

Big Stone South to Alexandria Transmission Line Project

Big Stone City, South Dakota

Public Input Meeting
May 29, 2024



Big Stone South
to Alexandria



▶ Otter Tail Power Company

- ▶ Josh Humburg – Senior Project Manager
- ▶ Jason Weiers – Manager, Project Development
- ▶ Kevin Scheidecker – Senior Environmental Specialist
- ▶ George Vinson – Supervisor, Land Rights
- ▶ Riley Maanum – Senior Land Specialist
- ▶ Theron Rein – Manager, Transmission Design & Maintenance
- ▶ Kendal Sethre – Project Communications Specialist
- ▶ Robert Endris – Associate General Counsel

▶ Missouri River Energy Services (representing Western Minnesota Municipal Power Agency)

- ▶ Richard Dahl – Director, Transmission Services
- ▶ Derek Bertsch – Regulatory and Contracts Counsel

▶ Otter Tail Power Company

- Investor-owned electric utility headquartered in Fergus Falls, MN;
- 133,000 customers spanning 70,000 square miles in northeastern South Dakota, eastern North Dakota and western Minnesota;
- Own ~6,000 miles of transmission lines and ~1,100 megawatts (MW) of generation capacity; and
- Transmission-owning member of the Midcontinent Independent System Operator (MISO).

▶ Western Minnesota Municipal Power Agency

- Municipal corporation and political subdivision of the State of MN headquartered in Ortonville, MN;
- Owns ~1,050 miles of transmission lines and ~530 MW of generation capacity; and
- All capacity of transmission lines and all output of generation is sold to MRES.

▶ Missouri River Energy Services

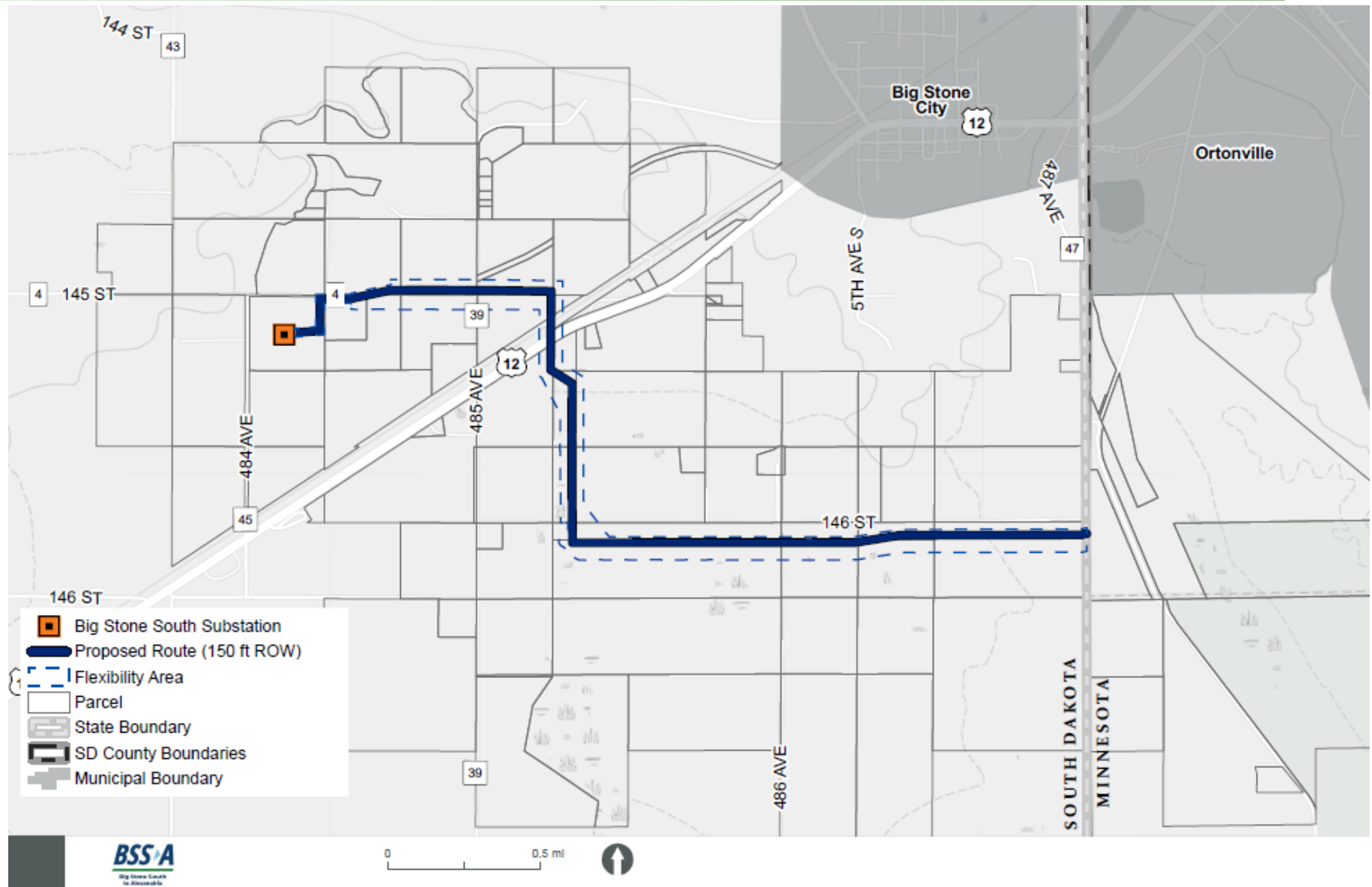
- Headquartered in Sioux Falls, South Dakota;
- Provides electricity to 61-member municipal utilities in South Dakota, North Dakota, Iowa, and Minnesota who serve ~174,000 customers; and
- Transmission-owning member of MISO (and Southwest Power Pool).

Project Overview

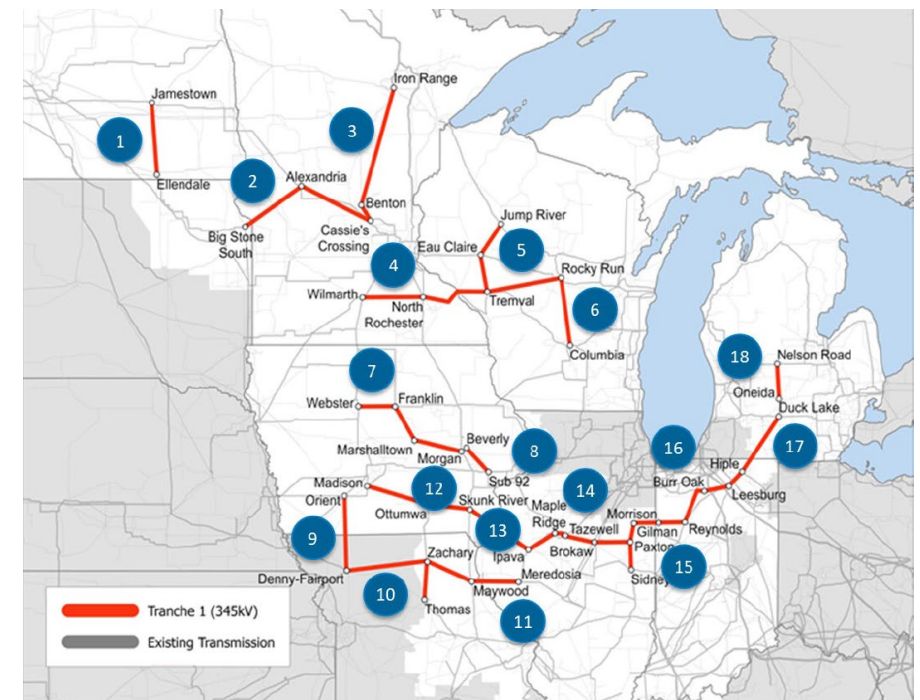


Big Stone South to Alexandria

- ▶ Approximately 3.5-mile long 345 kV transmission facility and associated facilities in Grant County, South Dakota.



- ▶ The Midcontinent Independent System Operator (MISO) studies the regional transmission system to identify potential upgrades needed.
 - ▶ As part of MISO's Long Range Transmission Planning, it identified and approved a group of transmission projects (Tranche 1 Portfolio) needed to help ensure a reliable, resilient, and cost-effective transmission system.
 - ▶ One of those projects is the Big Stone South to Alexandria to Big Oaks Transmission Project, consisting of two segments:
 - ▶ Big Stone South to Alexandria (BSSA) Project; and
 - ▶ Alexandria to Big Oaks Project.
- ▶ The proposed Project is the first 3.5 miles of the BSSA Project, located in Grant County, South Dakota.



Project Benefits

- ▶ The Project, which is part of the larger Big Stone South – Alexandria – Big Oaks Transmission Line Project, will:
 - ▶ provide additional transmission capacity;
 - ▶ increase access for new generation;
 - ▶ help resolve thermal and voltage issues/reliability concerns on existing 230 kV system;
 - ▶ improve electric system reliability; and
 - ▶ reduce transmission congestion that will increase access to low-cost energy.

- ▶ The MISO Tranche 1 Portfolio (including the Project) is anticipated to provide significant net economic savings within the MISO Midwest subregion over the life of the projects.



- ▶ Approached route selection with the following goals:
 - ▶ Avoid engineering constraints (e.g., existing infrastructure, population centers);
 - ▶ Utilize engineering opportunities (e.g., follow existing utility/road rights-of-way);
 - ▶ Avoid/minimize impacts to environmental resources; and
 - ▶ Minimize impacts to landowners and existing land use.
- ▶ Initially identified a broader Study Area between Big Stone South Substation and South Dakota/Minnesota border.
- ▶ Collected data and input from stakeholders to identify potential routes in Study Area through:
 - ▶ Outreach to landowners;
 - ▶ Public open houses;
 - ▶ Presentations to and meetings with local governments;
 - ▶ Meetings with Tribes; and
 - ▶ Consultation with federal, state, and local agencies.
- ▶ Conducted desktop analysis and field surveys of potential routes within the Study Area.

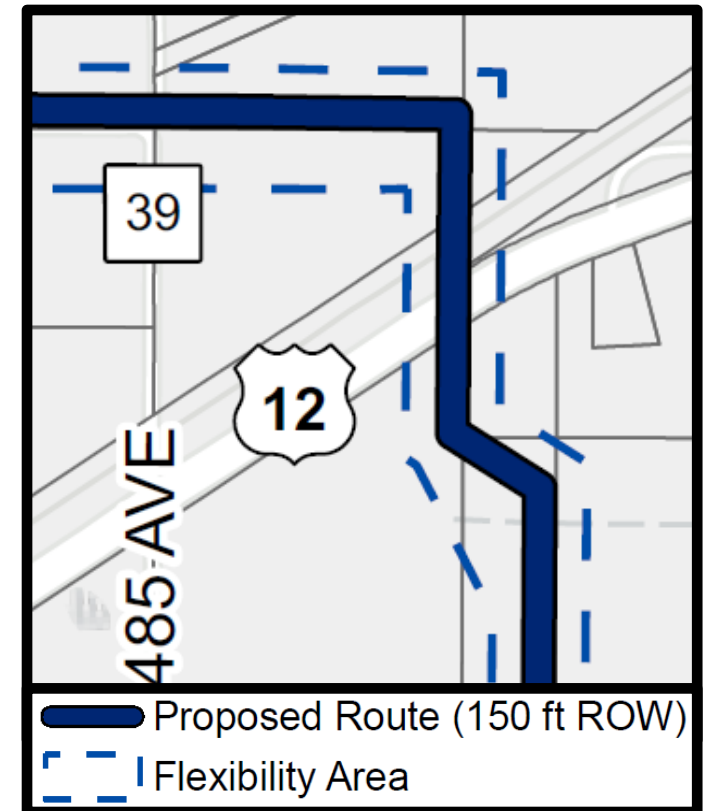
- ▶ Environmental surveys/studies:
 - ▶ Aquatic resources delineation and field mapping (complete);
 - ▶ Cultural resource surveys (complete);
 - ▶ Historic architectural resource survey (complete);
 - ▶ Tribal cultural resource survey (complete); and
 - ▶ Eagle, raptor, and migratory bird/birds of conservation concern nest survey (to be completed prior to construction).

- ▶ Agency consultation, including:
 - ▶ U.S. Fish and Wildlife Service;
 - ▶ U.S. Army Corps of Engineers;
 - ▶ South Dakota State Historical Society/State Historic Preservation Office;
 - ▶ South Dakota Game Fish and Parks;
 - ▶ South Dakota Department of Agriculture and Natural Resources; and
 - ▶ South Dakota Natural Resources Conservation District.

Proposed Route & Flexibility Area *BSSA*

Big Stone South to Alexandria

- ▶ The proposed Route:
 - ▶ Is compatible with the existing land uses;
 - ▶ Follows existing roadways and transmission line corridors for the entire length;
 - ▶ Minimizes overall line length; and
 - ▶ Avoids/minimizes potential impacts to existing infrastructure and environmental resources.
- ▶ The “Flexibility Area” is:
 - ▶ A slightly wider area around the proposed Route that was identified to:
 - ▶ Allow continued coordination with landowners on ROW and structure placement; and
 - ▶ Allow flexibility to adjust ROW/structures based on geotechnical and survey results.



▶ Landowners

- ▶ Right of Entry for surveys: 100% acquired along proposed Route.
- ▶ Right-of-Way along Route: 4 of 12 easements acquired along proposed Route.
 - ▶ Have discussed Project with all landowners crossed by the proposed Route;
 - ▶ Incorporated feedback into proposed Route/ROW and Flexibility Area; and
 - ▶ Continuing to coordinate on final ROW and structure locations.

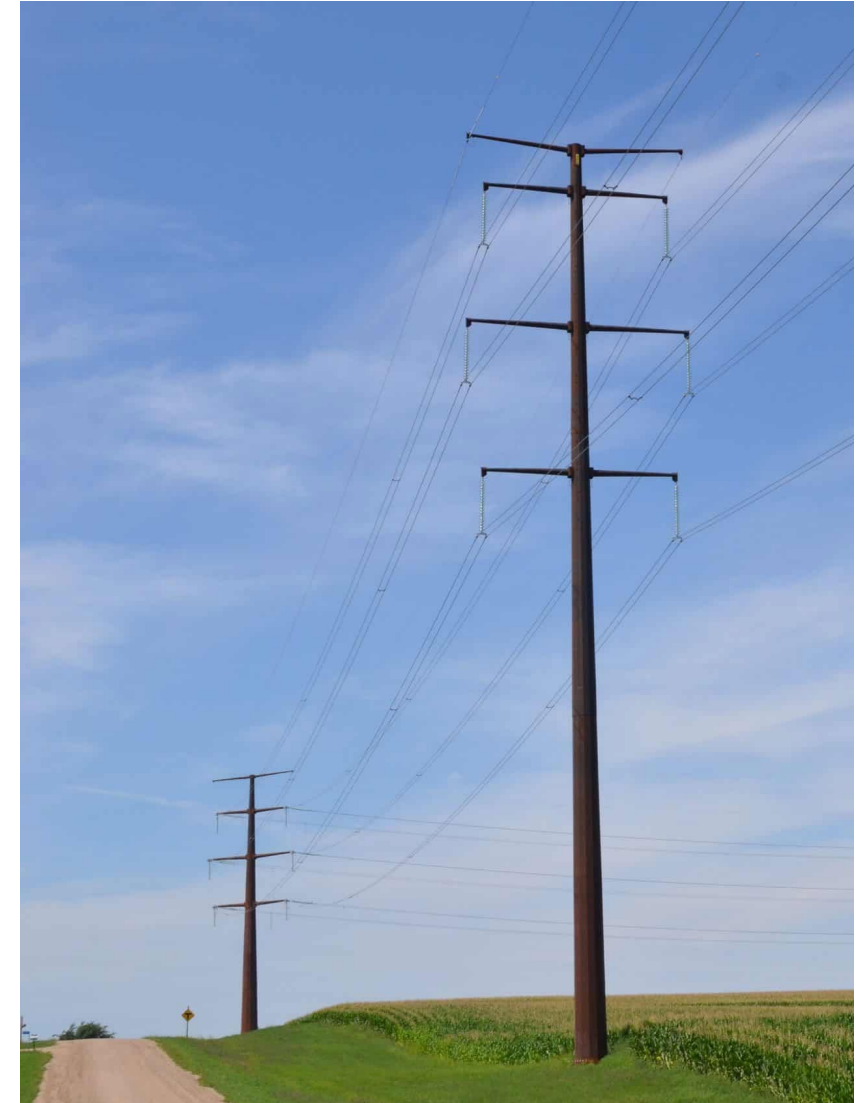
▶ Grant County

- ▶ Conditional Use Permit public hearing on June 10, 2024;
- ▶ Coordinating regarding floodplain permitting; and
- ▶ Will obtain building permits prior to construction.

- ▶ Structures: Double-circuit transmission structures constructed on steel, single-pole structures (monopole, unless specialty structure needed).
- ▶ Conductors/Communication Lines: Initial installation of a single-circuit, 345 kV transmission line, optical ground wire for communication and overhead ground wire – second 345 kV circuit will be added in the future when conditions warrant.
- ▶ Substation Upgrades: Expansion of, and modifications to, existing Big Stone South Substation (new breaker positions/additional reactive power equipment) within Otter Tail-owned property.

Typical Structure

- ▶ Type: Double circuit, monopole with davit arms
- ▶ Material: Corten Steel (self-weathering)
- ▶ Right-of-Way Width: 150 feet
- ▶ Height: 120 – 180 feet
- ▶ Structure Base Diameter: 5 – 10 feet
- ▶ Foundation Type: Concrete, drilled pier
- ▶ Foundation Diameter: 7 – 14 feet
- ▶ Foundation Depth: 25 – 60 feet
- ▶ Span length between Structures: 400 – 1,300 feet
 - ▶ Up to 27 structures estimated along the proposed Route.



- ▶ Temporary Use Areas
 - ▶ Pulling/tensioning sites for conductor installation (each ~200 feet x 700 feet);
 - ▶ Temporary access roads to structures (each ~30 feet wide);
 - ▶ Structure workspace areas (each ~150 feet x 200 feet); and
 - ▶ ~3-acre material storage site
 - ▶ Location of temporary use area will be dependent on final design.
 - ▶ Will secure necessary land rights in coordination with landowners once location is identified.



Construction Overview

▶ The construction process will include:

1. Survey and staking;
2. Temporary access roads;
3. Foundation excavation and installation;
4. Structure setting;
5. Conductor stringing and clipping; and
6. Restoration and reseeding.



Surveying



Temporary Access



**Foundation Drilling
& Pouring**



Structure Setting



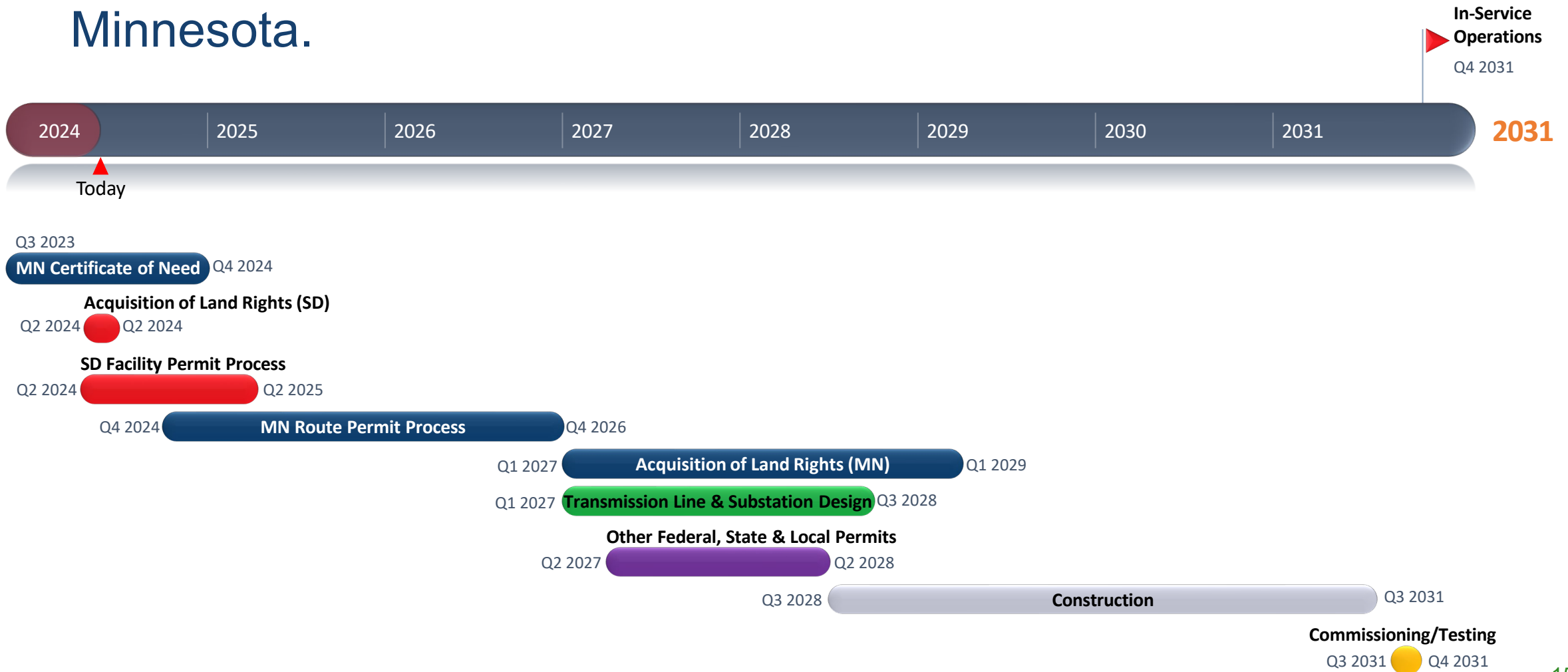
Conductor Stringing



Restoration

Project Schedule

- ▶ Construction of Project will start once required permits have been obtained for the BSSA Project in both South Dakota and Minnesota.



Questions



**PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**In the Matter of the Application by
Otter Tail Power Company and
Western Minnesota Municipal
Power Agency For a Facility Permit
for a 345-kV Transmission Facility
and Associated Facilities in Grant
County, South Dakota**

CERTIFICATE OF SERVICE

EL24-015

Valerie J. Moxness, of Otter Tail Power Company hereby certifies that on the 28th day of May 2024, true and correct copies of the following documents were served electronically on the persons listed below:

1. Filing Letter
2. May 29, 2024 Public Input Meeting Presentation; and
3. Certificate of Service.

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/s/Valerie J. Moxness
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