PowerOn Midwest™

Big Stone South to Brookings

OTTER TAIL POWER COMPANY Xcel Energy®

PowerOn Midwest – South Dakota

Brookings County

March 3, 2026

Utility team

Otter Tail Power Company | **Xcel Energy**

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PowerOn Midwest

Electricity use is growing throughout the Upper Midwest and **demand is expected to increase** over the next two decades.

This increase in electric use, combined with the changing ways electricity is generated, requires new long-term solutions to meet the needs of our communities, states, and region to ensure we can continue delivering the reliable service you need to power your daily lives.

PowerOn Midwest—tomorrow's reliability starts today.

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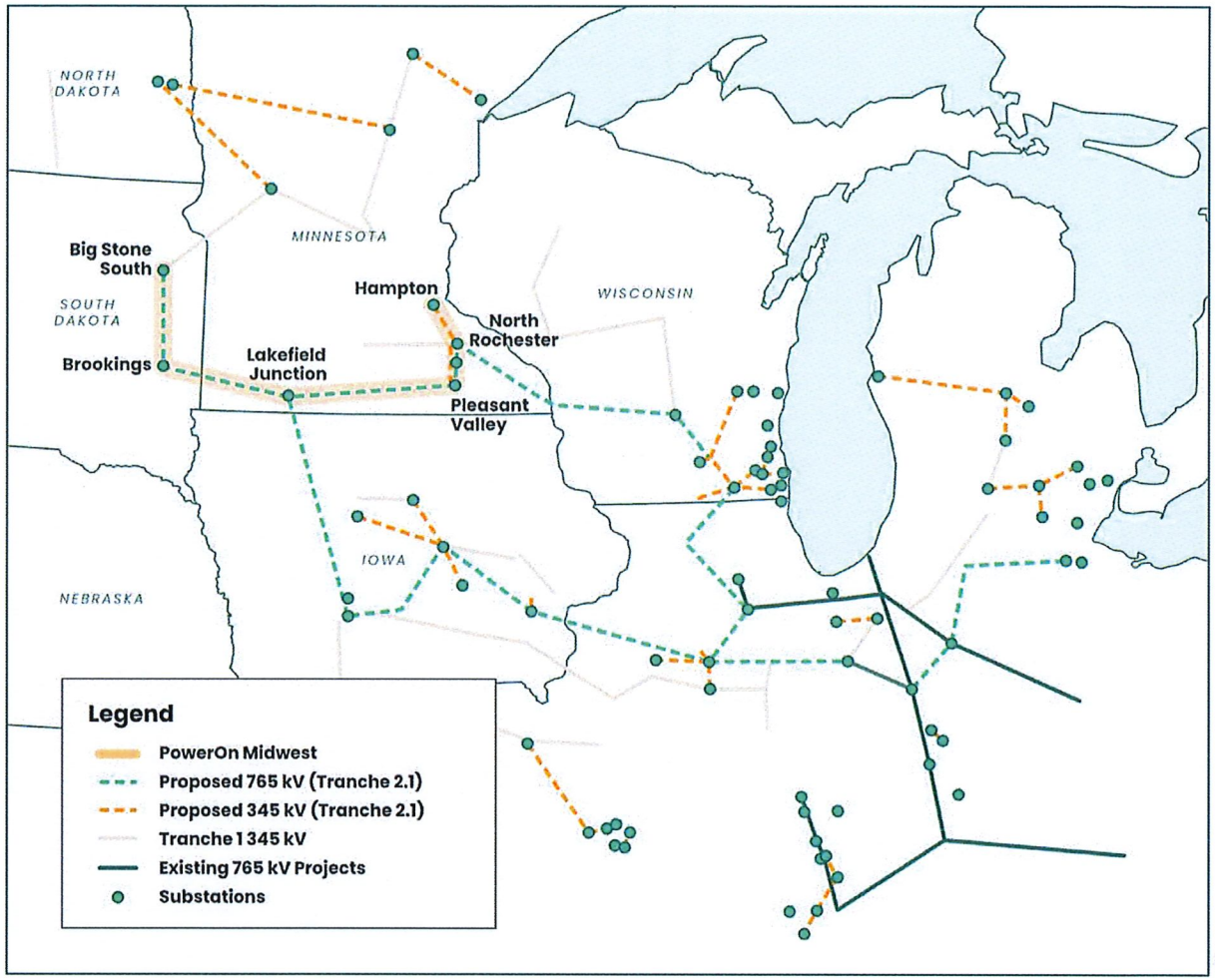
MISO Tranche 1 & 2.1



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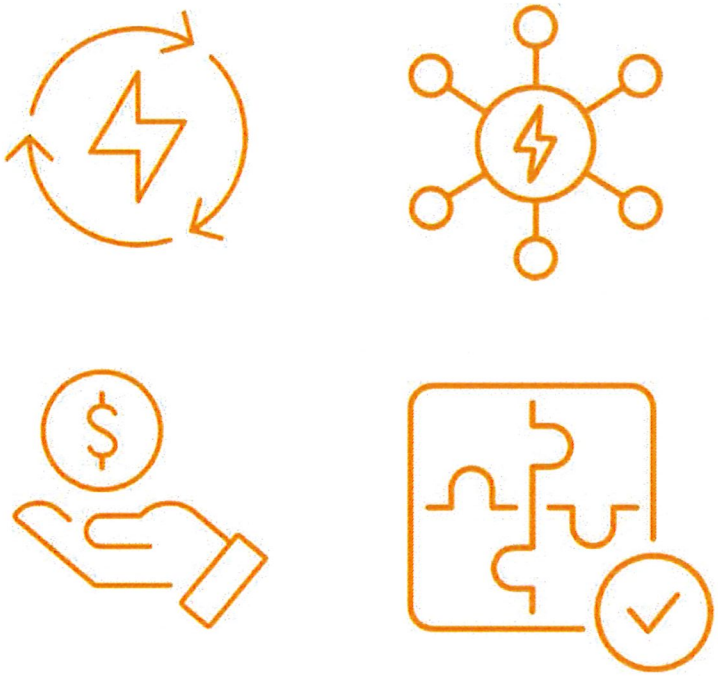
Project Benefits Overview



- Consistent and reliable power delivery in any season, under any conditions.
- Access to existing cost-effective generation.
- Additional access to new, always-ready natural gas plants.
- Emerging technologies.
- Enabled new and expanded manufacturing as well as other load additions in the communities we serve.

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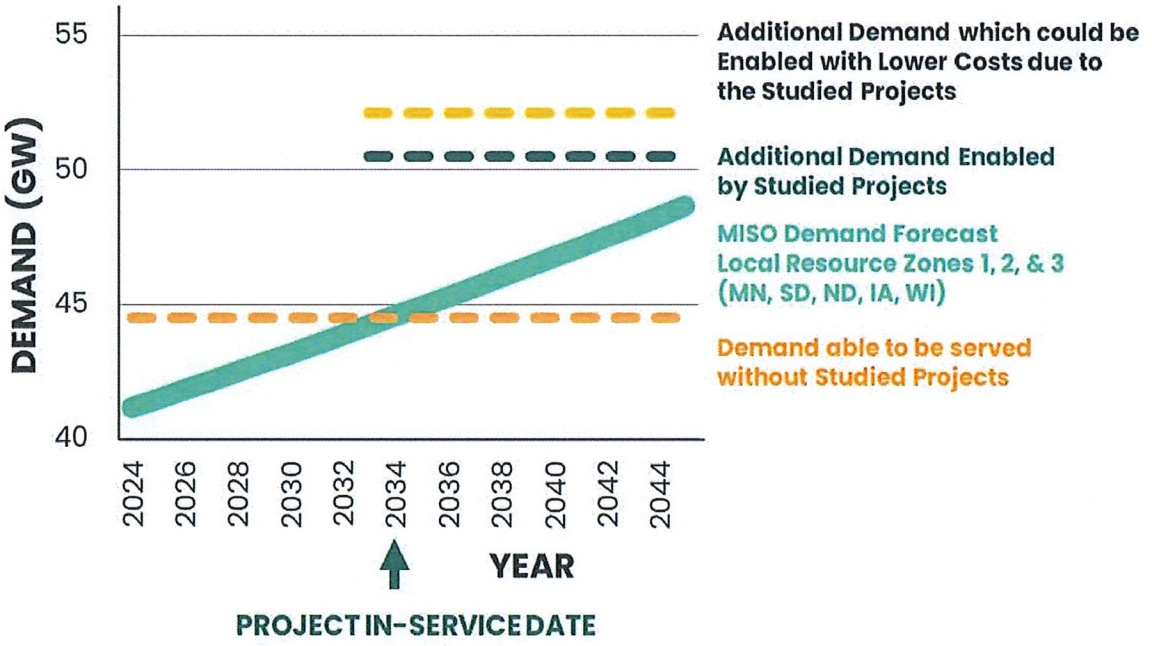
Project Benefits: Load Growth

The Studied Projects enable forecasted demand growth to be reliability served.

While needed to meet the current forecasted demand, the Studied Projects leave "space" to **accommodate approximately 3,000 MW of additional residential, commercial, and/or industrial demands**.

Demand Enabled by the Studied Project



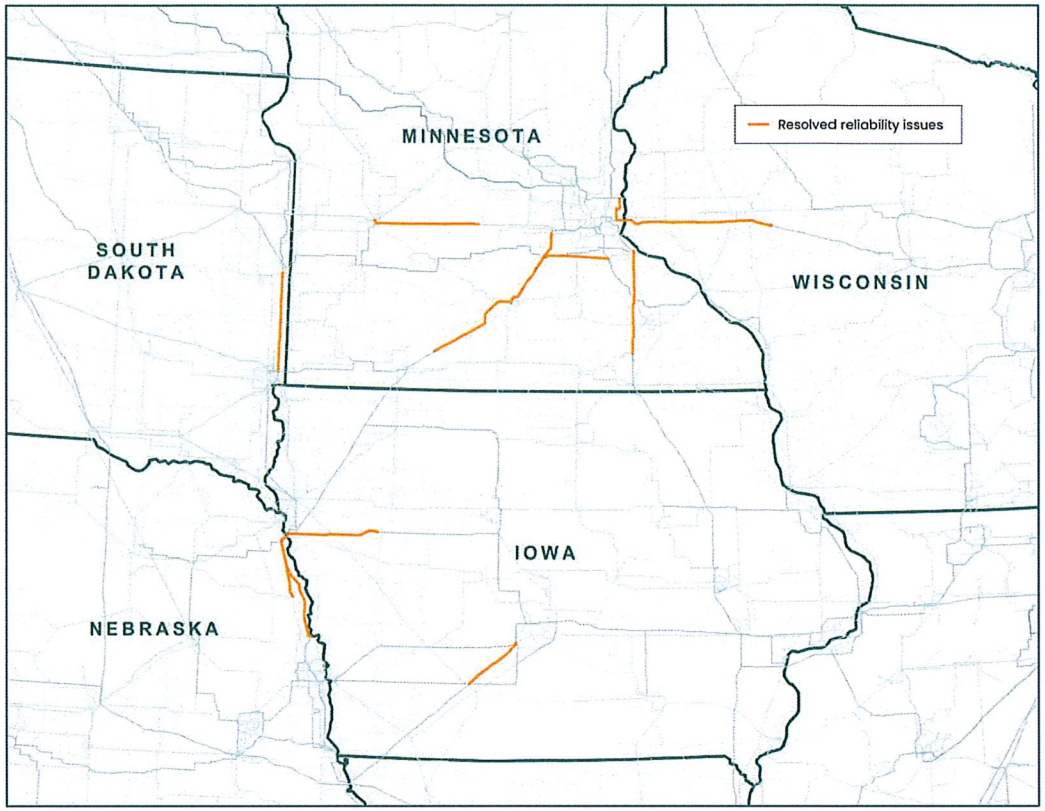
Project Benefits

The Studied Projects mitigate NERC reliability overloads on 102 facilities (**27** of which are greater than 200kV) - mitigating a total of **1,313** NERC reliability violations.*

Without the Studied Projects, **1,300 GWh** of demand is at risk of not being served on an annual basis (model year 2042).

Maintain reliability for every hour of the day

Top reliability issues resolved by the studied projects*

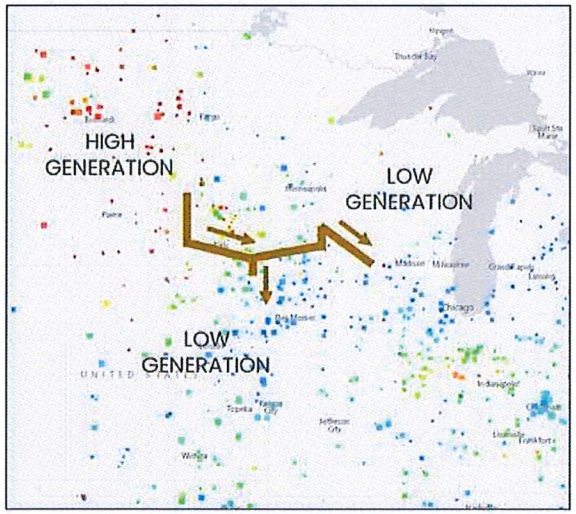


*Source: MISO MTEP 2024 Report

Project Benefits

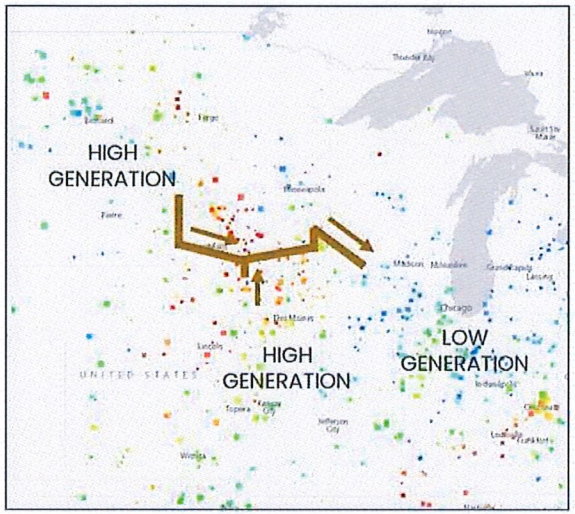
Enabling the grid to take on the role of baseload capacity

12:00 AM



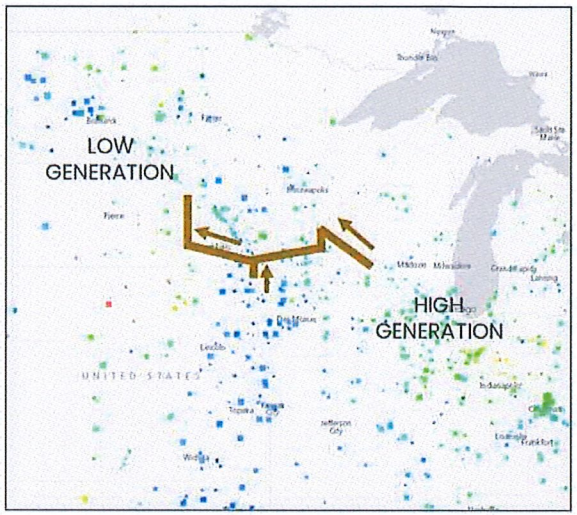
The Studied Projects solve:
Unserved demand: 3,407 MW
Curtailed generation: 788 MW

7:00 AM



The Studied Projects solve:
Unserved demand: 2,685 MW
Curtailed generation: 3,509 MW

7:00 PM



The Studied Projects solve:
Unserved demand: 2,354 MW
Curtailed generation: 326 MW

KEY: → Energy flow direction

Each square is a generator: ■ Full output ■ Low/No Output

← Warm colors to cool colors →

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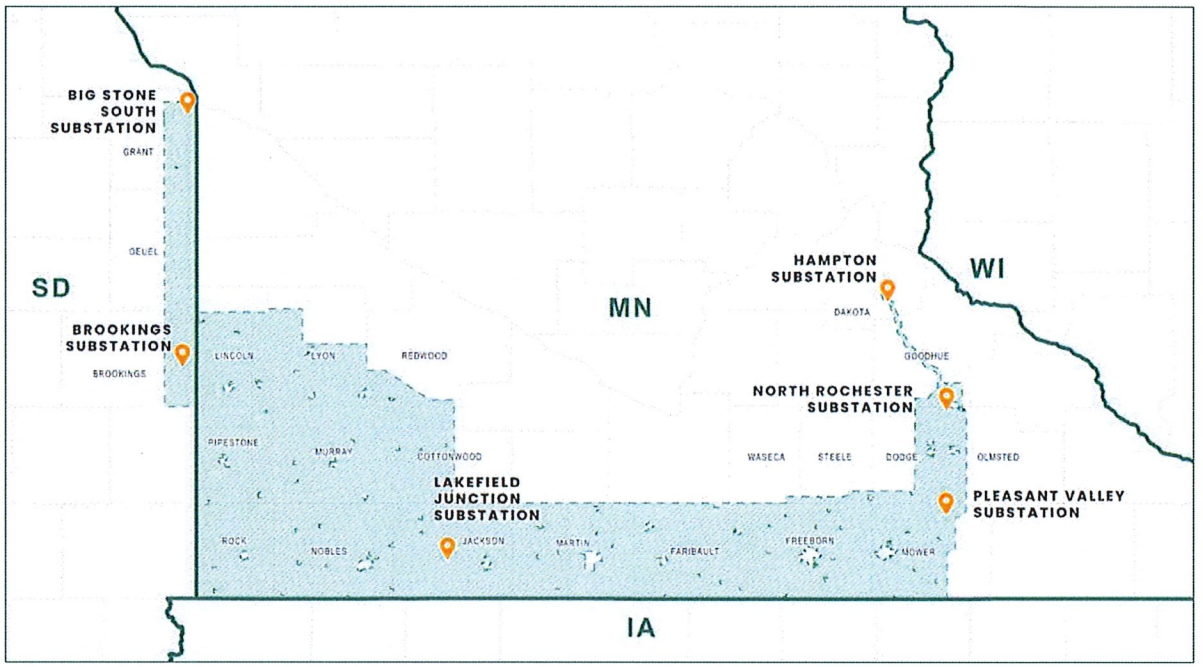
PowerOn Midwest project map

Project Segments:

- ***Big Stone South to Brookings County to SD/MN Border***- *765 kV* ***(South Dakota portion of LRTP#22)***
- South Dakota/Minnesota Border to Lakefield Junction – 765 kV ***(MN portion of LRTP#22)***
- Lakefield Junction to IA/MN border - 765 kV **(MISO LRTP#23)**
- Lakefield Junction to Pleasant Valley to North Rochester - 765 kV **(MISO LRTP#24)**
- Pleasant Valley to North Rochester to Hampton Corner - 345 kV **(MISO LRTP#25)**



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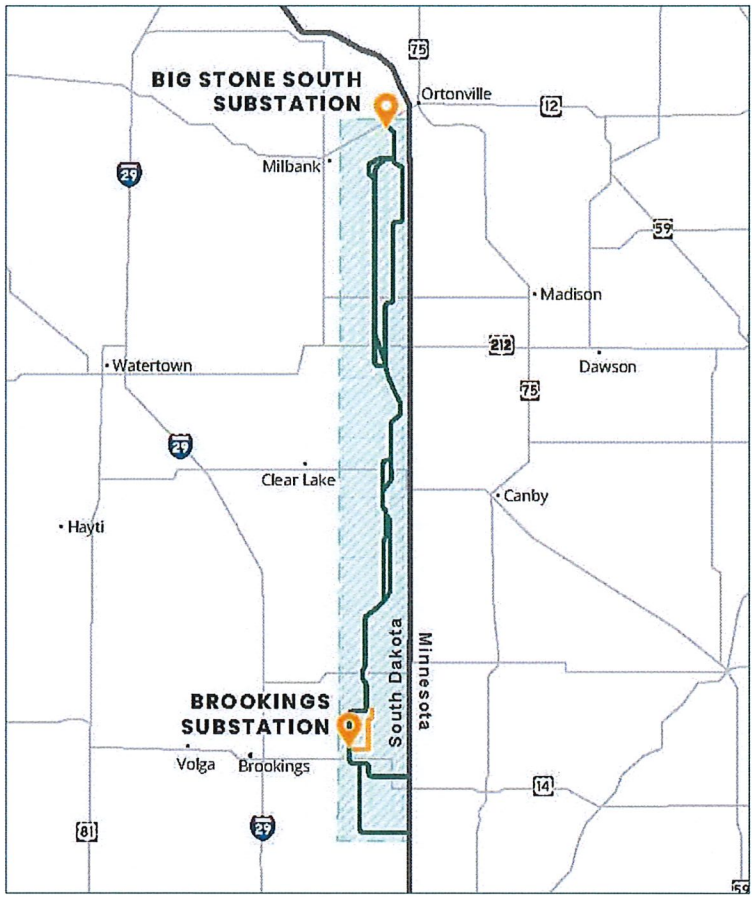
Big Stone South to Brookings County to SD/MN Border- 765 kV (South Dakota portion of LRTP#22)



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Technology

765 kV was recommended for several technology advantages:

- Efficiency
- Fewer Lines
- Lower impacts
- Meet growing power demands
- Resilient infrastructure
- Provide backup pathways

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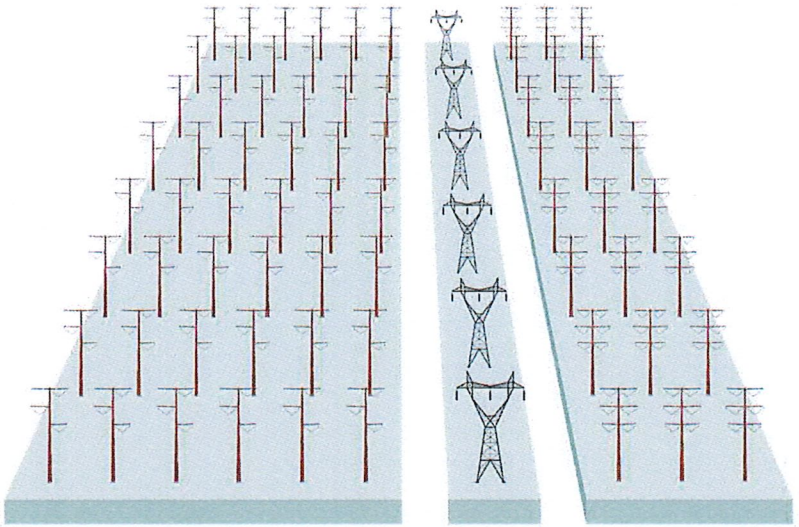
Per MISO, the electricity that can be moved by a single 765 kV line would be the same as:

- **Six single circuit 345 kV lines**
- **Or three double circuit 345 kV lines**



345 kV
SIX SINGLE CIRCUIT TOWERS
(900 ft of total right-of-way)

765 kV
ONE SINGLE CIRCUIT TOWER
(250 ft of total right-of-way)

345 kV
THREE DOUBLE CIRCUIT TOWERS
(450 ft of total right-of-way)

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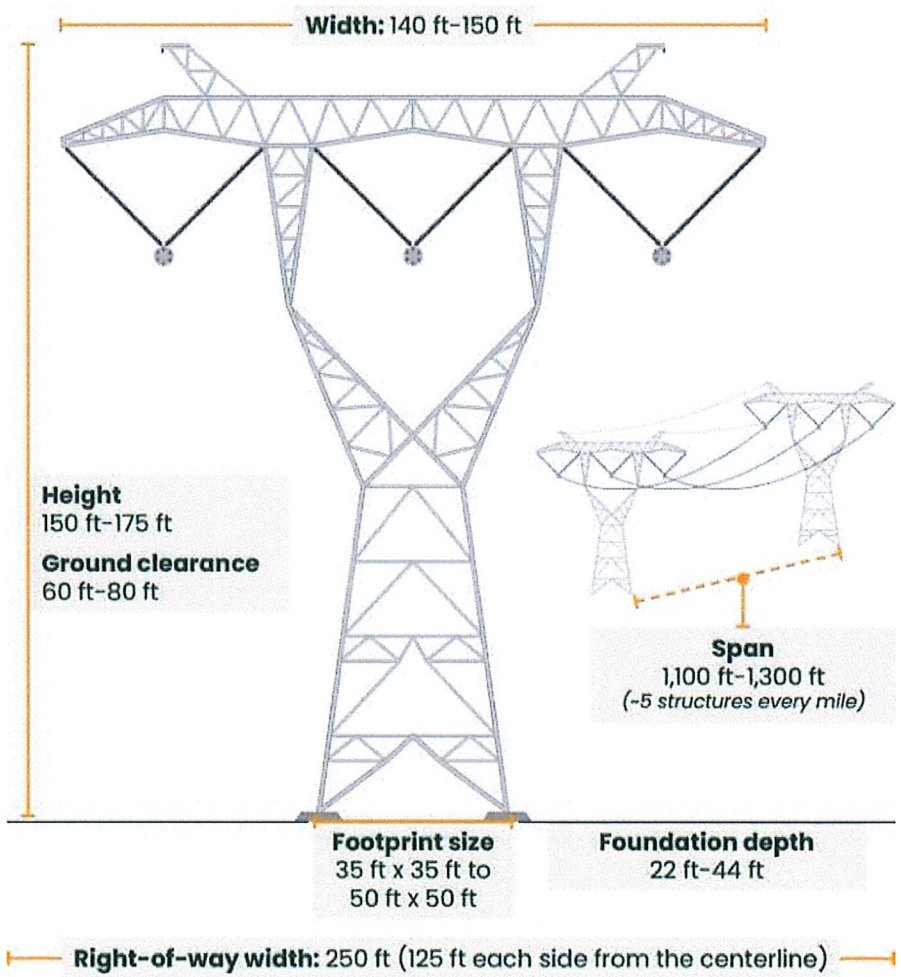
765 kV Structure

- Typical height: approximately 150 – 175 feet
- Width: approximately 140 – 150 feet Lattice style made of steel
- Foundation: 22 – 44 feet deep
- Right-of-Way: 250 feet
- Span: 1,100 – 1,300 feet (5 structures per mile
- Footprint (base): 35 x 35 ft to 50 x 50 ft



PowerOn South Dakota permitting

Requires approval from the South Dakota Public Utilities Commission (Facility Permit) and applicable county approvals

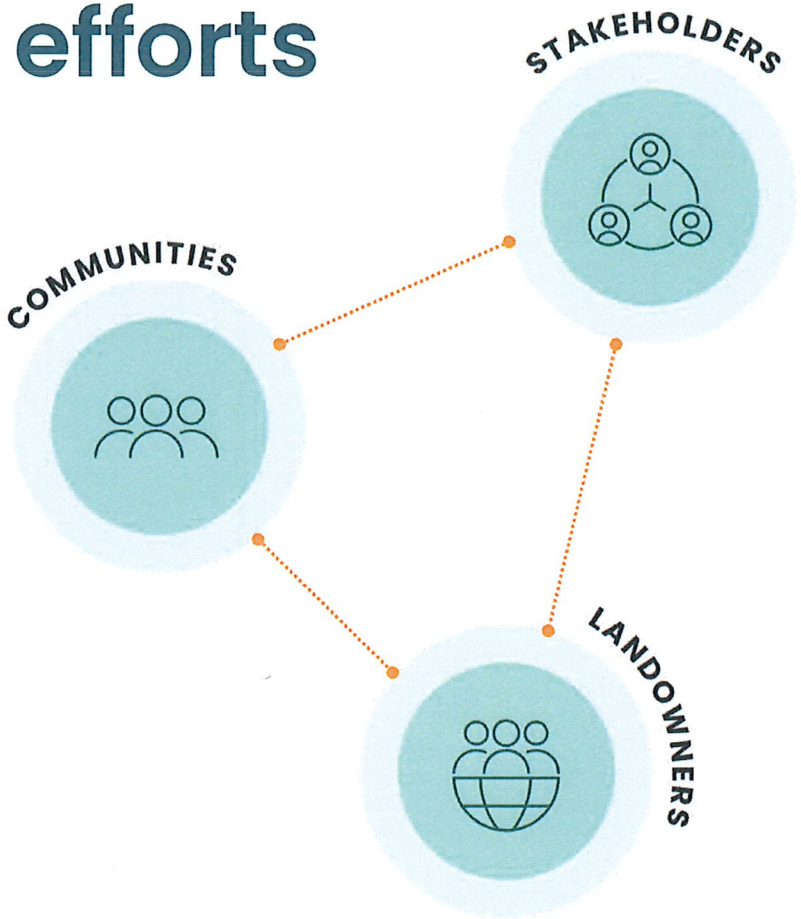
South Dakota Public Utilities Commission Facility Permit

County approvals

(e.g., conditional use permit)

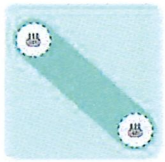
Public engagement efforts

PowerOn Midwest-South Dakota is employing a robust engagement approach that allows our team to connect with stakeholders, communities and landowners within the Study Area prior to filing the Facility Permit Application.



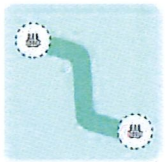
Route Development Process

The process for identifying a route for a new transmission line is a multi-step analysis that identifies potential route options that minimize impacts on humans and the environment. We'll follow South Dakota statutes and rules when selecting a route and work to minimize the impact on landowners and the environment.



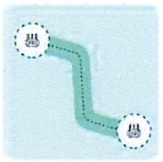
1. Identify route corridors

Using routing considerations and stakeholder input, we identified potential corridors for the Project.



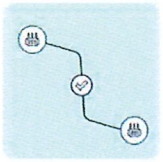
2. Refine to preliminary routes

With additional data and stakeholder input, we are refining route corridors into narrowed preliminary routes.



3. Identify proposed route

We'll identify a proposed route to submit in the Facility Permit Application to the South Dakota Public Utilities Commission.



4. SD PUC determines final route

The South Dakota Public Utilities Commission will review the Facility Permit application and determine the final route.

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Schedule

2025
- Project planning
- Initial stakeholder and landowner engagement

2026 – 2027
- File Facility Permit Application
- Routing and public engagement
- Negotiating easements with landowners

2027 – 2029
- Regulatory review and engagement
- Engineering design
- Environmental surveys
- Real estate
- County CUP Applications

2030 – 2034
- Construction

2034
- Anticipated in-service (Individual segment in-service dates will vary)

This schedule is preliminary and subject to change.

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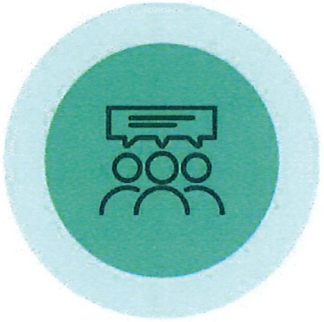
Connect with us



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Thank You

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