NORTH DAKOTA PUBLIC SERVICE COMMISSION
OLIVER WIND IV, LLC
OLIVER WIND IV ENERGY CENTER
APPLICATION FOR A CERTIFICATE OF SITE COMPATIBILITY
AND
OLIVER WIND IV 345 kV TRANSMISSION LINE CONSOLIDATED APPLICATION FOR A CERTIFICATE OF CORRIDOR COMPATIBILITY AND ROUTE PERMIT

CASE NOS. PU-23-317 AND PU-23-318

JANUARY 17, 2024

PART II

PREPARED TESTIMONY OF
DINA BROWN

I. Introduction and Background

Q1. Please state your name, by whom you are employed, and your business address.

A. My name is Dina Brown. I am employed by NextEra Energy Resources, LLC ("NextEra Energy Resources"). My business address is 601 Travis Street, Houston, TX 77002. I am filing this testimony on behalf of Oliver Wind IV, LLC ("Oliver Wind IV"), an indirect, wholly owned subsidiary of NextEra Energy Resources.

Q2. What is your position with NextEra Energy Resources?

A. I am an environmental services project manager for NextEra Energy Resources in the Mid-Continent Region and am responsible for the state of North Dakota. It is my responsibility to provide oversight of all environmental permitting needed to construct a project, including overseeing environmental consultant work products.

Q3. Briefly describe your educational background and professional experience.

A. I received a Bachelor of Science in Civil Engineering from Texas A&M University and a Master of Science in Forest Science from Oregon State University. I am also a Certified Professional Soil Scientist. I have over 20 years of environmental permitting experience as both a consultant and environmental engineer in the energy industry. During this time, my primary responsibilities have included permitting projects on private and public lands in compliance with federal and state environmental laws.

Q4. Were you involved in the preparation of Oliver Wind IV's applications for the Oliver Wind IV Energy Center ("Wind Project") ("Exhibit 1") and the Oliver Wind IV 345 kV Electrical Transmission Line ("Transmission Project") ("Exhibit 2") (collectively, the "Projects")?

A. Yes. I managed the consultants responsible for conducting environmental studies and preparing the Projects' applications filed in Case Nos. PU-23-317 and PU-23-318 (the "Applications"). I oversaw the studies related to wetlands, land use and land cover, wildlife, cultural resources, architectural history, and acoustic and shadow flicker assessments, as well as preparation of the Applications.

II. Summary of Testimony and Conclusions

Q5. Please briefly summarize the purpose of your testimony.

A. I will testify regarding Oliver Wind IV's environmental study results and the avoidance, minimization and mitigation measures that were implemented for the Projects. My testimony and supporting evidence demonstrate that the Projects will have minimal environmental and human effects and meet the Commission's siting criteria. I will also testify regarding the extensive outreach and coordination Oliver Wind IV has undertaken with relevant agencies and Native American Tribes.

Q6. How is your testimony organized?

A. In Section II, I summarize my testimony and conclusions, and provide an overview of the Projects' history and environmental studies.

In Section III, I describe and explain the results of Oliver Wind IV's environmental analyses, which demonstrate that the Projects will have no or minimal effect on threatened and endangered species; bald and golden eagles; geology; wetlands and woodlands; grasslands; and other wildlife, including sharp-tailed grouse leks and avian use. I also describe the coordination between Oliver Wind IV, the United States Fish and Wildlife Service ("USFWS"), the North Dakota Department of Game and Fish ("NDGFD", and together with the USFWS, the "Wildlife Agencies"), and the North Dakota Department of Agriculture ("NDDA").

In Section IV, I describe Oliver Wind IV's studies of cultural, historic, and Native American Tribal resources, and discuss how Oliver Wind IV proposes to avoid and

mitigate any potential impacts to those resources. I also describe the coordination between Oliver Wind IV and Tribes in the area.

In Section V, I describe the additional coordination that Oliver Wind IV undertook with other interested parties regarding the Projects.

In Section VI, I testify that the Wind Project complies with the Commission's sound and shadow flicker requirements.

Finally, in Section VII, I summarize how the Projects comply with the Commission's siting rules, including relating to Exclusion Areas, Avoidance Areas, Selection Criteria, and Policy Criteria under North Dakota Administrative Code ("N.D. Admin. Code") Chapter 69-06-08.

Q7. Please briefly explain the history of the environmental studies conducted for the Projects.

A. As my colleague, Clay Cameron, describes in his testimony, the Oliver Wind IV project has been under development for some time. In 2019, NextEra Energy Resources, through its subsidiary Red Butte Wind, LLC ("Red Butte"), began the development of the Red Butte Wind Energy Center, which was originally conceived as a 400 MW wind project in the same general area as the Oliver Wind IV project area, including through conducting wildlife, wetlands, architectural history, cultural resources, and Tribal surveys throughout the project area.

In 2023, NextEra Energy Resources split the Red Butte wind project into two separate projects to be developed separately: the Oliver Wind IV 200 MW project and the Red Butte 200 MW wind project, and Oliver Wind IV continued its survey and study efforts for the Projects. Oliver Wind IV conducted or updated studies for areas outside of the Red Butte surveys as needed. As a result, environmental and cultural resources studies completed from 2019 to 2023 provided complete coverage of the Projects. As part of the study and evaluation of the Projects, Oliver Wind IV conducted additional consultation with 36 various local, state, and federal agencies, entities, and officers consistent with the Commission's siting rules (N.D. Admin. Code § 69-06-01-05).

Q8. Please provide a general description of the Projects from a land use perspective.

A. The Projects are located in rural North Dakota in an area predominantly comprised of cultivated land, hayfields, pasturelands, and grasslands. Accordingly, much of the Projects' land is primarily utilized for agricultural purposes that support both livestock grazing and crops.

Q9. What environmental studies were provided to the Commission in support of the Applications?

A. Oliver Wind IV filed the following studies in support of the Applications:[1]

- Avian Use Studies (2019-2020 and 2022-2023) (Wind Project);
- Sharp-tailed Grouse Lek Surveys (May 2019 and April 2020) (Wind and Transmission Projects);
- Raptor Nest Surveys (2020 and 2022) (Wind and Transmission Projects);
- Whooping Crane Habitat Review (2023) (Wind Project);
- Dakota Skipper Habitat Assessment (2023) (Wind and Transmission Projects);
- Bat Summer Presence/Absence Surveys (2019 and 2022) (Wind and Transmission Projects);
- Northern Long-Eared Bat Presence/Absence Acoustic Surveys (2020) (Wind and Transmission Projects);
- Wetlands and Other Waters Delineation Report (2023) (Wind and Transmission Projects);
- Unbroken Grassland Assessment (2023) (Wind Project);
- Cultural Resources (Wind and Transmission Projects) and Architecture History (Wind Project) (2019-2023) Summaries;
- Acoustic Assessment (2023) (Wind Project); and
- Shadow Flicker Assessment (2023) (Wind Project).

[1] Copies of these studies are provided in Appendix B to Exhibit 1 (Wind Project Application), Appendix B to Exhibit 2 (Transmission Project Application).

III. Environmental Analysis of the Projects

Q10. Did Oliver Wind IV develop the Wind Project consistent with recommended processes described in the USFWS's voluntary Land-Based Wind Energy Guidelines ("WEGs")?

A. Yes. While the use and application of the WEGs is voluntary, Oliver Wind IV incorporated and utilized recommendations set forth in the WEGs in developing the Wind Project to avoid, minimize, and mitigate potential adverse effects.

Q11. Please briefly describe the WEGs.

A. The WEGs use a five-tiered, iterative approach for assessing potential adverse effects to species of concern and their habitats during wind project siting, construction, and operation. The first three tiers progressively guide decision making during pre-construction assessments, and the last two tiers relate to post-construction studies. In particular:

- Tier 1 is an evaluation of desktop landscape-scale data;
- Tier 2 includes a broad site characterization and reconnaissance-level site visits;
- Tier 3 includes site-specific field studies;
- Tier 4 includes post-construction studies; and,
- Tier 5 includes additional post-construction studies as needed although such studies are typically unnecessary for most projects.

The WEGs describe decision points after each tier that relate to using data to assess whether potential species of concern are or could be present, the predicted probability of significant adverse impacts and whether any potential impacts can be avoided, minimized, or mitigated. At each tier, decision outcomes include choices such as abandoning further development of the site, gathering site-specific data to address uncertainty, and/or modifying the project to avoid impacts or mitigating any remaining adverse impacts. Consistent with the approach set forth in the WEGs, during various stages of project development, Oliver Wind IV evaluated the outcomes at each tier, and assessed whether impacts could be sufficiently avoided, minimized, or mitigated, before deciding to proceed with development.

Furthermore, Oliver Wind IV will conduct one-year of post-construction mortality monitoring consistent with Tier 4 and implement a Wildlife Conservation Strategy ("WCS") and a Wildlife Response and Reporting System ("WRRS") throughout the Projects' life. The WCS is a living document of measures to avoid, minimize, and mitigate potential impacts to wildlife from construction and operation. The WCS also includes an adaptive management approach, so that information gathered during post-construction monitoring can be used to inform future management decisions. A WRRS includes reporting protocols to report and document bird and bat fatality during routine maintenance activities. Additional Tier 5 studies are not anticipated because the Wind Project has been designed to produce minimal adverse effects.

Q12. Did Oliver Wind IV develop the Transmission Project consistent with practices suggested by the Avian Power Line Interaction Committee ("APLIC")?

A. Yes. Like the WEGs, the APLIC-suggested practices are voluntary. Oliver Wind IV incorporated and utilized suggested practices in developing the Projects to reduce avian impacts, such as marking the transmission line with bird flight diverters spacing conductors (or wires) to reduce electrocution risk, raptor proofing (*i.e.*, ensuring conductor spacing is adequate to prevent electrocutions) in the transmission line structure design, and burying collection lines.

Q13. Has Oliver Wind IV designed the Projects to avoid, minimize, and mitigate environmental impacts to the greatest extent possible?

A. Yes.

A. Threatened or Endangered Species

Q14. Please describe whether there are any threatened or endangered species or designated critical habitat occurring within the Projects.

A. Oliver Wind IV used the USFWS Information for Planning and Conservation ("IPaC") tool to identify threatened or endangered species or designated critical habitat within the Projects. This tool identified five threatened and endangered species that could potentially occur within the Projects: the whooping crane (endangered), Dakota skipper butterfly (threatened), the northern long-eared bat ("NLEB") (endangered), piping plover

(threatened), and rufa red knot (threatened). No designated critical habitat for any threatened or endangered species is located within the Projects, consistent with the Commission's siting criteria.

Q15. Did Oliver Wind IV identify any of these threatened or endangered species within the Projects during field surveys?

A. Only the NLEB was recorded during field surveys.

Q16. Please describe the findings of Oliver Wind IV's analysis with respect to the NLEB.

A. NLEB presence was documented in low numbers during the bat presence/absence surveys (Exhibit 1, Appendices B14 through B16 and Exhibit 2, Appendices B8 through B10), suggesting minimal risk exposure to NLEB from construction and operation of the Projects, particularly near forested areas. Specifically, NLEB were detected at two sites during 2019 surveys, at one site during the 2020 surveys, and not at all during 2022 surveys. Detections occurred on the eastern edge of the Projects and further east of the Wind Project and south of the Transmission Project towards the Missouri River. The habitat type at the sites where NLEB were detected can be described as forest edge or upland forest.

Q17. Will Oliver Wind IV avoid and minimize potential adverse impacts to NLEB?

A. Yes. First, all turbines have been sited greater than 1,000 feet from potential habitat within the range of the NLEB.

In addition, to minimize potential impacts to the NLEB and its roosting habitat during the active season, the Projects have minimized tree removal. Where necessary, tree removal restrictions will be in effect from April 1 to October 31 within a three-mile conservation buffer around the three NLEB detection locations within and near the Projects; this restriction is consistent with the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines ("Guidelines").[2] During this time, trees within the conservation buffer considered suitable roosting habitat will be retained and not removed unless an emergence survey is completed for each tree pursuant to the USFWS Guidelines to ensure bats are not roosting.

[2] USFWS, 2023. Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines. U.S. Fish and Wildlife Service, Region 3, Bloomington, MN. 76 pp.

Finally, the Project has been designed to minimize potential impacts to NLEB during operations by implementing turbine curtailment during nighttime during the bat migration and summer use seasons. Turbine curtailment limits the operational output of turbines from April 1 to October 15, which includes the NLEB migration period and summer use period, during low wind conditions when temperatures are 50 degrees Fahrenheit or higher. Based on these avoidance, minimization, and mitigation measures, adverse impacts to NLEB are not anticipated.

Q18. Please describe the findings of Oliver Wind IV's analysis with respect to whooping cranes.

A. Oliver Wind IV's studies establish that the Projects are unlikely to have adverse impacts on whooping cranes (Exhibit 1, Appendix B13 and Exhibit 2, Appendix B7). There is no federally designated whooping crane critical habitat within or near the Projects, or within the state of North Dakota, and no USFWS whooping crane sightings have been recorded within the Project Area during Oliver Wind IV's surveys. However, the Projects are located within the western half of the 50 percent whooping crane migratory corridor, and there is one historic record of a whooping crane occurrence within the Wind Project Area from a telemetry dataset published by U.S. Geological Survey. During surveys, no whooping cranes were observed stopping over, foraging, or roosting on the ground within the Wind Project during avian use surveys or incidentally during other field surveys.

Q19. Will Oliver Wind IV avoid and minimize potential adverse impacts to whooping cranes?

A. Yes. Oliver Wind IV's studies showed that there is a low potential for interaction between the Projects and whooping cranes in any given year, and thus, the Projects have been sited to avoid potential adverse impacts to whooping cranes.

In addition, Oliver Wind IV will implement certain mitigation measures to minimize the likelihood of impact from the Projects to whooping cranes even further. At the Wind Project, Oliver Wind IV will curtail operations if whooping cranes are observed within the Project Area or within one mile of turbines. The curtailment will remain in effect until it can be confirmed through visual verification that there are no whooping cranes on either the ground or overhead of any turbines within a one-mile radius for at least

a length of 15 minutes. Oliver Wind IV also will equip the Transmission Project with bird flight diverters consistent with APLIC-suggested practices, which will increase visibility, thereby reducing collision risk with transmission facilities.

Q20. Please describe the findings of Oliver Wind IV's analysis with respect to the Dakota skipper butterfly.

A. According to USFWS, the Dakota skipper has previously been documented in three townships in Oliver County. There is no designated critical Dakota skipper habitat in Oliver or Mercer counties. The closest township to the Projects with previously documented Dakota skipper occurrences is located in Oliver County approximately two miles from the Wind Project Area and approximately 1.4 miles south from the Transmission Project Corridor.

Oliver Wind IV assessed a survey area of approximately 1,161 acres in areas where the Projects overlapped with areas of unbroken grasslands, to determine if potential Dakota skipper habitat occurred within the Projects (Exhibit 1, Appendix B17 and Exhibit 2, Appendix B11). The survey area included the current Wind Project design, as well as areas previously considered for development. Within this surveyed area, Oliver Wind IV identified approximately 0.26 acres of suitable Dakota skipper habitat within the Wind Project construction easement and approximately 0.1 acres of suitable habitat within the Transmission Project.

Q21. Will Oliver Wind IV avoid and minimize potential adverse impacts on the Dakota skipper?

A. Yes. Oliver Wind IV designed the Projects' infrastructure to avoid Dakota skipper suitable habitat and will avoid all surface impacts. No construction activities will occur within identified suitable Dakota Skipper habitat. For the Wind Project, to avoid impacts to Dakota skipper habitat, Oliver Wind IV will bore collection lines under the identified suitable habitat or route around suitable habitat. For the Transmission Project, Oliver Wind IV will span suitable habitat. In addition, during construction, Oliver Wind IV will place high-visibility fencing around any field-verified suitable habitat to ensure that construction equipment does not disturb these areas. For these reasons, adverse impacts to Dakota skipper are not anticipated.

Q22. Please describe the findings of Oliver Wind IV's analysis with respect to the piping plover.

A. The piping plover is a water-dependent shorebird known to use specific habitat, such as gravelly or sandy beaches or sandbars. The closest designated critical habitat is approximately seven miles from the nearest Wind Project turbine and approximately 0.9 miles from the Transmission Project Corridor. No piping plovers were observed during avian use surveys (Exhibit 1, Appendices B7 and B8). Therefore, adverse impacts to piping plovers are not anticipated.

Q23. Please describe the findings of Oliver Wind IV's analysis with respect to the rufa red knot.

A. The rufa red knot is a water-dependent shorebird. There are no stopover sites consistently used by red knots or designated critical habitat within the state of North Dakota. No red knots were observed during avian studies (Exhibit 1, Appendices B7 and B8). Therefore, adverse impacts to the rufa red knot are not anticipated.

B. Bald and Golden Eagles

Q24. How are bald and golden eagles treated under federal environmental law?

A. Bald and golden eagles are not considered "threatened or endangered" under the Endangered Species Act. Eagles are protected under the Migratory Bird Treaty Act ("MBTA") and the Bald and Golden Eagle Protection Act ("BGEPA"). The BGEPA does not designate critical habitat, but it does protect individual eagles and nests from disturbance.

Q25. Please describe the findings of Oliver Wind IV's analysis with respect to bald and golden eagles.

A. Bald and golden eagles occur in the Projects; during surveys, golden eagles were recorded in the spring, summer, and fall, and bald eagles were recorded in all seasons (Exhibit 1, Appendices B7 and B8). However, overall eagle use was low compared with other large bird species. In total, 38 bald eagle observations and four golden eagle observations were recorded across all years of large bird use surveys within the Wind Project. Further, Oliver Wind IV's studies did not identify extensive suitable nesting habitat in the Projects. Nest

surveys did not locate any eagle nests within the Wind Project Area. One active bald eagle nest was documented 2.4 miles east of the Wind Project Area and 5.1 miles east of the Transmission Project Corridor. Thus, adverse impacts to bald and golden eagles are not anticipated.

Q26. What additional activities is Oliver Wind IV undertaking to avoid and minimize any potential impacts to bald or golden eagles?

A. As explained above, Oliver Wind IV will implement APLIC-suggested practices to minimize impacts to bald and golden eagles, including outfitting the Transmission Project with bird flight diverters. This will increase visibility of the lines for large raptors such as eagles, thereby reducing collision risk. In addition, to confirm the prior eagle and raptor nest study results, prior to construction, Oliver Wind IV will perform a nest survey within the Wind Project for non-eagle raptors and eagles and will survey a two-mile buffer around both Projects for eagle nests. Lastly, all trees requiring clearing (*e.g.*, tree rows) will be surveyed immediately ahead of construction for the presence of any raptor nests built after the pre-construction survey or otherwise previously undetected, which is a standard NextEra procedure.

Any newly found occupied or active eagle nests will be avoided by a minimum of 660 feet for bald eagle nests and 0.5 mile for golden eagle nests during construction until the nests become inactive (*i.e.*, when eggs or chicks are absent from the nests).

C. Other Wildlife, including Sharp-Tailed Grouse and Avian Use

Q27. Please describe any important results from other wildlife studies, including sharp-tailed grouse surveys and avian use.

A. In addition to the studies and results described above, Oliver Wind IV conducted wildlife surveys to evaluate general avian species and sharp-tailed grouse use of the Projects to help inform avoidance and minimization efforts. During two years of survey, avian use studies did not identify any federally listed species. Use was predominately upland game birds (*e.g.*, pheasants), waterfowl, and waterbirds, all common groups within North Dakota. Red-tailed hawks were the primary raptor species observed, again a common species within central North Dakota. Avian use within the Projects did not appear to be driven by

landscape features such as drainages, ridges, or waterbodies and was more broadly observed across the area.

Sharp-tailed grouse lek surveys were conducted during two spring seasons. A total of six sharp-tailed grouse leks were located within or adjacent to the Project Area. Most leks were located within the northeastern portion of the Wind Project with one along the Transmission Line.

Q28. How has Oliver Wind IV avoided, minimized, and mitigated any potential impacts to sharp-tailed grouse?

A. Through its design and siting of the Projects, Oliver Wind IV has achieved the minimal adverse impact threshold for wildlife, including the sharp-tailed grouse. With respect to sharp-tailed grouse leks specifically, Oliver Wind IV has sited wind turbine locations at least 0.5 mile from confirmed sharp-tailed grouse leks and will minimize construction activities to the extent practicable within 0.5 miles of known sharp-tailed grouse lek locations during the lekking and breeding seasons.

To address and mitigate the potential for indirect impacts to grassland birds, including sharp-tailed grouse leks, Oliver Wind IV is providing voluntary offsets as outlined in the Memorandum of Understanding ("MOU") with the NDDA, as noted in the NDGFD December 29, 2023 letter to the Commission (Exhibit 7) and explained in more detail below. In its comment letter, NDGFD noted that, in general, with the mitigation agreed to as part of the MOU, the Project has "sufficiently offset impacts to wildlife." Specifically with respect to sharp-tailed grouse leks, while NDGFD identified a recommendation in its December 29, 2023 letter that turbines in grasslands be located outside of a two-mile buffer from known leks, in lieu of moving turbines, NDGFD recommended that Oliver Wind IV monitor the known leks for five years after Project construction. Oliver Wind IV commits to implement this recommendation from NDGFD and will monitor the six identified leks after Project construction.

Q29. Has Oliver Wind IV sited the Projects to exclude areas critical where animal or plant species that are unique or rare to the state would be irreversibly damaged?

A. Yes. Consistent with the Commission's designated Exclusion Areas in its siting criteria, Oliver Wind IV has designed the Projects to exclude areas where animal or plant species that are unique or rare to the state would be irreversibly damaged.

D. Geology

Q30. Please briefly explain the Projects' desktop review and field studies of geologically unstable areas.

A. Oliver Wind IV completed a desktop review of the Projects using the North Dakota Geological Survey ("NDGS") landslide mapping data products as recommended by the NDGS. In addition, as part of standard engineering practice for proper foundation design, a geotechnical investigation was initiated in 2023 to characterize the soils and geology at the Projects. As part of the geotechnical investigation, a geophysical assessment was conducted at select turbine and transmission line structure locations to determine if suitable subsurface conditions were present to support structure foundations. No areas of instability were observed during the geophysical investigation. The geotechnical investigation confirms that the Projects' sites are suitable for construction.

In addition, Oliver Wind IV confirmed through desktop studies, field surveys, and discussions with landowners that the Projects are not sited on current sand or gravel mining operations.

Q31. How has Oliver Wind IV designed the Projects to ensure they avoid areas that are geologically unstable?

A. With respect to the Wind Project, no turbines have been located within mapped landslide deposits. With respect to the Transmission Project, mapped landslide deposits within the Project Corridor are located between transmission structures 95 and 96 and between transmission structures 116 and 117. The Transmission Project has been designed to avoid these areas by spanning these mapped locations. Per the recommendations of NDGS, geologically unstable areas (*i.e.*, areas mapped as landslide deposits) have been avoided when selecting locations for wind towers and transmission line structures.

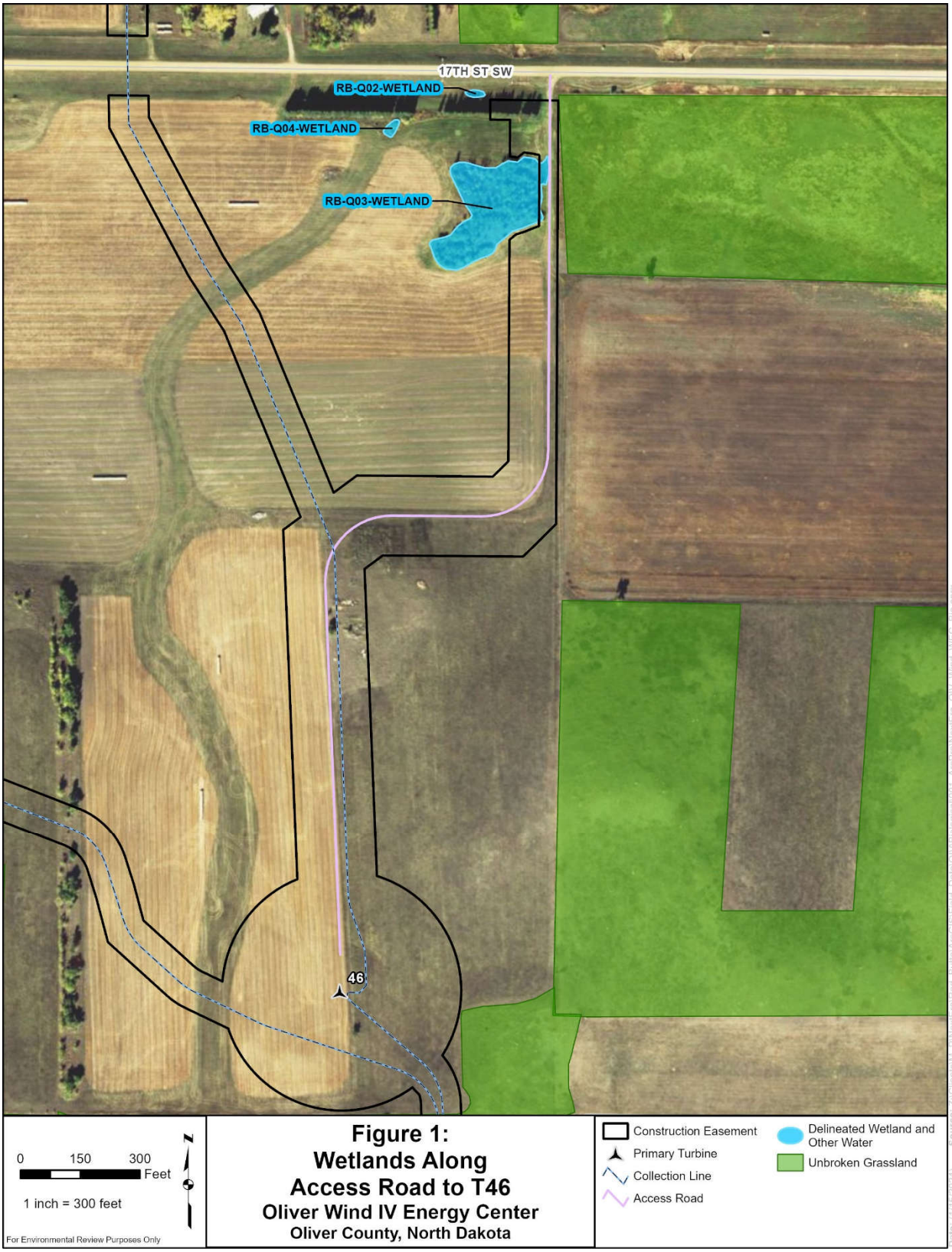
E. Wetlands and Woodlands

Q32. Please briefly explain the Projects' potential impacts on wetlands.

A. As I stated above, Oliver Wind IV has sited the Projects to avoid impacts to wetlands to the greatest extent possible. The Transmission Project has been sited to avoid permanent impacts to all wetlands. The Wind Project avoids all permanent impacts to wetlands except for one impacted wetland.[3] Permanent and temporary wetland impacts are negligible and anticipated to total 0.05 acre. The one impacted wetland location is associated with the access road to Turbine 46, as depicted in Figure 1 below. For the reasons I will subsequently explain, there is no reasonable alternative to impacting the wetland in this location.

The wetland is located along an existing quarter-section dirt trail. To minimize impacts, and working with the landowner, Oliver Wind IV has sited the access road to Turbine 46 along the existing trail, which also runs along the edge of the landowner's agricultural field. The existing trail currently intersects the wetland in this location. Other options explored for this access road would have required Oliver Wind IV to build the access road across cropland or unbroken grassland. However, these options were rejected to (1) preserve unbroken grassland, (2) avoid disruption to the landowner's ongoing agricultural activities, and (3) utilize the existing dirt trail. All remaining impacts to wetlands have been avoided through siting of the Wind Project.

[3] This is one less wetland than what was stated in the Wind Project Application because Oliver Wind IV is no longer proposing to construct Turbine 35.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For Environmental Review Purposes Only
Figure 1:
Wetlands Along
Access Road to T46
Oliver Wind IV Energy Center
Oliver County, North Dakota
Construction Easement
Primary Turbine
Collection Line
Access Road
Delineated Wetland and Other Water
Unbroken Grassland
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Date: (1/15/2024)

Q33. Please briefly explain the Projects' potential impact on woodlands.

A. The Projects lack large, contiguous woodlands, and impacts to woodlands are not anticipated.

F. Trees and Shrubs

Q34. Please briefly explain the Projects' potential impact on trees and shrubs.

A. Overall impacts to trees and shrubs are anticipated to be minimal. For unavoidable tree and shrub impacts during construction, Oliver Wind IV will comply with the Commission's Tree and Shrub Mitigation Specifications and submit a tree and shrub inventory and replacement plan for Commission review and approval. Therefore, adverse impacts to trees and shrubs are not anticipated.

Q35. With respect to tree and shrub clearing, does Oliver Wind IV request the ability to clear an area wider than 50 feet in some locations within the Projects?

A. Yes. For the Wind Project, Oliver Wind IV requests clearance of up to 600 feet in width for nine turbine locations to accommodate construction and final turbine placement to remove obstructions from adjacent tree rows. These locations are depicted in detail in Exhibit 1, Figure 13. Along the Transmission Project, Oliver Wind IV will need to maintain clearance of its right-of-way up to 150 feet wide for the safety of facility infrastructure and monitoring purposes.

G. Grasslands

Q36. Please describe the types of grasslands located within the Projects.

A. The Projects are in rural North Dakota in an area predominately comprised of cultivated land, hayfields, pasturelands, and grasslands. Oliver Wind IV completed a desktop land use classification and classified parcels of land based on several features (Exhibit 1, Appendix B5). With respect to grasslands, land use was categorized as follows:

- Cropland – parcels of land that are currently being used for agricultural crop production;

- Broken grassland – grassland where the soil has been historically disturbed by tilling, construction, or other mechanical methods; and

- Unbroken grassland – grassland where soil has not been disturbed by tilling, construction, or other mechanical methods. Unbroken grassland includes native prairie and areas used as pasture and hayland that have not been historically broken (*e.g.*, cultivated or mechanically cleared of rocks).[4]

Q37. Please describe the siting efforts that Oliver Wind IV undertook to avoid and minimize impacts from the Projects to grasslands.

A. Through Oliver Wind IV's siting efforts, and coordination with the Wildlife Agencies, Oliver Wind IV avoids and minimizes the amount of unbroken grassland included within the Wind Project. Oliver Wind IV designed the Wind Project to avoid unbroken grassland, including ensuring that the wind turbines, ADLS towers, MET tower, O&M facility, construction batch plant, collection substation, and construction laydown yards are not located in unbroken grasslands. There are only minimal permanent impacts to unbroken grassland from the Wind Project along a turbine access road, *i.e.*, less than one acre of unbroken grassland (0.3 acres) will be permanently impacted by the access road to Turbine 24. In designing this access road, Oliver Wind IV selected the shortest route from the existing roadway to the turbine to minimize impacts. Oliver Wind IV also has avoided all impacts to USFWS grassland easements. In addition, there are only minimal permanent impacts (0.06 acres) from Transmission Project infrastructure to unbroken grasslands.

Q38. Will Oliver Wind IV restore temporarily disturbed areas?

A. Yes, Oliver Wind IV understands and agrees that reclamation, fertilization, and reseeding of temporarily disturbed lands is to be done according to the Natural Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.

[4] As used in my testimony, native prairie is defined as a type of unbroken grassland, but not all unbroken grassland is native prairie. As described above, unbroken grassland is classified based on soil integrity and history of mechanical manipulation of the soil. Some unbroken grasslands may contain introduced, non-native, or invasive grassland species that are of lower wildlife habitat value, whereas native prairie includes a high-quality composition of grassland and forb species that support a high diversity of grassland-associated wildlife species.

H. Coordination with NDGFD and NDDA

Q39. Please describe Oliver Wind IV's coordination with NDGFD and NDDA regarding the Projects.

A. Oliver Wind IV has worked closely with the NDGFD since 2019 on wildlife and wildlife habitat avoidance and minimization considerations for the Projects. This coordination resulted in, among other things, modification of the Project area and layout to remove all turbines from unbroken grasslands, adjustments to the Project area to the west and away from the Missouri River, and the establishment of setbacks from eagle nests and leks. This coordination is described in more detail in the Applications and in Oliver Wind IV's Wildlife Coordination and Mitigation Measures Memorandum (Exhibit 9).

Beginning in 2023, Oliver Wind IV conducted further coordination with the NDDA on how to address voluntary mitigation measures calculations under North Dakota Century Code section 4.1-01-21.1 so that NDDA can develop and implement those mitigation offsets on behalf of Oliver Wind IV. This overall process resulted in an MOU between Oliver Wind IV and the NDDA that was executed on December 19, 2023, as described in the Wildlife Coordination and Mitigation Measures Memorandum (Exhibit 9) and in the agency correspondence provided in this proceeding by both NDDA and NDGFD (Exhibits 7 and 8). Throughout the development of this MOU, Oliver Wind IV closely coordinated with both NDDA and NDGFD, including by utilizing the method recommended by the NDGFD for calculating voluntary offset or mitigation measures to address potential residual indirect impacts. NDGFD explained in its December 29, 2023 letter commended Oliver Wind IV for taking "several steps to avoid and minimize impacts" and for "voluntarily commit[ting] to offsetting 665 acres of grassland habitat." Oliver Wind IV expects to coordinate further with both NDDA and NDGFD in implementing the voluntary offset package established through the MOU.

IV. Cultural, Historic, and Tribal Resources

Q40. Please briefly describe the cultural and historic resource assessments conducted for the Projects.

A. Oliver Wind IV consulted with the North Dakota State Historic Preservation Office ("NDSHPO") regarding survey methodology, reporting, and mitigation. To assess

potential cultural resources, Oliver Wind IV performed a Class I Literature Search and a Class III Intensive Inventory (Exhibit 1, Appendix B4 and Exhibit 2, Appendix B1). A Class I Literature Search is the background research that identifies cultural resources that have already been previously documented, or cultural resources that are known but need further study. This was completed within the Projects plus a one-mile study area. The Class III Intensive Inventory is a systematic, detailed field inspection to identify cultural resources in previously un-surveyed areas, update previously recorded resources, and make determinations of a resource's significance. A Class III inventory was completed for all areas to be temporarily and permanently impacted.

Oliver Wind IV assessed the potential for historic architectural resources in the Wind Project by performing a historic resource assessment or Architectural Inventory through a Class II Reconnaissance Inventory of architectural resources. Consistent with NDSHPO guidelines, this was completed within two miles of Wind Project turbines. In September 2023 correspondence, the NDSHPO determined that an Architectural Inventory was not required for the Transmission Project (Exhibit 2, Appendix C5).

Q41. Please describe the results of the cultural and historic resource assessments that Oliver Wind IV conducted for both Projects.

A. A portion of the Projects were covered under cultural and historic resource assessments conducted for the Red Butte wind project in 2019 and 2020. The NDSHPO concurred with the cultural and historic resource assessment results for the surveys in June and July 2021 (Exhibit 1, Appendices B4 and C5).

Further inventories of the unassessed areas of the Projects were completed in 2022 and 2023 (Exhibit 1, Appendix B4 and Exhibit 2, Appendix B1). Sites recorded during cultural surveys included Native American sites and site leads, Euro-American sites and site leads, architectural sites and site leads, and one multicomponent site. Nearly all of the Native American sites or site leads were lithic scatters or stone circle sites. The Euro-American sites include collapsed abandoned farmsteads, foundations, cultural material scatters, or a combination of these feature types. The Class III Cultural Resource Inventory Reports concluded that none of the unevaluated or eligible sites will be impacted by the Project's temporary construction easement or permanent infrastructure. These cultural assessments are being reviewed by NDSHPO and, based on discussions, Oliver Wind IV

anticipates NDSPHO's concurrence with the Class III results.

The architectural inventory was completed for the Wind Project to identify architectural resources within two miles of all proposed turbine locations. The documented historic architectural resources included homes, barns, garages, sheds, livestock shelters, churches, grain bins, schools, and cemeteries. One of the documented sites is an early Ethnic/Vernacular style farmhouse, which is a rare and unique example of this type of farmhouse. This site is eligible for the National Register of Historic Places ("NRHP"). Further, one additional site, an abandoned farmstead contains two Ethnic/Vernacular stone buildings, which are also eligible for the NRHP. Both sites are outside the Wind Project, but within the two-mile architectural assessment area around turbines. For the 2022-2023 architectural inventory, NDSHPO concurred with the NRHP eligibility determination on December 7, 2023 and recommended mitigation measures, which Oliver Wind IV is implementing as described below.

Q42. Has Oliver Wind IV consulted and coordinated with local Native American Tribes in connection with cultural resource investigations for the Projects?

A. Yes, Oliver Wind IV conducted extensive tribal outreach, beginning in 2019, and continuing throughout development of the Projects. Oliver Wind IV completed surveys for sites of tribal significance in 2019, 2020, 2022, and 2023. Traditional cultural surveyors from the Rosebud Sioux Tribe, Turtle Mountain Band of Chippewa Indians, Northern Cheyenne Tribe, Northern Arapaho Tribe, Standing Rock Sioux Tribe, and the Spirit Lake Sioux Tribe participated in these surveys. Oliver Wind IV has designed the Projects to avoid impacts to documented sites. The NDSHPO concurred with Oliver Wind IV's study results in the June and July 2021 concurrence letters. As I noted above, NDSHPO is reviewing the 2022-2023 study results for the Projects, including the results of the Tribal surveys, and, based on discussions, Oliver Wind IV anticipates NDSHPO concurrence with the results of these additional studies.

Q43. Will the Projects impact the identified cultural and historic sites?

A. The Projects avoid direct impacts to sites eligible or potentially eligible for listing on the NRHP, sites that may be deemed culturally sensitive, sites significant to the tribes, or sites that have not been evaluated for NRHP eligibility. The avoidance approach incorporates

buffers recommended by Oliver Wind IV's environmental consultant and tribal traditional cultural surveyors and approved by the NDSHPO per their concurrence.

According to NDSHPO, there are potential indirect viewshed impacts to one historic farmstead site and one historic dwelling; however, Oliver Wind IV has discussed with NDSHPO that these indirect impacts are purely visual and minimal in nature. Both resources are located outside the Wind Project, with the nearest turbines approximately 0.64 and 1.5 miles from each site. Although the two historic sites are located outside of the Wind Project, Oliver Wind IV is actively working to mitigate these indirect viewshed impacts in coordination with NDSHPO.

Q44. Please describe these additional mitigation efforts.

A. Oliver Wind IV's mitigation plan includes documentation of both historic sites to a State Historic American Buildings Survey ("HABS") Level III specification. Oliver Wind IV met with the NDSHPO on December 20, 2023, and NDSHPO agreed in correspondence from December 21, 2023 (Exhibit 10) that the potential indirect impacts to the sites are minimal, and the mitigation efforts proposed will be sufficient to offset these impacts.

Q45. Does Oliver Wind IV have procedures in place to address previously unidentified cultural resources encountered during construction?

A. Yes. Oliver Wind IV will implement an Unanticipated Discovery Plan ("UDP") to guide activities if cultural resources are identified during construction. The UDP establishes: the proper procedure to follow for stopping work and securing the area around an identified resource; a communications plan for the Projects' archaeologist, NDSHPO, tribes, and Oliver Wind IV; and permissions needed for work to resume.

V. Additional Project Coordination

Q46. Other than the list of designated agencies cited under N.D. Admin. Code 69-06-01-05 code, did Oliver Wind IV discuss the Projects with any other agencies or organizations?

A. Yes. Throughout the Projects' development, Oliver Wind IV has engaged with personnel at the National Park Service ("NPS") regarding the Knife River Indian Villages National Historic Site ("Knife River Indian Villages"), which is located approximately 9.5 miles

northwest of the closest wind turbine and 3.2 miles north of the closest transmission structure.

Q47. Please describe this outreach to the NPS.

A. Outreach to the NPS regarding the Knife River Indian Villages originally began as early as 2015, during the Projects' early development stages. Throughout the development process, Oliver Wind IV and its predecessors have engaged in multiple rounds of discussions with NPS to obtain feedback about the Projects. Oliver Wind IV reengaged the NPS, specifically Knife River Indian Villages, in May 2023. In July 2023, NPS identified possible indirect visual impacts that the development of the Projects may have on views from Knife River Indian Villages to other areas within the park and on the landscape outside of the park, including from Fort Clark State Historic Site, an archaeological site located 7.3 miles southeast of Knife River Indian Villages. Fort Clark State Historic Site is located 6.8 miles east-northeast of the closest wind turbine and 1.7 miles east-southeast of the closest transmission structure.

Q48. Please summarize the work Oliver Wind IV has done regarding the questions raised by NPS.

A. Oliver Wind IV completed a viewshed analyses for the Projects including visibility modeling and the rendering of photographic simulations of the Projects from key observation points. Oliver Wind IV followed the guidance of the NPS, which provided Oliver Wind IV with the locations of important viewpoints within Knife River Indian Villages and the directions of those views. Five key observation points were identified within the Knife River Indian Villages park boundary and one within the Fort Clark State Historic Site boundary. As suggested by the NPS, Oliver Wind IV utilized procedures outlined in the U.S. Bureau of Land Management visual resources management handbook to evaluate views toward the Projects from the Knife River Indian Villages and Fort Clark State Historic Site. Throughout Oliver Wind IV's consultation with NDSHPO, NDSHPO has not expressed any concerns regarding indirect visual impacts to either the Knife River Indian Villages or Fort Clark State Historic Site.

Q49. Please explain the results of the viewshed analysis and photographic simulations completed for the Projects.

A. The Projects will not visually detract from the viewsheds of Knife River Indian Villages or Fort Clark State Historic Site because of the distance of the Projects' features and the similarity of these features with other existing infrastructure on the landscape, including multiple existing overhead electric transmission lines, wind turbines, the stack from the Leland Olds Power Station, and the Stanton water tower. The results of Oliver Wind IV's viewshed analysis and photographic simulations indicated that the Wind Project may be visible on the distant horizon from two of the five key observation points within Knife River Indian Villages, and both Projects will be visible from the key observation point at Fort Clark State Historic Site. However, Oliver Wind IV does not anticipate that the Projects will have material impacts on either site.

VI. Sound and Shadow Flicker

Q50. Please describe the results of the acoustic assessment conducted for the Wind Project.

A. Oliver Wind IV's acoustic assessment is provided as Exhibit 1, Appendix B2. The acoustic modeling results indicate that predicted sound limits will not exceed the Commission's current sound limit of 45 dBA within 100 feet of an inhabited residence or community building. The maximum predicted sound limit at any occupied residence is 45 dBA at 100 feet, and thus the Wind Project complies with the Commission's Avoidance Criteria. Oliver Wind IV will provide the most current acoustic results to reflect the Wind Project's continued development (*e.g.*, the removal of Turbine 35, updated land acquisition status) prior to the hearing in this proceeding.

Q51. Please describe the results of the shadow flicker assessment for the Wind Project.

A. The generally accepted industry standard utilized by the Commission to assess shadow flicker is no more than 30 hours per year of shadow flicker at an occupied receptor. Oliver Wind IV's shadow flicker assessment is provided at Exhibit 1, Appendix B3. The maximum predicted shadow flicker impact at any occupied residence is 30 hours per year, which is less than the industry standard. Oliver Wind IV also will provide the Commission updated shadow flicker results prior to hearing.

VII. Compliance with the Commission's Siting Rules

Q52. Are you familiar with the Exclusion Areas, Avoidance Areas, Selection Criteria, and Policy Criteria identified in Chapter 69-06-08 of the North Dakota Administrative Code?

A. Yes. The studies and surveys conducted for the Projects included an assessment of the Commission's Siting Criteria.

Q53. Are there any Exclusion Areas located within the Projects?

A. Yes. The Exclusion Areas that are present within the Wind Project and Transmission Project are designated archaeological sites. However, as discussed in Section IV above, Oliver Wind IV is avoiding impacts to all archaeological sites within the Projects.

Q54. Are there any Avoidance Areas located within the Projects?

A. Yes. The following Avoidance Areas identified in N.D. Admin. Code § 69-06-08-01(3) are present within the Wind Project: historic farmsteads and cemeteries; woodlands and wetlands; and areas that are geologically unstable. With respect to historic sites, NDSHPO and Oliver Wind IV have agreed on mitigation to address visual impacts to two historic sites that are eligible for listing on the NRHP. NDSHPO has agreed that the mitigation efforts proposed will be sufficient to offset the minimal visual impacts. With respect to wetlands, approximately 0.05 acre of impacts to one wetland from the Wind Project is anticipated; however, as previously explained, there are no reasonable alternatives to avoid these negligible impacts. With respect to geologically unstable areas, landslide deposits are present within the Wind Project Area; however, no turbine locations are sited within landslide deposits. Geotechnical studies at each turbine location have confirmed that turbine foundations will not be sited within geologically unstable areas.

In addition, of the Avoidance Areas identified in N.D. Admin. Code § 69-06-08-02(2) for transmission facilities, geologically unstable areas are present within the Transmission Project. Oliver Wind IV has avoided impacts to these areas, as described in Section III.D. above. No transmission line structures are located within NDGS-mapped landslide deposits or geologically unstable areas. Oliver Wind IV is finalizing its geotechnical analysis for the transmission line and will ensure that transmission structures are not located in geologically unstable areas.

Q55. Please address the Commission's Selection Criteria.

A. Of the Commission's Selection Criteria in N.D. Admin. Code §§ 69-06-08-01(5) and 69-06-08-02(3), Oliver Wind IV anticipates no significant adverse effects.[5] There will be minimal adverse impacts to animal health and safety for the reasons discussed in my testimony. Oliver Wind IV will implement measures to avoid and minimize adverse effects to wildlife in the siting of Project infrastructure, including siting turbines at least two miles from active eagle nests and one-half mile from leks. In addition, Oliver Wind IV will implement a WCS, a WRRS, and whooping crane and NLEB curtailment procedures.

There will be minimal impact to native plant life due to siting the Projects predominantly in cropland and broken grassland. Impacts to trees and shrubs will be avoided when possible and replaced according to the Commission's Tree and Shrub Mitigation Specifications when removal is required. The Projects will have minimal, visual impacts to recreational programs and facilities, as the Projects will be visible to landowners and travelers along roadways. However, existing transmission lines, wind facilities and associated access roads, and coal plants and surface mines are already present in the viewshed.

Q56. Please address the Commission's Policy Criteria.

A. Oliver Wind IV has maximized the benefits set forth in the Commission's Policy Criteria in N.D. Admin. Code §§ 69-06-08-01 and 69-06-08-02 to the greatest extent possible.[6] My testimony addresses how the Projects comply with the Commission's Policy Criteria related to monitoring of impacts, in N.D. Admin. Code §§ 69-06-08-01(6) and 69-06-08-02(4). Oliver Wind IV sited the Projects to avoid and minimize impacts to the greatest extent practicable. During construction, environmental inspectors will be present onsite to monitor construction activities and ensure compliance with the conditions of the siting certificates and other permits. Construction staff will undergo training prior to starting work, such as how to interpret constraints maps, how to recognize species like whooping cranes and eagles, and a communication protocol if a nest is found. Oliver Wind IV will implement a WCS, a WRRS, and whooping crane and NLEB curtailment procedures once

[5] Table 3-3.1 in Exhibits 1 and 2 (Wind Project and Transmission Project Applications, respectively).
[6] Table 3-4.1 in Exhibits 1 and 2 (Wind Project and Transmission Project Applications, respectively).

wind turbine construction is complete. Trees and shrubs will be replaced and monitored according to the Commission's Tree and Shrub Mitigation Specifications. Oliver Wind IV also will conduct one year of post-construction bird and bat mortality monitoring in adherence with Tier 4 of the USFWS's WEGs, as I described above.

Q57. Are any remaining local, state, or federal environmental permits or approvals needed for the Projects?

A. As of the date of this testimony, the only other environmental permit or approval that Oliver Wind IV needs to obtain is a *National Pollutant Discharge Elimination System Permit: General Construction Storm Water Permit* administered by the North Dakota Department of Environmental Quality. Oliver Wind IV will obtain this permit prior to construction.

Oliver Wind IV will also be operating under a non-notifying Nationwide Permit 51 for impacts to wetlands from Land-Based Renewable Energy Generation Facilities, administered by the U.S. Army Corps of Engineers. However, because of the limited amount of impacts, below the notification threshold of less than 1/10-acre, no application or pre-construction notification to the U.S. Army Corps of Engineers is required. Oliver Wind IV will comply with all conditions of Nationwide Permit 51.

As I testified above, Oliver Wind IV is anticipating NDSHPO concurrence on the Class III Cultural Resource Inventory Reports for the 2022-2023 archaeology and tribal surveys on the Projects.

Finally, Oliver Wind IV anticipates obtaining a letter of consent for the Transmission Project to cross an irrigation canal that is managed by the U.S. Bureau of Reclamation.

VIII. Conclusion

Q58. In your opinion, has Oliver Wind IV sited the Projects in a manner so that the location and operation will produce minimal adverse effects on the environment, wildlife, and upon the welfare of the citizens of North Dakota?

A. Yes.

Q59. In your opinion, are the Projects compatible with the environmental preservation and the efficient use of resources?

A. Yes.

Q60. Does this conclude your testimony?

A. Yes.