Before the Public Service Commission
of
The State of North Dakota

In the Matter of the Application of
MINNKOTA POWER COOPERATIVE, INC.

Consolidated Application to the North Dakota Public Service Commission for a Certificate of Corridor Compatibility and Route Permit
Agassiz Transmission Line and Substation, Cass County, North Dakota

Case No. PU-26-22

Pre-filed Testimony
of
Kara Laframboise

I. Introduction

Q.1. Please state your name, business address, and your occupation.

A.1. Kara Laframboise, Minnkota Power Cooperative Inc. ("Minnkota"), 5301 32nd Ave. S. Grand Forks, ND 58201. I am employed as a Project Manager with Minnkota.

Q.2. Please state your educational and professional background.

A.2. I hold a Bachelor of Science degree in Electrical Engineering from the University of North Dakota.

My professional experience also includes the routing, design, and construction administration of numerous high voltage transmission projects throughout North Dakota and Minnesota and design support for operations and maintenance of existing transmission lines and substation assets.

Over my career I have coordinated multidisciplinary teams in the development of approximately $100 million in Minnkota transmission system investment within North Dakota and Minnesota.

Q.3. What is your employment history and work experience with Minnkota Power Cooperative ("Minnkota")?

A.3. I have nearly 14 years of transmission and substation design, engineering and project management experience with Minnkota. I started with Minnkota in 2012 as a North American Electric Reliability Commission ("NERC") Compliance Engineer, overseeing compliance obligations and implementing the NERC mitigation plan. I transitioned into Substation Engineering in about 2014 and this past year (2025) I was promoted to a transmission and substation Project Manager role.

In 2025 I was promoted into a project management role with Minnkota stepping fully into a management function for transmission and substation development and construction for Minnkota.

Annually, I lead the development of multiple complex transmission facility projects from initial design through long-range operational and system planning.

Q.4. What have your responsibilities been in connection with the Agassiz Transmission Line and Substation ("Project")?

A.4. I am the lead project manager for the Agassiz Project, and have reviewed all material engineering, design and construction related plans for the Project.

Q.5. What will you discuss in your testimony today?

A.5. In my testimony I will describe the Project design and construction as well as the work Minnkota performed to comply with the Commission's policy criteria.

II. Project Description

Q.6. Would you please describe the various people or groups of people that are assisting with the Project?

A.6. Minnkota has assigned internal team leads in engineering, environmental/permitting, surveying, right-of-way, legal, procurement, communications and construction management. We have also contracted with an owner's engineer representative, and engineering, procurement, construction and environmental consultants for the Project.

Q.7. Please provide a general description of the Project.

A.7. The Project will be networked and serve Minnkota distribution cooperative-member, Cass County Electric Cooperative, and includes the construction and operation of the proposed Agassiz Transmission Line & Substation Project (Project), an approximately 1.74-mile double-circuit 345-kilovolt (kV) tap transmission line and associated 345/34.5-kV substation south of Harwood in Cass County, North Dakota.

The transmission line will consist of 345-kV weathered steel structures in a new 150-foot-wide transmission line right-of-way. It will tie into the existing MPC Maple River–Bison 345-kV

transmission line (Maple River–Bison Line) and terminate at the proposed Agassiz Substation. Three existing structures on the Maple River-Bison Line will be replaced to accommodate the tap for the new line.

Q.8. Please describe the general location of the Project.

A.8. The transmission line will tie in to the existing MPC Maple River–Bison Line east of 57th Street North; travel north adjacent to an existing MPC 69-kV distribution line and 230-kV transmission line; cross northeast across Cass County Road 81, U.S. Interstate 29 (I-29), and the Burlington Northern Santa Fe (BNSF) Railroad; and terminate at the proposed Agassiz Substation. The transmission line will occur in the extraterritorial jurisdiction (ETJ) of both the City of Harwood and the City of Fargo. The proposed substation will be on approximately 15 acres northwest of the intersection of 64th Avenue North and 45th Street North in Reed Township within the ETJ of the City of Harwood.

Q.9. Will the Project be owned by Minnkota?

A.9. Yes. The Project will be entirely located on Minnkota-owned property.

Q.10. What is the schedule for the Project?

A.10. Minnkota intends to commence construction in the April 2026 pending permit approvals. Minnkota anticipates that construction will be complete by the end of 2026 but possibly into Q1 of 2027, with reclamation extending into 2027 and 2028, as needed.

Most activities will take place during the North Dakota construction season, generally beginning in April and ending in November or December. Minnkota will utilize winter construction to the extent required.

The schedule is being driven primarily to bring interconnection into the existing transmission infrastructure during a scheduled fall outage starting August 10 and running through September 15. This is the last scheduled outage available to us before the winter season.

The Commission's approval of our request for a Temporary Variance for Construction Activities allows us the best chance of bringing the transmission facility to substantial completion within this outage window.

Q.11. What is the estimated cost of the Project?

A.11. The total cost of the Project including design, permitting, and construction, is currently estimated at $110 million, which is up about 45% from the estimate of $75million included in our application. Much of the increased cost is due to having to accelerate procurement and delivery of long-lead equipment in order to meet the outage window in the fall. Other pricing factors do include scarcity and tariffs.

III. Project Design

Q.12. **Please describe the proposed transmission structure design.**

A.12. The Project will consist of a 345 kV transmission line. In total, the Project will require 14 new self-weathering steel transmission line structures, consisting of 5 tangent monopole structures, 2 H-frame structures, 2 three-pole dead-end structures, and 5 monopole dead-end structures. Two existing H-frame structures and one existing three-pole dead end structure from the existing Maple River–Bison Line will be removed and replaced to support the expanded wire configuration, including additional transmission conductors and an optical ground wire (OPGW) containing a fiber-optic cable.

Q.13. **Please describe the Agassiz Substation.**

A. 13. MPC has purchased a 45-acre property east of I-29 for the Agassiz Substation. The substation will include a 345/34.5-kV collector substation within an approximately 15-acre fenced yard. The substation will use chain-link perimeter fencing, LED flood lights, a gravel yard surface, two gravel access drives from 64th Avenue N. A prefabricated one-story control enclosure will house the protection, relaying, metering, Supervisory Control and Data Acquisition (SCADA), station service, and communication equipment, including fiber-optic terminations.

As presented in the PSC application, the original design included a stormwater swale surrounding the substation pad. However, since that time, a geotechnical and drainage analysis indicated that a swale would require substantial fill in the substation pad to achieve the necessary grading and longitudinal slope to convey surface runoff via gravity flow to the detention basin. The use of detention ponds on the northern and southern boundaries of the substation pad was found to substantially reduce the amount of fill needed for effective stormwater management. Culverts will be installed beneath the proposed access drives to maintain uninterrupted stormwater conveyance and hydraulic continuity.

The substation equipment is designed as a four-breaker ring bus configuration designed to accommodate one 345-kV transmission line termination, two 345/34.5-kV transformer positions, two 345-kV capacitor banks, and associated 345-kV and 34.5-kV switching and protection equipment. Major substation components will include two 345/34.5-kV power transformers, six 345-kV circuit breakers, eight 34.5-kV feeder circuit breakers, twelve 345-kV manual disconnect switches, four 345-kV motor-operated disconnect switches, eighteen 345-kV coupling capacitor voltage transformers, fourteen 34.5-kV potential transformers, one 167-kVA station service voltage transformers, two 345-kV capacitor banks, and the control enclosure measuring approximately 60 feet by 24 feet.

Q.14. **What factors determine the height of the structures?**

A.14. Structure height is selected to meet minimum electric clearances and optimized for the topography and road and utility crossings. For this project, the structures will range in height from approximately 80 to 180 feet depending on the required span distances between structures and to maintain required clearances over road, railroad, and existing transmission line crossings. The span between structures will range from 383 feet to 1,069 feet, with an average span of about 654 feet.

Q.15. **What conductor is Minnkota proposing to use for the Project?**

A.15. The proposed conductor configuration consists of two 1272-kcmil ACSR phase conductors, each with an approximate diameter of 1.4 inches. The OPGW will function as the overhead shield wire.

Q.16. **What type of foundation will be used for the structures?**

A.16. The new structures will be steel poles, mounted on reinforced concrete foundations with embedded anchor bolts. Individual poles concrete foundations will range from 9 to 12 feet in diameter, with an average of 9.8 feet and extend to depths from 39 to 88 feet, depending on structure loading and soil properties.

Q.17. **What standards did Minnkota use to design the Project?**

A.17. Minnkota designed and will construct the Project in compliance with the requirements of the National Electrical Safety Code (**NESC**) for the Heavy Loading District, U.S. Department of Agriculture (**USDA**) Rural Utilities Service (**RUS**) design criteria, and other applicable local and national building codes.

Q.18. **In addition to the aforementioned standards, what other factors did you consider when designing the Project?**

A.18. Minnkota designed this 345kV transmission circuit to meet the minimum design standards of the current-carrying capacity on the Maple River-Bison transmission line, since this Project is an extension of the existing transmission infrastructure (approximately 1,700 amps).

Q.19. **What are the minimum clearances over cultivated land, pasture, roads, and other utility lines?**

A.19. Minnkota adheres to the NESC requirements plus a buffer to develop minimum design clearances. The minimum clearances for this Project are 31 feet over agricultural land, paved and rural roads; 39 feet over the railroad, and 19.3 feet to other transmission and distribution lines.

IV. Route Selection

Q.20. **What was Minnkota's philosophy when routing the Project?**

A.20. The majority of the Project Corridor is directly adjacent to an existing transmission line ROW, minimizing impacts to greenfield areas. In addition, a Project Route was selected that results in the shortest possible distance between an available tap with an existing transmission line grid and the load interconnection location. The transmission line was further designed to minimize impacts to existing infrastructure through the selection of structures that allow the Project to span other utilities, roadways, and a railway. Specifically, Minnkota evaluated the following criteria/objectives in routing the Project:

- Compliance with the Commission's Avoidance and Exclusion criteria;
- Minimize disturbance to cultivated croplands and family farms;
- Avoid areas with identified recreational significance;
- Decrease construction and maintenance hazards; and
- Avoid areas less suitable for construction and operation, including river valleys, rugged terrain, steep slopes, areas requiring unusually long spans and areas lacking reasonable access.

Q.21. **Has Minnkota filed the structure locations for the Project?**

A.21. Yes. The structure locations were filed with the application on January 12, 2026.

Q.22. **Would it be reasonable or feasible to place the transmission line underground?**

A.22. Minnkota procured a consultant report on current practices and costs for high voltage underground transmission for evaluation for this Project and other upcoming transmission projects. At the 345kV voltage class for this ampacity, estimated costs are over 20 times higher than overhead construction. Due to the significant costs and complexity of installing and maintaining underground high voltage transmission, it is generally not used in the industry unless

overhead transmission is not feasible. Further, underground cable requires extensive excavation which would create significantly more ground disturbance than overhead construction.

V. Construction

Q.23. **Please describe the construction sequence, work force, and equipment required to construct the Project?**

A.23. Transmission line construction will generally follow a sequential set of activities performed by crews proceeding along the length of the line. Minnkota estimates that approximately 160 construction personnel will be required to construct the Project.

- Site preparation for construction of the substation, which is included in the Variance Request, includes stripping and removing topsoil, integrating fill, and completing rough grading and stormwater BMPs and is anticipated to take three to four weeks.
- It is anticipated that at some proposed transmission line structure locations, temporary grading of small areas may be required to level the ground surface to allow the safe operation of the equipment with respect to outriggers. The Project Corridor is relatively flat, and minimal grading is anticipated to be needed.
- Final site preparation activities are anticipated to require approximately 78,000 cubic yards of common fill. The majority of this material will be placed as a 3–5-foot base layer within the substation pad footprint, while the remainder will be used to construct embankments for stormwater control and roads for site access.
- Foundation Installation is expected to use a truck-mounted auger or tracked vehicle equipped with a power auger to drill holes for the transmission line structures along the Project Route and within the Project Corridor. The structures will be lowered by crane into boreholes and the annulus around the structure will be backfilled with crushed granular material or excavated material as needed.
- Following structure erection, construction crews will install the conductors and OPGW using standard stringing equipment, including conductor sheave blocks,

tensioners, and pullers. Due to the relatively short length of the new transmission line segment, approximately six (6) pulling and tensioning sites are anticipated. This process will be repeated sequentially until all conductors and the OPGW have been installed through the sheaves and secured at all structures.

- Cleanup will likely take pickups, dump trucks, flatbed trucks and will last the duration of the Project.

Q.24. **Could you describe the need for temporary workspace for construction?**

A.24. Temporary construction activities for the transmission line are anticipated to result in ground disturbance within the entire 150-foot-wide proposed ROW for structure installation, stringing activities, and overland travel, including crane walks. While most construction activities will be confined to the Project ROW, Minnkota will require the use of temporary workspace outside the Project Corridor for pullback and tensioning sites at various points along the Project Corridor, as well as the temporary access road and a travel corridor/workspace at the southern end of the Corridor.

Minnkota has secured temporary construction easements with landowners for these areas, and there are not anticipated permanent impacts in these locations.

Q.24. **Is there any clearing of trees during construction?**

A.24. No.

Q.25. **Describe the steps Minnkota will take when construction is complete.**

A.25. Minnkota will complete a final inspection of the Project Corridor upon completion of construction, identifying items which may require corrective action. If required, a contractor will be released from further responsibility upon verification of satisfactory corrective action. Disturbed areas will be graded or re-sloped to their approximate original contours to minimize erosion and visual alteration. Cultivated land will be tilled and returned to production. Reclamation activities, weather permitting, will be ongoing throughout construction and possibly the following construction season. The area will be revegetated using a native seed mixture, as

recommended by the County Agricultural Extension Service or the Natural Resources Conservation Service. Ruts and scars from overland travel will be leveled to break up compacted soils and aid in returning areas to approximate original contours. Cultivated areas disturbed by overland travel will be leveled and tilled to break up compacted soils (if necessary) and returned to production.

Q.26. **Please describe the typical maintenance on transmission lines like those for the Project.**
A.26. The following operation and maintenance activities will be performed throughout the life of the Project.

- Minnkota's preventive maintenance program for the transmission line includes aerial and ground inspections. Aerial inspections will be conducted at least annually. Ground patrols will be conducted periodically throughout the year. Inspections and patrols will involve the use of vehicles in areas where there is suitable vehicle access.
- Maintenance activities may include repairing damaged conductor, inspecting and repairing structures, replacing damaged insulators, and tightening hardware.
- Minnkota will maintain any gates installed if used for access throughout the life of the Project.
- Minnkota will remove trees that pose a clearance or safety problem to the operation of the transmission line. Specific requirements of the NERC will be followed.
- Vegetation within the Project Corridor will include the selective removal of trees to prevent contact with the transmission line conductors, within the legacy ROW. Disposal of cut trees and/or shrubs will be in accordance with applicable state waste management rules. The need for tree and/or shrub removal is not expected or will be minimal within the existing Maple-Bison right-of-way.
- Construction crews and personnel will be informed and directed to take actions to mitigate the spread of invasive and noxious plant species, such as vehicle washdowns, or as otherwise directed by the County.

Q.27. **When does Minnkota plan to commence reclamation?**

A.27. The optimal timing for revegetation success will be spring or fall. Mulching may be required to protect seeded areas from erosion. Other erosion control devices, such as water bars, terracing, or water diversion structures will be constructed where needed. Follow-up inspections will be carried out during the next growing season. If there are areas that did not become revegetated, they will be reseeded again, as needed. The reclamation procedures described above will be applied to disturbed areas including temporary workspaces, access, staging areas, and other areas disturbed by Project activities. Minnkota's Right-of-Way Division will oversee the reclamation work, as needed.

Q.28. **What benefit does the Project provide to the local economy?**

A.28. The Project is a result of increased demand for electric service from Minnkota's member owner's load interconnection request. The wages and salaries paid to local contractors and workers will provide personal income for residents and workers in Cass County and the region. Minnkota's business expenditures for equipment, energy, fuel, operating supplies and other products and services will benefit local businesses as well as amounts paid out as state and local taxes.

Q.28. **What type of labor force will Minnkota need for the Project?**

A.28. Minnkota will need a general and specialized labor force to complete the Project. Specialized labor will be required for certain components of the Project. It is likely that this labor will be imported from other areas of the state and other states. Minnkota has utilized several local firms in developing the Project and compiling this application including a survey firm and geotechnical engineering firm and will continue to use local labor to the extent practicable.

Q.29**. What housing provisions are required for this type of work force?**

A.29. Minnkota does not anticipate the Project will have any permanent effects on housing. During construction, non-resident laborers will likely use lodging facilities in and around the city of Fargo.

Q.30. **What steps has Minnkota taken or will take to be prepared for an emergency that may arise, either during or after construction?**

A.30. Agassiz Substation will have a 911 address and will be communicated to all contractors working on those sites.

Q.31. **What efforts has Minnkota undertaken or will undertake to ensure the safety of the workforce constructing the Project?**

A.31. All construction and maintenance activities will be carried out in compliance with applicable federal and state worker safety regulations, as defined under the Occupation Safety and Health Administration Act of 1979 (**OSHA**). Human health and safety hazards will be mitigated by complying with applicable federal and state occupational safety and health regulations, NESC regulations, and utility design and safety standards.

Prior to beginning work each day, an Authorization to Work, Pre-Task Analysis form will be prepared and discussed. Heavy equipment will be up to Occupational Safety and Health Administration safety standards and personal safety equipment will be required for all workers on site.

VI. Policy Criteria

Q.32. **What is Minnkota's policy with respect to maximizing potential benefits through location and design of its facilities?**

A.32. The location is based on landowner participation, field surveys, known environmentally sensitive areas, and adherence to Harwood and Cass County and the Commission's transmission line requirements.

Minnkota has collocated the Project with existing utilities to the maximum extent practicable, with no less than 82 percent of the proposed Agassiz transmission line either collocated or within existing or proposed transmission line ROW.

The majority of the Project Corridor (0.75 mile or 43 percent) is directly adjacent to an existing 230-kV transmission line ROW, while 0.49 mile or 28 percent will be within an existing 345-kV transmission line ROW. Approximately 0.2 mile or 12 percent is directly adjacent to a proposed 345-kV transmission line ROW.

The location and voltage of these facilities is determined by transmission planning experts to maximize the benefits of these lines.

Q.33. **What is Minnkota's policy regarding labor relations?**

A.33. Minnkota uses both union and non-union contractors and maintains an equitable and fair relationship with labor unions. No labor relations would be negatively affected by the Project.

Q.34. **What is Minnkota's policy and what efforts have been made to coordinate facilities?**

A.34. Minnkota coordinates with Cass County Electric Cooperative and other area overhead and underground utility companies along the planned route of the transmission line to meet clearance and operational requirements of existing facilities.

Q.35. **Ms. Laframboise, based on your knowledge of the Project, do you believe the location, construction and operation of the proposed facilities produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota?**

A.35. Yes.

Q.36. **Will the proposed facility locations ensure continuing system reliability and integrity and that energy needs are met and fulfilled in an orderly and timely fashion?**

A.36. Yes.

Q.37. **Does this complete your testimony?**

A.37. Yes.