

NORTH DAKOTA PUBLIC SERVICE COMMISSION

**MINNESOTA POWER
LONGSPUR WIND PROJECT
APPLICATION FOR A CERTIFICATE OF SITE COMPATIBILITY
LONGSPUR 230kV TRANSMISSION LINE
CONSOLIDATED APPLICATION FOR A CERTIFICATE OF CORRIDOR
COMPATIBILITY AND ROUTE PERMIT**

CASE NOS. PU-25-304 AND PU-25-305

**MAY 6, 2026
PART III**

**PREPARED TESTIMONY OF
ALEXANDER LUMAN**

1 **I. Introduction and Background**

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

3 A. My name is Alexander Luman. I am employed by Minnesota Power. My business address
4 is 30 W. Superior Street, Duluth, Minnesota 55802. I am providing this testimony on behalf
5 of Minnesota Power, a division of ALLETE, Inc.

6 **Q2. What is your position with ALLETE?**

7 A. I am an environmental compliance specialist for Minnesota Power and I am responsible
8 for permitting and environmental requirements on ALLETE Projects. It is my
9 responsibility to provide oversight of all permitting needed to construct a project, including
10 overseeing environmental consultants' work products.

11 **Q3. Briefly describe your educational background and professional experience.**

12 A. I received a Bachelor of Science in Environmental Science from Northern Michigan
13 University in 2023. I have over two years of experience in permitting, environmental
14 review, and regulatory compliance largely related to energy generation and transmission
15 projects. I have managed or advised teams of consultants on federal, state, and local
16 permitting, acoustic studies, shadow-flicker, wetland and waterbody surveys, habitat
17 assessments, cultural resources surveys, and other related services for projects in the
18 Midwest.

1 **Q4. Were you involved in the preparation of Minnesota Power’s siting applications for**
2 **the Longspur Wind Project (“Wind Project”) and the Longspur 230 kV Electrical**
3 **Transmission Line (“Transmission Line”) (collectively, “Longspur or Projects”)?**

4 A. Yes. I managed the consultants responsible for conducting environmental studies and
5 preparing Longspur’s applications, filed in Case Nos. PU-25-304 (Dkt. No. 1) and PU-25-
6 305 (Dkt. No. 10). I managed the studies related to wetlands and water resources, land use
7 and land cover, wildlife, cultural resources, architectural history, acoustic studies, and
8 shadow flicker assessments. In addition, I managed the preparation of the Morton County
9 Special Use Permit Application, the Mercer County Conditional Use Permit Application,
10 the Consolidated Application for a Certificate of Corridor Compatibility and Transmission
11 Facility Route Permit Application, and the application for a Certificate of Site
12 Compatibility.

13 **II. Summary of Testimony and Conclusions**

14 **Q5. Please briefly summarize the purpose of your testimony.**

15 A. The purpose of my direct testimony is to provide information concerning existing
16 environmental conditions in the proposed Wind Project and Transmission Line Project,
17 Longspur’s environmental studies, and to discuss how Longspur will avoid, minimize,
18 and/or mitigate potential impacts. My testimony and supporting evidence demonstrate that
19 Longspur will have minimal effects on human health and the environment and meet the
20 Commission’s siting criteria. In addition, my testimony will also provide information
21 regarding agency outreach and coordination.

22 **Q6. Do you have any updates to make to the Applications?**

23 A. Yes. After further assessment, Longspur has updated the Grassland Assessment contained
24 in Appendix B5 of the Wind Project Application for the Projects. *See* Attachment C to the
25 May 6 Filing. In addition, Longspur has updated the Wind Project Site Plan at Figure 12
26 of the Wind Project Application to reflect a minor change in the Project Boundary and to
27 clarify details related to a right-of-way for a collector line. *See* Attachment L to the May
28 6, 2026 Filing,

1 On December 18, 2024, Longspur completed a grassland habitat assessment for the
2 Projects. At that time, an approximately 32-acre (ac) parcel along the western portion of
3 the Wind Project Area was classified as “unbroken” grassland based on a combination of
4 North Dakota Game and Fish Department’s (NDGFD) “Native Prairie” layer (2022), aerial
5 imagery review, and a cursory visual review in the parcel. Since that time, Longspur
6 conducted a more specific review of the 32-ac parcel and contacted the landowner
7 regarding possible tilling that may have previously occurred on the parcel. On June 19,
8 2025, the landowner responded in writing that the parcel in question had been previously
9 tilled. This parcel was reclassified as “broken grasslands” and updated in the Wildlife
10 Conservation Strategy (WCS) dated January 29, 2026. Further discussions in March of
11 2026, with the landowner and Longspur confirmed that the parcel was designated by the
12 Farm Service Agency (FSA) as cropland. The landowner indicated that the parcel was
13 planted with alfalfa and actively managed as a hay field. The combination of the FSA
14 designation and the current use of the property as actively managed hay indicates that this
15 parcel is more accurately represented as cropland. *See Attachment C to the May 6, 2026*
16 *Filing.*

17 Longspur updated the Wind Project Site Plan at Figure 12. The updates to this Figure are
18 a revision of the Wind Project boundary made in response to a request from a landowner
19 and a change to clarify a location where Wind Project infrastructure (a collection line) is
20 anticipated to cross from one portion of the Project Boundary to another along a public
21 road right-of-way. The updated Figure 12 map book has been filed as Attachment L to the
22 May 6, 2026 filing. The updated pages in Figure 12 are clearly marked at the bottom of the
23 table section.

24 Longspur updated the sound and shadow flicker reports included in the Wind Project
25 Application at Appendices B3 and B4. The updates do not change the data reported; sound
26 and shadow flicker levels (dba/hour-per-year) remain unchanged. The changes are limited
27 to correcting labeling of receptors. The updated sound and shadow flicker reports are filed
28 as Attachments I and J.

1 **Q7. Did Longspur develop the Wind Project to be consistent with recommended processes**
2 **described in the United States Fish and Wildlife Service’s (USFWS) voluntary Land-**
3 **Based Wind Energy Guidelines (“WEGs”)?**

4 A. Yes. While the use and application of the WEGs is voluntary, Longspur incorporated the
5 Tiered approach and recommendations set forth in the WEGs in developing the Wind
6 Project to avoid, minimize, and mitigate potential adverse effects. In addition to following
7 the WEGs, Longspur incorporated USFWS comments received during a December 2024
8 meeting to discuss the Wind Project’s proposed studies.

9 **Q8. Please briefly describe the WEGs.**

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

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

20 The WEG provides a tiered decision-making approach to quantifying the potential risks of
21 proposed wind projects to species of concern (SOC) and their habitats. Per the WEG, a
22 SOC is any species that: 1) is either a) listed as an endangered, threatened, or candidate
23 species under the Endangered Species Act (ESA), or subject to the Migratory Bird Treaty
24 Act (MBTA) or Bald and Golden Eagle Protection Act (BGEPA); b) is designated by law,
25 regulation, or other formal process for protection and/or management by the relevant
26 agency or other authority; or c) has been shown to be significantly adversely affected by
27 wind energy development; and 2) is determined to be possibly affected by the Project.
28 Consistent with the approach set forth in the WEGs, during various stages of project
29 development, Longspur evaluated the outcomes at each tier, and assessed whether impacts
30 could be sufficiently avoided, minimized, or mitigated, before deciding to proceed with

1 development. The Site Characterization Study conducted by Longspur and coordination
2 with wildlife agencies identified additional Tier 3 field surveys in accordance with the
3 WEGs and Eagle Conservation Plan Guidance (ECPG) to further assess the potential for
4 impacts on wildlife and determine avoidance and minimization strategies. Based on
5 desktop and field survey results, no federally listed endangered or threatened species have
6 been documented within the Longspur project area; however, three species are likely to
7 occur: whooping crane, Dakota skipper, and northern long-eared bat. Longspur is located
8 within the 50% whooping crane migration corridor and whooping crane sightings and
9 telemetry locations have been recorded within 1-mi of the Project Area. Dakota skipper
10 larval habitat surveys were completed in the Wind Project Area and along the Transmission
11 Line. No northern long-eared bats were detected during USFWS approved
12 Presence/Probable Absence surveys or confirmed during the bat acoustic surveys. Based
13 on surveys conducted by Longspur from September 2024 and ongoing, eagle use was
14 limited within the Wind Project Area and no consistent eagle flight patterns were observed.
15 No eagle nests have been identified within Longspur. No turbines are planned for
16 construction in grasslands and other above-ground infrastructure will be sited to minimize
17 disturbance to all grasslands.

18 Furthermore, Longspur will conduct one-year of post-construction mortality monitoring
19 consistent with Tier 4 of the WEGs and implement a Wildlife Conservation Strategy
20 (“WCS”) throughout the Projects’ life. The WCS is a living document memorializing
21 measures to avoid, minimize, and mitigate potential impacts to wildlife from construction
22 and operation. The WCS also includes an adaptive management approach, so that
23 information gathered during post-construction monitoring can be used to inform future
24 management decisions. Additional Tier 5 studies are not anticipated because the Wind
25 Project has been designed to produce minimal adverse effects.

26 **Q9. Did Longspur develop the Transmission Project consistent with practices suggested**
27 **by the Avian Power Line Interaction Committee (“APLIC”)?**

28 A. Yes. Similar to the WEGs, the APLIC-suggested practices are voluntary; however,
29 Longspur has incorporated and utilized suggested practices in developing the Transmission
30 Line Project to reduce avian impacts such as, marking the transmission line with bird flight

1 diverters, and spacing the conductors to reduce electrocution risk or avian interactions (*i.e.*,
2 ensuring spacing between energized conductors and grounded hardware to prevent
3 electrocutions) in the transmission line structure design.
4

5 **Q10. Describe the environmental studies and site assessments filed as part of the Projects’**
6 **Applications.**

7 A. Longspur conducted the following studies in support of the Applications:

- 8 • Microwave Study [2024] (Wind Project)
- 9 • AM and FM Radio Report [2024] (Wind Project)
- 10 • Acoustic Assessment [2025] (Wind Project)
- 11 • Shadow Flicker Assessment [2025] (Wind Project)
- 12 • Grassland Assessment [2024] (Wind and Transmission Projects)
- 13 • Wetlands and Waterbody [2025] (Wind and Transmission Projects)
- 14 • Cultural Resources [2025] (Wind and Transmission Projects)
- 15 • Architectural Resources [2025] (Wind Project)
- 16 • Eagle and Raptor Nest Survey Reports [2024 and 2025] (Wind and Transmission
17 Projects)
- 18 • Northern Long-eared Bat Habitat Desktop Study [2025] (Wind and Transmission
19 Projects)
- 20 • Sharp-tailed Grouse Lek Surveys [2024 and 2025] (Wind and Transmission
21 Projects)
- 22 • Whooping Crane Habitat Assessment [2025] (Wind and Transmission Projects)
- 23 • Northern Long-eared Bat Presence/Absence Surveys [2025] (Wind Project)
- 24 • Dakota Skipper Habitat Survey [2025] (Wind and Transmission Projects)
- 25 • Avian Use Survey [2025 and 2026] (Wind Project)
- 26 • Bat Acoustic Activity Survey [2025] (Wind Project)

1 **Q11. Since the Applications were filed, have any additional or updated reports been**
2 **completed?**

3 A. Longspur conducted an additional Class III survey of the Wind Project area due to shifts
4 in infrastructure during the engineering of the project in quarter four of 2025. The report
5 has been filed with North Dakota State Historic Preservation Office (SHPO) and
6 acceptance was received on April 17th. *See* Attachment A to the May 6, 2026 Filing.

7 Longspur, at the request of the State Historical Society of North Dakota (SHS), conducted
8 an Architectural History study of the Wind Project to assess potential visual impacts from
9 proposed turbines on historically significant architectural resources. The study was
10 conducted in the third and fourth quarters of 2025. All areas within two miles of a proposed
11 turbine were reviewed. Longspur recommended that no historically significant sites will
12 be adversely affected by the Wind Project, due to existing impacts from nearby wind
13 turbines and other existing infrastructure on the landscape. The report has been filed with
14 SHPO and acceptance was received on April 17th. *See* Attachment B.

15 As discussed in my response to question 6, above, Longspur reviewed the grasslands within
16 the Wind Project and conducted a more specific review of the 32-ac parcel. As stated, this
17 parcel is more accurately represented as cropland and the Wind Project's Grassland
18 Assessment has been updated accordingly. *See* Attachment C to the May 6, 2026 Filing.

19
20 **Q12. Are there any additional environmental studies and/or surveys yet to be completed**
21 **for the Projects?**

22 A. Longspur has completed all preapplication and preconstruction surveys, the only remaining
23 environmental studies and surveys for the Projects are the voluntary 2026 Avian Use
24 Survey, raptor nesting surveys, and Post Construction Monitoring.

25 The Project completed its first year of voluntary Tier 3 avian use surveys in accordance
26 with the USFWS WEGs and ECPG to characterize site-specific avian and eagle activity
27 prior to construction. Longspur is currently conducting a second year of voluntary Tier 3
28 avian use surveys following the same USFWS recommendations. The survey will be
29 completed in August of 2026. Results from the first survey year indicated relatively low

1 avian use across seasons, with limited activity by species of concern and generally low use
2 of the rotor-swept zone.

3 Based on these findings, and consistent with the WEG’s risk-based, iterative approach, the
4 Project determined that initiating construction activities during the latter portion of the
5 second survey year would not compromise the ability to identify, avoid, or minimize
6 impacts to avian resources. Construction activities are being scheduled to avoid sensitive
7 seasonal periods where practicable, and avian use surveys will continue through
8 completion of the second year.

9 Longspur is avoiding impacts to raptors during the breeding season by establishing
10 seasonal constraints on construction. Longspur will conduct raptor nesting surveys in 2026
11 for proposed construction and surveys in 2027 to track when young has fledged and
12 dispersed from the nest area.

13 Longspur will conduct one year of standardized post-construction monitoring following
14 the completion of construction and restoration activities.

15
16 **Q13. Please describe Minnesota Power’s assessment regarding threatened and endangered**
17 **species or designated critical habitat occurring within the Project areas.**

18 A. Longspur used the USFWS Information for Planning and Consultation (“IPaC”) tool to
19 identify threatened or endangered species that have been previously documented within the
20 vicinity of the Projects. This tool identified four federally threatened or endangered species
21 and three species proposed for listing: the whooping crane (endangered), piping plover
22 (threatened); Rufa red knot (threatened) and Dakota skipper (threatened). The northern
23 long-eared bat (Endangered) was identified in early project coordination as possibly
24 occurring within the Project area.

25 **Q14. What are the results of Minnesota Power’s analysis regarding Whooping Crane?**

26 A. The Whooping Crane Habitat Assessment showed that there is a low probability of
27 occurrence within the Project area and that the Projects are unlikely to have adverse impacts
28 on whooping cranes. There is no federally designated whooping crane critical habitat
29 within or near Longspur, or within the state of North Dakota, and no USFWS whooping

1 crane sightings have been recorded within the Longspur area during the whooping crane
2 assessment. However, Longspur is located within the western half of the 50 percent
3 whooping crane migratory corridor, and there is a historical record of a whooping crane
4 sighting and telemetry data within the vicinity of Longspur, although not within the Wind
5 Project Area or Transmission Corridor, based on data from the Cooperative Whooping
6 Crane Tracking Project and a telemetry dataset published by U.S. Geological Survey.
7 During the 2025 avian use survey and in the ongoing 2026 avian use survey, no whooping
8 cranes have been observed stopping over, foraging, or roosting on the ground within the
9 Wind Project Area or Transmission Corridor, or incidentally during other biological field
10 surveys.

11 In addition, Longspur will implement certain mitigation measures to minimize the
12 likelihood of impact from Longspur to whooping cranes even further such as conducting
13 training of construction contractors and on-site Project employees for the life of the
14 Projects to identify and report whooping cranes and stop all construction and operation
15 activities within one mile of any observed or reported whooping crane sightings until the
16 birds have departed for at least 15 minutes. During construction, Longspur will perform a
17 visual survey during spring and fall migration prior to starting work and no work will
18 commence until cleared by the site manager. All employees and contractors working in the
19 field will be required to participate in whooping crane trainings.

20 **Q15. What are the results of Minnesota Power’s analysis regarding Piping plover and Rufa**
21 **Red Knot?**

- 22 A. Longspur’s analysis determined that piping plover are unlikely to occur at the Projects due
23 to the distance from Longspur to a site of preferred habitat. Federally designated critical
24 habitat (DCH) for the piping plover occurs throughout the shores of the Missouri River and
25 within the Alkali Lakes Core Area. The nearest DCH is located approximately 29 miles
26 east of the Project along the Missouri River. Longspur is within the range of the piping
27 plover, but not within the primary range. Suitable habitat consisting of sandy, gravelly
28 beaches, sandbars, wetlands, or lakes were not found during a desktop review.
29 The rufa red knot is unlikely to occur at Longspur. Federally DCH has been proposed for
30 the rufa red knot; however, North Dakota is not a part of those proposed locations.

1 Although rufa red knots are found primarily in intertidal habitats, especially near coastal
2 inlets, estuaries, and bays, they have been observed in both alkaline and freshwater lakes
3 of North Dakota during migration as well as within the Missouri River drainage system,
4 sewage lagoons, and large permanent freshwater wetlands. Observations have been
5 scattered throughout the state without consistent stopover sites being observed. Suitable
6 habitat consisting of coastal marine areas, or freshwater lakes were not found during a
7 desktop review. With the absence of preferred nesting and foraging habitat, it is unlikely
8 that the rufa red knot will occur at Longspur.
9

10 **Q16. What are the results of Minnesota Power’s analysis regarding Dakota skipper?**

11 A. Longspur conducted a Dakota skipper habitat survey in 2025 and approximately 7,813
12 acres of native, unbroken grasslands were previously identified during the grassland habitat
13 assessment. Of these, 2,965 acres were identified as potential Dakota skipper habitat that
14 were surveyed during August and October 2025. An estimated 2,692 acres were surveyed
15 via pedestrian surveys while 273 acres were surveyed from public roads due to access
16 restrictions. There were 17 individual patches of suitable habitat identified resulting in
17 approximately 21 acres in the Wind Project. Longspur is avoiding all suitable Dakota
18 Skipper habitat.

19 **Q17. What are the results of Minnesota Power’s analysis regarding northern long-eared**
20 **bat?**

21 A. Longspur is not anticipating impacts on northern long-eared bat (NLEB). Longspur,
22 following USFWS guidance, mapped potential NLEB habitat, completed
23 presence/probable absence surveys following a USFWS approved Study Plan, and
24 conducted general acoustic surveys all in 2025. Based on the habitat assessment,
25 approximately thirteen acres of potentially suitable NLEB summer habitat were identified
26 with the Wind Project area. No bats were identified during the presence/probable absence
27 surveys. During the general bat acoustic surveys no northern long-eared bats were
28 identified, and the area was deemed low general bat activity. During a coordination meeting
29 with NDGFD Longspur proposed that no second year of general bat acoustic monitoring,
30 based on the low bat activity throughout the surveys, would occur, and NDGFD did not
31 provide any further recommendations for surveys.

- 1 **Q18. How are bald and golden eagles treated under federal environmental law?**
- 2 A. Bald and golden eagles are not considered “threatened or endangered” under the ESA.
- 3 Eagles are protected under the MBTA and the BGEPA. The BGEPA does not designate
- 4 critical habitat, but it does protect individual eagles and nests from disturbance. Longspur
- 5 conducted eagle and raptor nest surveys to ensure the Projects do not encroach on nests.
- 6 **Q19. Please describe the findings of Minnesota Power’s analysis with respect to bald and**
- 7 **golden eagles.**
- 8 A. Eagle use of the Wind Project area is minimal as described in the avian use survey.
- 9 Longspur’s eagle and raptor nest surveys, conducted in 2024 and 2025 following USFWS
- 10 Region 6 guidance, did not identify bald or golden eagle nests within the Wind Project
- 11 area; however, two bald eagle nests were observed outside but within two miles of the
- 12 Wind Project boundary. The closest proposed turbine is at least 1.8 miles away.
- 13 **Q20. What additional activities is Minnesota Power undertaking to avoid and minimize**
- 14 **any potential impacts to bald or golden eagles?**
- 15 A. Minnesota Power will implement the following measures to avoid and minimize potential
- 16 impacts to bald or golden eagles:
- 17 • mark the transmission line in accordance with APLIC requirements;
- 18 • avoid turbine placement within 660 feet from eagle nests;
- 19 • bury all collection lines;
- 20 • remove large roadkill animals or other carcasses detected by staff on or near roads
- 21 in the Project to avoid attracting eagles.
- 22 **Q21. Please describe any important results from other wildlife studies, including sharp-**
- 23 **tailed grouse surveys and avian use.**
- 24 A. In addition to the studies and results described above, Longspur conducted two years of
- 25 sharp-tailed grouse lek surveys following NDGFD Key Wind Energy Development in
- 26 North Dakota Best Management Practices to determine the locations of leks within the
- 27 Wind Project boundary and a two-mile buffer of the Wind Project boundary to help inform
- 28 avoidance and minimization efforts.

1 **Q22. How has Minnesota Power avoided, minimized, and mitigated any potential impacts**
2 **to sharp-tailed grouse?**

3 A. Longspur has followed NDGFD Key Wind Energy Development in North Dakota Best
4 Management Practices guidance, including no siting of turbines in nesting habitat, such as
5 broken and unbroken grasslands, within a two-mile buffer from sharp-tailed grouse leks.
6 Additionally, Longspur will avoid the installation of collection lines in nesting habitat
7 within one mile of leks during the breeding season to minimize potential disturbance to
8 lekking or nesting.

9 **Q23. Have the Projects been sited to exclude critical areas where animal or plant species**
10 **that are unique or rare to the state would be irreversibly damaged?**

11 A. Yes. Consistent with the Commission’s designated Exclusion Areas in its siting criteria,
12 Longspur has designed the Projects to exclude infrastructure from areas where rare or
13 unique animal or plant species to the state would be irreversibly damaged.

14 **Q24. Please briefly explain the Projects’ potential impacts on wetlands.**

15 A. The Project has been sited to avoid wetland impacts to the greatest extent possible. The
16 proposed Transmission Line will span all wetlands, therefore avoiding any impacts.
17 Longspur’s Wind Project design avoids wetlands to the extent practicable. However,
18 approximately 1.5 acres of temporary impacts to wetlands will occur from crane paths.
19 Several crane paths for the Wind Project will cross wetlands or waterbodies, which is
20 unavoidable, due to site constraints. In many locations, wetlands are linear or
21 geographically extensive, making avoidance infeasible without major reroutes that would
22 substantially increase other disturbance, such as to croplands. In other areas, existing
23 infrastructure such as undersized bridges, nearby transmission lines, homesteads, or
24 adjacent streams, preclude alternate alignments. Approximately 0.27 acres of permanent
25 impacts to wetlands are associated with access roads. Access road alignments for several
26 turbines are constrained by existing roadways, topography, wetlands, waterbodies, and
27 landownership limitations. In some locations, existing road curves or terrain cannot safely
28 accommodate large construction equipment, necessitating alternate access routes. Certain
29 access roads represent the only practical option due to the reasons listed above. Where
30 wetlands are present, alignments have been selected to minimize impacts by using the most

1 direct routes, staying within surveyed corridors, and crossing wetlands at their narrowest
2 feasible points.

3 **Q25. Please briefly explain the Projects' potential impact on woodlands.**

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

6 **Q26. Please briefly explain the Projects' potential impact on trees and shrubs.**

7 A. Overall impacts to trees and shrubs are anticipated to be minimal. Longspur will submit a
8 tree and shrub inventory and replacement plan for Commission review and approval.
9 Adverse impacts to trees and shrubs are not anticipated and 2.14 acres of trees, mostly
10 associated with windrows, will be cleared. Maps detailing areas where tree clearing will
11 occur are filed as Attachment O to the May 6, 2026 filing.

12 **Q27. Does Longspur anticipate exceeding the Commission's 50-foot-wide tree and shrub
13 clearance limitation?**

14 A. Yes. It is expected that clearing trees and shrubs will exceed the 50-foot-wide tree and
15 shrub clearance limitation in the Tree and Shrub Mitigation Specifications established by
16 the Commission. As a result, the Applicants request a modification of the 50-foot clearance
17 limitation.

18 **Q28. Please describe the types of grasslands located within the Projects.**

19 A. Longspur is in rural western North Dakota in an area predominately comprised of
20 cultivated land, hayfields, pasturelands, and grasslands. In December of 2024, Longspur
21 conducted a desktop assessment using United States Department of Agriculture (USDA)
22 Farm Production Conservation Business Center and NDGFD's "Native Prairie" layer and
23 historic Unit USDA imagery. After compiling the desktop information, field surveys were
24 conducted to verify desktop classification of unbroken and broken grasslands within
25 Longspur. These surveys occurred from roadsides looking into the properties to record sod
26 type, field edge changes, tree/shrub presence, rock piles, and human disturbances.
27 Approximately 9,064 acres of grassland were identified within the Wind Project Boundary.
28 Of that, approximately 7,800 acres were identified as unbroken grasslands and 1,250 acres
29 as broken grasslands.

1 **Q29. Please describe the siting efforts that Minnesota Power undertook to avoid and**
2 **minimize impacts from the Projects to grasslands.**

3 A. Longspur reviewed the NDGFD Key Wind Energy Development in North Dakota Best
4 Management Practices and did not site turbines in broken or unbroken grasslands. The
5 Projects also avoided placement of associated facilities in grasslands, unless alternatives
6 would increase disturbance amount following NDGFD Best Management Practices.
7 Longspur also executed a Memorandum of Understanding with the North Dakota
8 Agriculture Commissioner for Longspur to provide voluntary compensatory mitigation for
9 approximately 65 acres of grassland habitat.

10 **Q30. What is the status of local permitting?**

11 A. As described above, Minnesota Power has obtained an SUP and CUP from Morton and
12 Mercer Counties, respectively for the Wind Project and Transmission Line. Remaining
13 local permitting requirements include: Building Permits, Entrance Permits, Utility
14 Occupancy Permits, and Road Crossing Permits. These will be obtained and filed with the
15 Commission prior to commencing construction in areas for which said permit or
16 authorization is required.

17 **Q31. Please describe the local permitting efforts related to the Projects.**

18 A. On September 29, 2025, Longspur submitted a Special Use Permit (“SUP”) application to
19 Morton County for the Wind Project located within the County. On November 25, 2025,
20 the Morton County Board of Commissioners approved the Projects’ SUP application. On
21 August 8, 2025, Minnesota Power submitted a Conditional Use Permit (“CUP”)
22 application to Mercer County for the approximately 0.37 miles of the Transmission Project
23 located in the County. On October 1, 2025, the Mercer County Board of Commissioners
24 approved the Transmission Project’s CUP application.

25 **Q32. Are the Projects designed to comply with local setback requirements and the**
26 **setback requirements set forth in the Commission’s rules and regulations?**

27 A. Yes.
28

1 **Q33. Describe the setbacks applicable to the Wind Project.**

2 A. The Wind Project has been designed to comply with or exceed the setbacks of the
3 Commission and Morton County, which were provided in Section 3.6 in the Wind Project
4 Application. The distance from the nearest participating residence to a turbine is
5 approximately 1,600 feet, and the distance to the nearest non-participating residence to a
6 turbine is approximately 2,100 feet.

7
8 **Q34. Describe the setbacks applicable to the Transmission Project.**

9 A. The Transmission Line also complies with or exceeds the Commission setbacks. Morton
10 and Mercer Counties do not have specific setback requirements for transmission facilities.

11 **Q35. How were setbacks measured for the Projects?**

12 A. The setbacks were measured using spatial data to calculate the distance from Longspur
13 infrastructure to Morton County Parcel GIS data and Longspur surveyed receptors,
14 Longspur mapped out each participating parcel and selected turbine locations that comply
15 with all applicable setbacks.

16 **Q36. Will temporarily disturbed areas be restored?**

17 A. Yes, Minnesota Power understands and agrees that reclamation, fertilization, and reseeding
18 of temporarily disturbed lands is to be done according to the Natural Resources
19 Conservation Service recommendations, unless otherwise specified by the landowner.
20 Longspur also provided its noxious weed management plan to Mercer and Morton
21 Counties. Longspur received approval of its noxious weed management plan from the
22 Mercer and Morton County weed control officers. Longspur will also follow the noxious
23 weed management plan during Project construction and restoration.

24 **Q37. Please describe Minnesota Power's coordination with NDGFD and USFWS
25 regarding the Projects.**

26 A. Since 2024, Longspur has engaged in ongoing coordination with the USFWS and the
27 NDGFD to support responsible development of the Longspur Wind Project and the
28 associated Longspur Transmission Line. Early coordination included an introductory
29 meeting in December 2024 with USFWS, NDGFD, and project consultants to present

1 Longspur and share results from completed Tier 1–3 studies conducted consistent with the
2 USFWS WEGs. Longspur also requested and incorporated agency data, including
3 historical eagle nest and sharp-tailed grouse lek information from NDGFD, and worked
4 with USFWS to develop and secure approval for a northern long-eared bat
5 presence/probable absence mist-netting study. Formal project notification letters were
6 provided to both agencies in June 2025 in accordance with North Dakota Administrative
7 Code requirements, and NDGFD provided early guidance on flora, fauna, and information
8 needs well in advance of the North Dakota Public Service Commission (NDPSC) hearing
9 schedule.

10 Coordination continued through regular information sharing, meetings, and iterative
11 review of biological studies and mitigation approaches. Minnesota Power notified the
12 NDGFD of its proposed North Dakota Department of Agriculture (NDDA) Voluntary
13 Compensatory Mitigation Fund. Minnesota Power established a file-sharing platform for
14 NDGFD and USFWS containing survey reports, spatial data, voluntary offsets, and a
15 Wildlife Conservation Strategy, and held a detailed biological coordination meeting with
16 NDGFD in February 2026 to review all wildlife studies. Although USFWS was unable to
17 attend later meetings due to federal guidance related to wind project reviews, the Service
18 remained informed through meeting summaries, and USFWS encouraged continued
19 coordination with NDGFD in their absence. The information supplied on the file sharing
20 site was confirmed to be received by NDGFD, and was provided more than 100 days prior
21 to the NDPSC Hearing, as NDGFD requested in their response to the notification letter.
22 Following agency feedback, Longspur provided additional analyses, including avian offset
23 modeling, revised meeting notes, and supporting documentation, reflecting an adaptive and
24 transparent coordination process intended to avoid, minimize, and mitigate potential
25 wildlife impacts.

26 **Q38. Please briefly describe the receptor survey conducted for the Wind Project.**

27 A. Longspur conducted a receptor survey to comply with setback requirements. Longspur
28 identified and field verified potential residential receptors within the Wind Project
29 boundary and a one-mile buffer using desktop analysis, and onsite surveys were conducted
30 in the fall of 2024, resulting in the evaluation of 417 receptors. Follow-up coordination by

1 Longspur in October 2025 clarified occupancy status for previously undetermined
2 structures, reclassifying several as nonresidential or agricultural buildings not subject to
3 occupied receptor criteria by site visits and discussions with the landowners. A summary
4 of Longspur’s receptor survey process is filed as Attachment H.

5 **Q39. Please briefly describe the cultural and historic resource assessments conducted for**
6 **the Projects.**

7 A. Longspur’s environmental consultant, Merjent, Inc., conducted Class I, II, and III cultural,
8 archaeological, and architectural history surveys for the Wind Project and Transmission
9 Line. Merjent completed the Class I literature search in late 2024 and early 2025, and
10 conducted a Class III intensive archeological survey in March of 2025. Merjent prepared
11 and submitted to SHPO, a survey report to document the survey methods and results.
12 SHPO accepted the findings of the report. Longspur then modified the Project design to
13 avoid impacts on unevaluated and potentially eligible cultural sites. After further design
14 modifications within the Wind Project during the Summer of 2025, additional Class I and
15 III surveys were performed to evaluate new project design areas that were not previously
16 surveyed. More design modifications were made related to the survey findings. No
17 additional sites were identified in the second Class III study, and an amended survey report
18 was supplied to SHPO March 17, 2026 for review and approval. Longspur received notice
19 from SHPO on its evaluation of the findings in the most recent amended survey report,
20 SHPO agreed with the findings that no significant site are affected and that no further work
21 is required for the Projects as planned.

22 **Q40. Will the Projects impact the identified cultural and historic sites?**

23 A. Longspur will not impact identified eligible cultural and historic resource sites. The Wind
24 Project and Transmission Line have been designed to avoid directly impacting the known
25 or recently identified unevaluated, eligible or potentially eligible sites. Longspur will use
26 fencing to maintain buffers around sites that are in close proximity to Project infrastructure,
27 and will employ cultural field monitors to ensure avoidance of sensitive areas.

1 **Q41. Does Minnesota Power have procedures in place to address previously unidentified**
2 **cultural resources encountered during construction?**

3 A. Yes. An Unanticipated Discoveries Plan (“UDP”) has been developed and will be
4 implemented to guide activities if previously unknown cultural resources are identified
5 during construction. The UDP establishes: the proper procedure to follow for stopping
6 work and securing the area around an identified resource; a communications plan for the
7 Projects’ archaeologist, SHPO, and Minnesota Power; and permissions needed for work to
8 resume.

9 **Q42. Please describe the results of the acoustic assessment conducted for the Wind Project.**

10 A. The acoustic modeling results indicate that the Wind Project’s predicted sound limits will
11 not exceed the Commission’s current sound limit of 45 dBA within 100 feet of an inhabited
12 residence or community building. The Wind Project will not exceed a maximum predicted
13 sound limit at any occupied residence, the maximum sound anticipated at a residence is 44
14 dBA at 100 feet, and thus the Wind Project complies with the Commission’s Avoidance
15 Criteria. The study was conducted with all 45 primary turbine locations and the 12 alternate
16 locations. The study calculated impacts assuming all 57 turbine locations would be
17 operating; however, Longspur will have a maximum of 45 operational turbines so the
18 predicted sound assessment is conservative. Longspur will update the study once final
19 turbines are selected and commits to submit an updated report prior to construction.

20 **Q43. Please describe the results of the shadow flicker assessment for the Wind Project.**

21 A. The generally accepted Commission standard to assess shadow flicker is no more than 30
22 hours per year of shadow flicker at an occupied receptor. The maximum predicted shadow
23 flicker impact at any occupied residence is 30 hours per year. Longspur modeled the study
24 with all 45 primary turbine locations and the 12 alternate locations. The study calculated
25 impacts assuming all 57 turbine locations would be operating; however, Longspur will
26 install a maximum of 45 turbines, so like the acoustic assessment, the predicted shadow
27 flicker analysis is conservative. Longspur will update the study with final selected turbine
28 locations and commits to submit an updated report prior to construction.

1 **Q44. Are you familiar with the Exclusion Areas, Avoidance Areas, Selection Criteria, and**
2 **Policy Criteria identified in Chapter 69-06-08 of the North Dakota Administrative**
3 **Code?**

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

6 **Q45. Are there any Exclusion Areas located within the Projects?**

7 A. No. There are no Exclusion Areas located within the Wind Project or the Transmission
8 Project Corridor. Dakota Skipper habitat is present within the project area; however, all
9 infrastructure has been sited to avoid these areas, and no permanent or temporary impacts
10 are expected.

11 **Q46. Are there any Avoidance Areas located within the Wind Project?**

12 A. Yes. The following Avoidance Areas identified in N.D. Admin. Code § 69-06-08-01(3)
13 are present within the Wind Project: 1) historical resources; 2) 100-year floodplains; 3)
14 geologically unstable areas; and 4) wetlands.

15 1) Historical resources: SHPO has agreed with the Wind Project's findings in its cultural
16 and historical resources surveys as described in the initial survey report and subsequent
17 addendum reports, that the Project has been designed to avoid all impacts to
18 unevaluated, eligible, or potentially eligible historic sites. Furthermore, Longspur will
19 avoid impacts to archeological sites during construction in accordance with input from
20 the SHSND. For instance, cultural sites recommended for avoidance by SHSND will
21 be fenced with a buffer of at least 50 feet and occasionally monitored by a licensed
22 archeologist to reduce the potential for inadvertent disturbance. An Unanticipated
23 Discoveries Plan has been prepared and will be implemented in the event that unknown
24 archaeological sites or human remains are discovered during construction.

25 2) 100-Year floodplain: Longspur has sited infrastructure to avoid these areas to the
26 greatest extent practicable. Overall impacts are anticipated to be negligible. Table 1
27 identifies each permanent floodplain impact within the Wind Project and provides an
28 explanation as to why there is no reasonable alternative to the proposed infrastructure's
29 location within these areas. As discussed below, placement of infrastructure in the

1 locations identified results from siting constraints to avoid impacts to other avoidance
 2 or exclusion areas or sensitive features or is in response to landowner requests.

TABLE 1				
Longspur Wind – Permanent Impacts in 100-Year Floodplain Avoidance Areas				
Floodplain Grouping ID	Project Infrastructure Type	Impact Area (Acres)	Map Page	Basis for Unavoidable Impacts
1	Access Road to T15, T16	0.056	20, 24	Linear floodplain area 1 cannot be avoided entirely; design minimizes impacts to broken and unbroken grasslands and to wetland and floodplains; design avoids farmstead to east; road on property line minimizes impacts to each property.
2	Access Road to T17	0.015	20, 24	Floodplain 2 cannot be avoided entirely; alignment follows the section line; design minimizes farming impacts and avoids an existing well water line.
3	T5	0.073	10	Floodplain 3 cannot be avoided entirely; turbine placement reduces potential impacts to floodplains further east and meets required setback distances from the west.
7	Access Road to T16	0.018	20	Access road alignment avoids removal of trees and is responsive to landowner preference.
10	Access Road to T13	0.014	14, 20	Access road alignment avoids impacts to farming practices and is responsive to landowner preference.
11	Access Road to T12	0.039	10, 15	Access road alignment follows an existing field road and minimizes impacts to farming practices while reducing overall infrastructure impacts.
16	Access Road to T47	0.005	11	Access road alignment is responsive to landowner preference and addresses safety concerns from area topography.
19	O&M Facility	0.382	6	O&M facility has been sited to avoid wetland impacts to the northwest and to avoid existing county infrastructure to the east.
32	Project Substation	0.159	1, 6	Substation has been sited to avoid wetland and cultural resource impacts to the southwest and avoids existing county infrastructure to the east.
50	Access Road to PMM1	0.0003	2	Direct route selected at the request of the landowner and minimizes impacts to farming operations.
52	PMM1	0.042	2	Met tower placed to meet setback requirements from existing turbines; allows for collection of meteorological data for the Wind Project.
55	T61	1.271	18, 19	Turbine placement reflects landowner preference and addresses safety concerns related to site topography.
56	Access Road to T40	0.008	13	Access road alignment minimizes disturbance to farming practices; impacted floodplain is in a road ditch and the access road alignment avoids larger floodplain areas in the farm field; crosses existing infrastructure at a constrained location.
57	Access Road to T27	0.0007	4, 8	Access road alignment creates a direct route to infrastructure, thereby minimizing disturbance to farming practices. Impacted floodplain is in a road ditch.
59	Access Road to T24	0.007	3	Access road alignment creates a direct route to infrastructure, thereby minimizing disturbance to farming practices. Alignment is responsive to landowner preference.

3 Attachment M to the May 6, 2026 filing contains a map detailing the above described
 4 locations.

5 3) Geologically unstable areas: With respect to geologically unstable areas, North Dakota
 6 Geological Survey landslide deposits are present within the Wind Project; however, no

turbine locations or associated Wind Project infrastructure is sited within the landslide areas as identified by the North Dakota Geological Survey. Geotechnical studies at each turbine location have confirmed that turbine foundations will not be sited within geologically unstable areas.

- 4) Wetlands: The Wind Project has been designed to minimize impacts on wetlands and other waters to the extent practicable. Turbines have been sited to avoid temporary and permanent impacts on wetlands and waterbodies, all collector lines will be bored beneath wetlands, avoiding all wetland impacts, and the substation and O&M building have been sited to avoid all wetland impacts. Table 2 identifies the negligible wetland impacts within the Wind Project and provides an explanation as to why there is no reasonable alternative to the proposed infrastructure’s location within these areas. As discussed below, placement of infrastructure in the locations identified results from siting constraints to avoid impacts to other avoidance or exclusion areas or sensitive features or is in response to landowner requests.

TABLE 2				
Longspur Wind – Wetland Avoidance Areas				
Wetland ID	Project Infrastructure Type	Impact Area (Acres)	Temporary or Permanent	Basis for Unavoidable Impacts
W002	Crane Path	0.058	Temporary	Temporary impact at W002 is unavoidable so that the crane path alignment can support avoidance and minimization of impacts at W045. W002 is a farmed wetland with regular impacts from farming activities.
W012	Access Road	0.262	Permanent	Due to higher topography north and south of access road alignment, significant grading would be required to avoid W012, resulting in greater impacts to the land. In addition, this access road alignment was requested by the landowner to minimize impacts to farming practices.
W013	Crane Path	0.070	Temporary	Linear wetland W013 extends east and west and cannot be avoided entirely. The crane path alignment avoids the farmstead to the south; avoids clearing of trees; and minimizes impacts to wetland by crossing at the narrowest point.
W015	Access Road	0.003	Permanent	W015 is a farmed / cropped wetland, usually dry and farmable but intermittently (seasonally) wet. The impact is extremely small and the access road alignment was selected at the landowner’s request.
W037	Crane Path	0.968	Temporary	This crane path alignment represents the least impact to unbroken grasslands that extend north and south of the crossing location. Wetland W037 is a linear feature that continues north and south and is therefore unavoidable. The crossing location is best based on topography.

TABLE 2

Longspur Wind – Wetland Avoidance Areas

Wetland ID	Project Infrastructure Type	Impact Area (Acres)	Temporary or Permanent	Basis for Unavoidable Impacts
W045	Crane Path	0.045	Temporary	Wetland W045 is a linear feature that continues north and south of the crane path crossing location. The crane path alignment sets up a perpendicular crossing of W045 to minimize impacts to the wetland and unbroken grasslands and avoids DASK habitat around W045.
W047	Crane Path	0.098	Temporary	W047 is a linear wetland that can't be avoided entirely without a much longer crane path route that would increase impacts to farmlands. The crane path alignment avoids broken and unbroken grasslands to the east and west. The crane path alignment is topographically preferred for moving heavy equipment.
W050	Crane Path	0.193	Temporary	The crane path alignment follows the best topography for moving large equipment and avoids unbroken grasslands and other farm features such as stock ponds and abandoned equipment. W050 is a linear wetland that cannot be avoided. Turbine T29 is an alternate turbine location and the crane path may not be required.
W051	Crane Path	0.109	Temporary	The crane path alignment follows the best topography for moving large equipment and avoids unbroken grasslands and other farm features such as stock ponds and abandoned equipment. W051 is a farmed wetland. Turbine T29 is an alternate turbine location and the crane path may not be required.
W058	Crane Path	0.10	Temporary	Wetland W058 is a linear wetland that extends far north and south and can't be avoided entirely. The crane path alignment minimizes impacts to broken and avoids unbroken grasslands. The area's topography favors this crane path alignment for the movement of heavy equipment.
W059	Access Road	0.08	Permanent	Wetland W058 is a linear wetland that extends far north and south and can't be avoided entirely. The straighter crossing location is least impactful to surrounding land uses for delivery of large components. The existing "road" is not an improved road and would not accommodate heavy equipment, plus the alignment of the "road" is not suitable for heavy equipment.
W063	Access Road	0.036	Permanent	Wetland W063 is a linear wetland that extends far north and south and can't be avoided entirely. The access road alignment minimizes impacts on broken and unbroken grasslands and the crossing location represents the least impacts to wetland. Road avoids the farmstead to east, while placing the road on property line minimizes additional land use impacts to each adjoining property.
W068	Access Road	0.611	Permanent	Access road alignment was requested by the landowner as the least impactful to farming practices. Wetland W068 is a farmed wetland.
W069	Access Road	0.046	Permanent	Access road alignment was requested by the landowner as the least impactful to farming practices. Wetland W069 is a farmed wetland.

TABLE 2				
Longspur Wind – Wetland Avoidance Areas				
Wetland ID	Project Infrastructure Type	Impact Area (Acres)	Temporary or Permanent	Basis for Unavoidable Impacts
W077	Crane Path	0.419	Temporary	Crane path alignment represents the least impactful route between multiple linear waterbodies and wetlands. Unbroken grasslands are extensive in this area and cannot be avoided entirely.
W089	Crane Path	0.079	Temporary	Wetland W089 is a linear wetland that extends far north and south and can't be avoided entirely. The crane path alignment minimizes impacts on unbroken grasslands and the crossing location represents the least impacts to the wetland. Alignment avoids DASK habitat to south.
W091	Crane Path	0.195	Temporary	Wetland W091 is a linear wetland that extends far north and south and can't be avoided entirely. The crane path alignment minimizes impacts on broken grasslands and the crossing location represents the least impacts to the wetland.

1 Attachment N to the May 6, 2026 filing contains a map detailing the above described
2 locations.

3 **Q47. Are there any Avoidance Areas located within the Transmission Project?**

4 A. Yes. Historical resources which are an Avoidance Area under N.D. Admin. Code § 69-
5 06-08-02(2) are present within the Transmission Project Corridor. Longspur has received
6 acceptance of the reports with SHPO regarding a Class I and III survey and Class I and III
7 addendum survey that took place. Longspur will not impact any historical resources.

8 No NDGS-mapped landslide deposits or geologically unstable areas are located within the
9 Project Corridor. In the Transmission Project Application at Table 3.2-1(d), the
10 Application states that areas which are geologically unstable are present in the transmission
11 line corridor. To clarify, our review of NDGS data showed no mapped landslide deposits.
12 In addition, Longspur conducted geophysical analysis for all structure locations. This
13 analysis did not reveal any landslide deposits or geologically unstable areas at these
14 locations. An updated Transmission Line Application Avoidance Area Table 3.2-1(d) is
15 filed as Attachment R to the May 6, 2026 filing. An updated Wind Application Avoidance
16 Area Table 3.2-1 was previously filed as Attachment A to the January 6, 2026 filings.

1 **Q48. Please address the Commission’s Selection Criteria.**

2 A. Longspur does not anticipate any significant adverse impacts to the Commission’s
3 Selection Criteria in N.D. Admin. Code §§ 69-06-08-01(5) and 69-06-08-02(3). The
4 Projects’ evaluation of the Commission’s selection criteria is located in Section 3.3 of both
5 the Transmission Line and Wind Project Applications.

6 **Q49. Please address the Commission’s Policy Criteria.**

7 A. The Projects have maximized the benefits set forth in the Commission’s Policy Criteria in
8 N.D. Admin. Code §§ 69-06-08-01 and 69-06-08-02 to the greatest extent possible. The
9 Projects’ evaluation of the Commission’s selection criteria is located in Section 3.4 of both
10 the Transmission Line and Wind Project Applications.

11 **Q50. Are any remaining local, state, or federal permits or approvals needed for the**
12 **Projects?**

13 A. Minnesota Power still requires certain ordinary construction permits such as use of county
14 right-of-way approvals for collection line road crossings, county driveway permits,
15 stormwater construction permits, and building permits.

16 **III. Conclusion**

17 **Q51. Has Minnesota Power designed the Projects to avoid, minimize, and mitigate**
18 **environmental impacts to the greatest extent possible?**

19 A. Yes.

20 **Q52. Has Minnesota Power sited the Projects in a manner so that the location and**
21 **operation will produce minimal adverse effects on the environment, wildlife, and**
22 **upon the welfare of the citizens of North Dakota?**

23 A. Yes.

24 **Q53. Are the Projects compatible with the environmental preservation and the efficient use**
25 **of resources?**

26 A. Yes.

1 **Q54. Does this conclude your direct testimony?**

2 A. Yes.