and existing infrastructure.

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459 **IX. ENGINEERING AND OPERATIONAL DESIGN**

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461 **Q. Will the collection system be installed underground?**

462 A. Yes, with the exception of a few above-ground cabling junction boxes, the collection
463 system will be installed underground.

464

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

466 A. Final size and design for foundations are dependent on geotechnical analyses and
467 turbine model selection, but it is estimated that the foundation will be approximately
468 60 feet in diameter and 6 to 12 feet in depth.

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470 **Q. How wide will the access roads be?**

471 A. During construction, access roads will be approximately 150 feet wide. After
472 construction, the permanent access roads will be approximately 16 feet wide.

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474 **Q. What light mitigation technology will be used for the Project?**

475 A. Bowman Wind will coordinate with the FAA on potential implementation of an ADLS
476 for the Project consistent with the PSC's requirements. Lighting would be installed
477 on wind turbines in accordance with FAA requirements.

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479 **Q. What is your understanding of when ADLS is activated?**

480 A. Per FAA Advisory Circular 70/7460-1L – Obstruction Marking and Lighting with
481 Change 2, the ADLS is activated when an aircraft is three nautical miles horizontally
482 and 1,000 feet vertically from the nearest turbines.

483

484 **Q. With respect to the light mitigation technology to be used for the Project, has
485 FAA approval been obtained?**

486 A. Bowman Wind has not yet filed for ADLS FAA approval because Bowman Wind has
487 not yet selected the turbine(s), which is an important element to the ADLS. Bowman

Wind will seek the necessary FAA approval once the final turbine model(s) has been selected.

X. PROJECT CONSTRUCTION

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

A. The Project is expected to employ approximately 300 temporary workers to support Project construction. The construction crews would include skilled labor personnel as well as some unskilled laborers.

Q. Please describe the temporary facilities that will be required for construction of the Project.

A. The temporary facilities that will be required for the construction phase of the Project include a concrete batch plant, laydown areas for an equipment and construction management facility, intersection improvements to facilitate over-length turning, crane paths and working pads, and staging areas for turbine delivery. The temporarily affected areas will be restored to preconstruction conditions, to the extent practicable after construction has been completed, and in accordance with landowner agreements.

Q. Please provide an overview of Project construction.

A. A variety of activities must be completed to carry the Project through construction. Prior to commencement of construction, Bowman Wind will prepare detailed engineering design plans of the Project electrical components, Project substation, battery storage facility, access roads, and turbine foundations. During the construction phase, Bowman Wind will prepare construction areas; construct access roads and install collection lines; construct the Project substation; construct the battery storage facility; install tower foundations and underground cable; and place towers and set turbines. During construction, equipment and worker vehicles will travel to and from the site. Peak construction is anticipated to be in summer and early fall when the majority of the foundation construction, electrical, and substation

work is taking place. Upon completion of construction, heavy equipment will be removed from the site. Following completion of construction, Bowman Wind will restore disturbed areas not intended for permanent aboveground facilities, test Project facilities, and begin commercial production.

Q. Has Bowman Wind developed a weed management plan.

A. Yes. A copy of the Noxious Weed Management and Control Plan is provided as proposed **BW Exhibit 7**. The plan outlines procedures to prevent, manage, and control weeds during Project construction and operations.

XI. PROJECT OPERATION AND MAINTENANCE

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

A. Bowman Wind anticipates that Project operation and maintenance will result in approximately 10 long-term jobs.

Q. Will there be routine, scheduled inspections of the Project to ensure it is operating appropriately?

A. Yes. Following construction, the Project would undergo detailed inspection and testing procedures before becoming operational. Inspection and testing would occur for each component of the wind turbines, as well as the associated communication, meteorological, collection and Supervisory Control and Data Acquisition (“SCADA”) systems. Once operational, the Wind Project will undergo routine inspections consistent with industry standards. For more information on these routine inspections, see Section 5.2 of the Application (proposed **BW Exhibit 1**).

Q. How will the Project be monitored between inspections?

A. The Project will be remotely monitored 24/7 by operations staff via a SCADA system. The SCADA system provides data on turbine generation and production,

availability, meteorology, and communication, and relays alarms and communication errors.

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

A. Yes.

XII. ONE-CALL/EMERGENCY RESPONSE

Q. Will the Project participate in the North Dakota One-Call program, both prior to construction and as a facility owner once the Project is constructed?

A. Yes.

Q. What steps will the Project take to prepare for a potential emergency situation at the Project site?

A. Bowman Wind coordinated with emergency services providers to develop an initial Emergency Response Plan (see proposed **BW Exhibit 6**). During construction, the plan will be updated to conform to manufacturer and vendor safety information for the specific equipment installed at the Project.

XIII.DECOMMISSIONING AND RESTORATION OF PROJECT AREA

Q. Discuss the estimated life of the Project, and decommissioning and restoration of the Project site.

A. The estimated life of the Project is expected to be 30 years. Bowman Wind will file a decommissioning plan for review by the PSC prior to the commencement of operations and comply with the applicable financial assurance provisions. When the Project is decommissioned, Bowman Wind will restore the site in accordance with the PSC's and County's decommissioning requirements.

XIV. PROJECT BENEFITS

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Q. What are some of the benefits of the proposed Project?

A. First and foremost, the Project offers participating landowners the opportunity to generate additional income, while being able to continue to use their land for agricultural purposes. Additionally, the Project will generate tax revenue both locally and for the State, and will also provide temporary and long-term employment opportunities. The Project is also anticipated to increase spending/revenue in the vicinity of the Project due to increased demand for lodging, food services, fuel, and general supplies. Finally, the Project provides an additional renewable energy source.

XV. CONCLUSION

Q. Based on the studies and analyses conducted, and the testimony you have presented today, what are some of the conclusions Bowman Wind has reached regarding the proposed Project?

A. Bowman Wind has sited the Project to comply with applicable local zoning and the PSC’s siting requirements, as well as to minimize potential impacts to existing land uses, cultural resources, natural resources, and existing infrastructure. The Project also has strong landowner and community support, and will provide significant benefits to the local community and the state. Therefore, Bowman Wind respectfully requests that the PSC issue a Certificate of Site Compatibility for the Project.

Q. Does this conclude your Testimony?

A. Yes.