BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF NORTH DAKOTA

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| IN THE MATTER OF THE CONSOLIDATED APPLICATION OF MINNESOTA POWER FOR A CERTIFICATE OF CORRIDOR COMPATIBILITY AND ROUTE PERMIT FOR HVDC MODERNIZATION PROJECT IN OLIVER COUNTY, NORTH DAKOTA | CASE NO. PU-24-____ |
| IN THE MATTER OF THE CONSOLIDATED APPLICATION OF GREAT RIVER ENERGY FOR A CERTIFICATE OF CORRIDOR COMPATIBILITY AND ROUTE PERMIT FOR HVDC MODERNIZATION PROJECT IN OLIVER COUNTY, NORTH DAKOTA | CASE NO. PU-24-____ |

**Application of Minnesota Power and Great River Energy for Waiver or Reduction of Procedures and Time Schedules**

In connection with their submission of a Consolidated Application for a Certificate of Corridor Compatibility and Route Permit (Consolidated Application) for a High-voltage Direct-Current (HVDC) Modernization Project (Project), Minnesota Power, an operating division of ALLETE, Inc., and Great River Energy (together, Applicants) submit to the North Dakota Public Service Commission (Commission) this application for a waiver or reduction of procedures and time schedules set forth in North Dakota Century Code (NDCC) Chapter 49-22 and North Dakota Administrative Code (NDAC) Chapter 69-06. In accordance with NDCC § 49-22-07.2 and NDAC Ch. 69-06-06, Applicants request that the Commission:

1. Waive the requirement to conduct a public hearing on the Consolidated Application, as provided in NDCC §§ 49-22-08, 49-22-08.1, and 49-22-13(1) and NDAC § 69-06-01-02(3). The Project is of such length, design, location, and purpose that it will produce minimal adverse effects. The Applicants respectfully

request that the Commission issue a notice of opportunity for hearing and only conduct a public hearing in the event that a request is properly made and granted by the Commission.

Consistent with NDAC § 69-06-06-01(2), Applicants provide the following information in support of their waiver request:

**A. Description of Proposed Project.**

1. **Type**: The proposed Project involves modernization of the existing transmission system in Oliver County and will be constructed in two phases (Phase 1 and Phase 2). The components of each phase are discussed in more detail below. Overall, the Project involves construction of two new substations, a new HVDC converter station, an associated yard, and new or re-routed transmission facilities to connect the new substations and HVDC converter station to existing transmission infrastructure (i.e., the Square Butte East Substation, the Center HVDC Converter Station, the Great River Energy 230-kV transmission line, and the Minnesota Power 250-kV HVDC Line). Essentially, short segments of transmission line are being re-routed through new substations or constructed to interconnect the new substations/HVDC converter station with existing facilities. The maps provided in Appendix A to the Consolidated Application provide additional detail.

Minnesota Power will own and operate the majority of the proposed facilities; however, Great River Energy will own the two 230-kV re-routed transmission line segments.

2. **Product**: The Project does not produce a product; rather, it involves modernizing Minnesota Power's existing HVDC system and improving the reliability of the transmission system to ensure continuous, efficient delivery of North Dakota-generated electricity to regional customers.

3. **Capacity and Design**:

Phase 1 includes the following Project facilities:

- Proposed Nelson Lake Substation 230-kV Yard.
- Proposed Single-Circuit 230-kV Alternating-Current (AC) transmission line, approximately 0.3 mile long (between the Proposed Nelson Lake 230-kV Substation and the Proposed Double-Circuit 230-kV AC transmission line).
- One proposed Double-Circuit 230-kV AC transmission line, approximately 1.5 miles long (between the Proposed Single-Circuit 230-kV AC transmission line and the existing Square Butte East Substation).
- Re-routing the existing Great River Energy 230-kV AC transmission line through the Proposed Nelson Lake Substation, which requires parallel single-circuit lines for approximately 0.3 mile, then a double-circuit line for approximately 0.6 mile.
- Modifications of the existing Square Butte East Substation (adding one breaker).
- One permanent access road.
- Temporary workspaces (construction extents).
- Temporary laydown yard.

At this time, it is anticipated that the majority of the transmission lines in Phase 1 will be built using predominately steel monopole structures with up to four wood H-frame structures used on the Great River Energy lines. The monopole structures will range in height from approximately 85 feet to 140 feet, with an average of 105 feet for the single circuit line, and range in height from approximately 95 feet to 145 feet, with an average of 130 feet for the double circuit line, depending on the required span distances between structures and topography along the route. The span between structures will typically range from 250 to 1,000 feet, and average approximately 600 feet for the double circuit lines, approximately 750 feet for the single circuit line, and approximately 350 feet for the two Great River Energy lines, depending on site-specific considerations. Taller structures could be used for crossing existing distribution and transmission lines, or where unusual terrain exists. The single-circuit and double-circuit monopole structures will be designed to support three conductors and an overhead Optical Ground Wire (OPGW). The Proposed Nelson Lake Substation 230-kV Yard will require the installation of circuit breakers, bus work, disconnect switches, and protection and control equipment to support the 230-kV interconnections.

Phase 2 will interconnect to Phase 1 of the Project and includes the following Project facilities:

- Proposed East Oliver HVDC Converter Station.
- Proposed East Oliver 345-kV Yard.
- Proposed Nelson Lake Substation 345-kV Yard.
- 345-kV AC transmission line, approximately 3.9 miles long (connecting the Proposed Nelson Lake 345-kV Substation, the Proposed East Oliver 345-kV Yard, and the Proposed East Oliver HVDC Converter Station).
- 250-kV HVDC Line Reroute, installing approximately 0.9 mile of new line (connecting the Proposed East Oliver HVDC Converter Station to the existing 250-kV HVDC line) and removing approximately 3.0 miles of existing 250-kV HVDC line.
- Four permanent access roads.
- Temporary workspaces (construction extents).
- Temporary laydown yard.

The 345-kV AC transmission line structures will range in height from approximately 100 feet to 199 feet with an average height of 170 feet, depending on the required span distances between structures and topography. The span between 345-kV structures will typically range from 500 to 1,000 feet. The 250-kV HVDC Line Reroute structures will range in height from 70 feet to 87 feet, with an average height of 82 feet. The span between structures will typically range from 550 to 690 feet depending on site-specific considerations. Taller structures could be used for crossing existing distribution and transmission lines, or where unusual terrain exists. The 345-kV AC Line monopole structures will be designed to support six conductors and two overhead OPGWs but will be operated as a single circuit transmission line. The 250-kV HVDC Line monopole structures will be designed to support two conductors and an overhead shield wire. Any 250-kV tangent structures will be freestanding and directly embedded into the soil. All 250-kV dead-end structures will be constructed on reinforced concrete foundations. All 345-kV tangent, angle structures and dead-end structures will be constructed on reinforced concrete foundations.

The main components of the Proposed East Oliver HVDC Converter Station include power electronics and their associated cooling system, converter transformers, and DC and AC equipment

to complete the conversion between AC and DC. The main components of the Proposed East Oliver 345-kV Yard include circuit breakers, bus work, disconnect switches, and control and protection equipment to support the 345-kV interconnection. The main components of the Proposed Nelson Lake Substation 345-kV Yard include the installation of a 345kV/230-kV transformer and the necessary bus, circuit breakers, bus work, disconnect switches, and control and protection equipment to support the 345-kV interconnection.

Additional details regarding the Project design are provided in the Consolidated Application.

4. **Location**: The proposed Project is located in Oliver County. Minnesota Power will own in fee all land required for the Phase 1 and Phase 2 converter station and yards, with the exception of existing utility rights-of-way held by Great River Energy and Minnkota Power Cooperative, Inc. (Minnkota). A permanent access road will be constructed within an unimproved section line right-of-way. The 230-kV and 345-kV transmission lines will be constructed within easements held by Minnesota Power on land owned by Minnkota. All temporary construction facilities will be located within the construction footprints of the substation and converter yards on land owned by Minnesota Power. Stringing areas and temporary access will be within the existing transmission line right-of-way. Maps showing the proposed location of the Phase 1 and Phase 2 Corridors, Routes and Project components are provided in Appendix A to the Consolidated Application.

5. **Geographical Service Area**: The Project involves modernizing aging HVDC facilities in Oliver County, North Dakota, which will improve the reliability of the transmission system to ensure continuous, efficient delivery of North Dakota-generated electricity to regional customers.

6. **Time Schedule**: The Applicants propose to develop the Project on the following schedule:

- **Local Permitting**: The Applicants obtained conditional use permits from Oliver County for the Project in November 2024.
- **Certificate and Route Permit**: The Consolidated Application is submitted concurrently with this Waiver Request in November 2024, with approval anticipated in the first half of 2025.
- **Construction**: Anticipate Phase 1 construction will begin in Q4 2025 and be completed within approximately 18 months; anticipate Phase 2 construction will begin in 2026 and be completed within approximately 18 months to 3 years.
- **Test and Operations**: Anticipated by 2027 for Phase 1 and 2028 to 2030 for Phase 2.
- **Commercial Operation**: Phase 1 is anticipated to be in service in 2027 and Phase 2 is anticipated to be in service between 2028 to 2030.

7. **Future Plans**: There are no future expansion plans for the facilities within the Project at this time.

8. **Need for the Facility and Alternatives Considered**: The HVDC Modernization Project is needed to modernize aging HVDC facilities and to improve the reliability of the transmission system. The proposed Project complies with the exclusion area, avoidance area, selection, and policy criteria identified in NDAC § 69-06-08-02. As discussed in Section 2.2 of the Consolidated Application, the Applicants considered various transmission solutions, including upgrading other existing facilities, different voltage levels, and different endpoints; however, the Project addresses the need in the most prudent and reasonable manner. For additional analysis of the need for the proposed Project, please see Section 2.0 of the Consolidated Application.

9. **Ten Year Plans**: The Project is consistent with Minnesota Power's and Great River Energy's Ten Year Plans for 2024-2034, which were filed with the Commission in July 2024.

10. **Cost**: The estimated cost to construct Minnesota Power's portion of the Project will be approximately $330 to $470 million. Great River Energy's Project costs will be approximately $5 million.

**B. Waiver Request.**

The Applicants request that the Commission grant the requested waiver because the Project is of such length, design, location, and purpose that it will produce minimal adverse effects, in accordance with NDCC § 49-22-07.2. Based upon the investigation and analysis set forth in the Applicants' Consolidated Application, the proposed Project will produce minimal adverse effects due to its:

- **Length**: Overall, the Project involves construction of two new substations, a new HVDC converter station, an associated yard, and new or re-routed transmission facilities to connect the new substations and HVDC converter station to the existing infrastructure (i.e., the Square Butte East Substation, the Center HVDC Converter Station, the Great River Energy 230-kV transmission line, and the Minnesota Power 250-kV HVDC Line). Essentially, short segments of transmission line are being re-routed through new substations or constructed to interconnect the new substations/HVDC converter station with existing facilities.

- **Design**: The Project structures and facilities are designed to modernize the transmission system and minimize potential human and environmental impacts.

- **Location**: All new facilities are located in close proximity to existing transmission infrastructure, which minimizes the Project's potential impacts. Project facilities will be located on land owned in fee by Minnesota Power or within existing utility rights-of-way and/or easements with third-party utilities. One access road is located on an unimproved section line road, and Minnesota Power has acquired the necessary easement from the landowners.

- **Purpose**: The Project will modernize aging HVDC facilities and improve the reliability of the transmission system to ensure continuous, efficient delivery of North Dakota-generated electricity to regional customers.

In determining whether the proposed Project will result in adverse impacts, the Applicants evaluated the Project considering the exclusion and avoidance areas, the selection criteria, and the policy criteria set forth in NDAC § 69-06-08-02 and the factors set forth in NDCC § 49-22-09.

Potential impacts associated with the Project, and mitigation measures that will be taken with to avoid and/or minimize said impacts, are summarized in Sections 3.0 through 6.0 of the Consolidated Application. As discussed in more detail in the Consolidated Application, the proposed Project Corridors and Routes have been thoroughly evaluated and the proposed Project will have minimal adverse effects.

Accordingly, the Applicants respectfully request that the Commission grant the requested waiver.

Dated this 10th day of December, 2024.

FREDRIKSON & BYRON, P.A.

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STATE OF MINNESOTA )
) ss.
COUNTY OF HENNEPIN )

MOLLIE M. SMITH, of lawful age, being first duly sworn, on oath deposes and says:

That she is the duly elected and qualified attorney for Applicants in the foregoing application; that she executed the foregoing application for and on behalf of said Applicants and as their said attorney that she has read said application and knows the contents thereof; and that

the statements made and contained therein are, to the best of her knowledge and belief, true and correct.

Mollie M. Smith

MOLLIE M. SMITH

Subscribed and sworn to before me this 10th day of December, 2024.

Breann Lee Jurek

Notary Public

BREANN LEE JUREK
Notary Public
Minnesota
My Commission Expires January 31, 2027

Online Notary Public. This notarial act involved the use of online audio/video communication technology.
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