MEMORANDUM

TO: Council Members
FROM: Brian Dekiep, Montana State Staff
SUBJECT: Grid United and Northern Plains Connector

BACKGROUND:

Presenter: Brant Johnson, Grid United

Summary: The North Plains Connector is an approximately 385 mile and up to 525 kilovolt high voltage direct current (HVDC) transmission line connecting the U.S. eastern and western electric grids in Montana and North Dakota. The alternating current portions of the project, which will connect the converter stations on either end of the line to the local grids, will be 345 kV. The North Plains Connector will be open to all sources of electrical power generation. In response to demand, the project will be able to transport power in either direction along the line.

The North Plains Connector is in the planning and development phase. Grid United will continue to gather input from stakeholders and study the proposed project corridor. Using that input, Grid United will finalize their route analysis, purchase land rights, and initiate regulatory filings, with approvals expected in 2025. Construction will commence after the project obtains the necessary regulatory approvals. The North Plains Connector could be operational as early as 2029.
Resources:
https://northplainsconnector.com/

Proposed line map:
NORTH PLAINS CONNECTOR
A Grid United Project

Project Status and Overview
Project Overview
Establishing a Corridor Across the Northern US
**Overview & Configuration**

**Route**
- Length: ~385 miles
- 2 States (North Dakota, Montana)
- 9 Counties

**Rating**
- 525 kV HVDC (VSC), 3,000 MW

**Interconnections**
- **WECC**: 3,000 MW into Colstrip, MT 500 kV system
- **SPP**: 1,500 MW (AC) to new substation near Solen, ND
- **MISO**: 1,500 MW (AC) to Center, ND Substation
Establishing a Corridor and Route Via Stakeholder Input

Our routing process incorporates stakeholder feedback *prior to* seeking regulatory approval, fostering positive relationships with agencies, tribal governments, landowners and communities during early planning.

![Diagram of the routing process]

**GU's Right of Way Acquisition Process**

- **Survey Access**
  - Sign survey agreements & pay for survey access
  - Begin seeking landowner feedback on route

- **Right-of-Way Acquisition**
  - With environmental clearance and landowner agreement on route, begin acquiring options from landowners for right of way

- **Route Permitted**
  - Exercise option agreements per licensed route
  - If needed, seek new easement agreements
Extensive Stakeholder Outreach

- North Plains Connector has collaborated with the following stakeholders and is continuing to incorporate their feedback.
- The project has hosted 12 open houses for affected landowners and elected officials.

<table>
<thead>
<tr>
<th>Federal</th>
<th>State</th>
<th>Local</th>
<th>Further Outreach</th>
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<tbody>
<tr>
<td>• WAPA</td>
<td>• MT Governor</td>
<td>• County Commissioners of impacted MT &amp; ND Counties</td>
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<tr>
<td>• US Forest Service</td>
<td>• ND Governor</td>
<td>• MT Association of Counties</td>
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<td>• US Fish &amp; Wildlife Service</td>
<td>• MT &amp; ND Public Service</td>
<td>• ND County Commissioners Association</td>
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<td>• National Park Service</td>
<td>• Commission</td>
<td>• Local Utilities/Co-Ops</td>
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<td>• Bureau of Land Management</td>
<td>• MT &amp; ND State Senators</td>
<td>• Affected landowners</td>
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<td>• MT &amp; ND State Representatives</td>
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<td></td>
<td>• MT Dept. of Environmental Quality</td>
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<td>• MT &amp; ND Chamber of Commerce</td>
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<td>• MT &amp; ND Game &amp; Fish</td>
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<td>• MT &amp; ND Trust Lands</td>
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<td></td>
<td>• MT Sage Grouse Oversight Team</td>
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<td></td>
<td>• MT Dept. of Natural Resources &amp; Conservation</td>
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- 23 Indigenous Tribes
- 14 national environmental NGOs
- Treasure State Resources Association
- MT Stockgrowers’ Association
- International Brotherhood of Electrical Workers
- Lignite Energy Council
- Western Dakota Energy Association
Early and Consistent Tribal Engagement

Progressive Approach
• Inclusive engagement based on former treaty rights or, traditional cultural significance – no BIA trust lands
• Involved tribes early during routing, before formal consultation and Section 106
• Engaging with 23 tribes across Montana, North Dakota, and South Dakota

Involvement during route selection and surveys
• Tribal Cultural Specialists were embedded with environmental and archeology crews to identify and document tribal cultural places during survey season
• Each tribe offered participation to recognize sovereignty
• Monthly progress meetings with THPOs to discuss findings and proposed mitigation and avoidance

Next Step - Creating Tribal Cultural Report Preparation
• THPO-led group is designing a tribal cultural report for inclusion in the environmental report being prepared for NEPA
• Report will represent individual tribal histories, survey results, and traditional knowledge based on tribal preference
• Approach appreciated by the THPOs to provide the early input into the analysis and intended to aide former consultation
Focus on Risk Reduction

Transmission development is hard – Grid United is focused on overall risk avoidance and continual key risk mitigation

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<th>Risk</th>
<th>Mitigation</th>
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<td>Regulatory Timeline</td>
<td>Early stakeholder engagement during routing to propose a route that minimizes potential issues and opposition during scoping</td>
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<td>Landowner Opposition</td>
<td>Develop flexible route incorporating feedback from willing landowners and avoiding impacts to landowners opposed to the project – voluntary acquisition</td>
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<tr>
<td>Tribal Opposition</td>
<td>Engaged with tribal councils and Tribal Historic Preservation Officers during routing and included tribal specialists during surveys and rerouted real time</td>
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<td>Environmental Legal Challenges</td>
<td>Litigation typically challenges sufficiency of review. Performed full surveys and studied multiple alternatives. Acquiring options to respect agency review.</td>
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<td>Endangered Species Impacts</td>
<td>Engaged with state and federal environmental agencies during route development to avoid areas of concern – sage grouse core habitat</td>
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<td>Disparate Political Views on Carbon</td>
<td>Have maintained and emphasized the project is open to all generation types and is focused on grid improvements, resiliency, and market access</td>
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Project Timeline

Land Acquisition & Environmental Surveys

2022
- Stakeholder outreach, Environmental surveying

2023
- Begin option agreements

Permitting & Engineering

2024
- Regulatory filings: Federal (NEPA) and State
- Draft EIS

2025
- Record of Decision

Manufacturing & Construction

2026

2027

2028–2030

COD
## Development Status

<table>
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<th>Land</th>
<th>Commercial</th>
<th>Environmental Review &amp; Permitting</th>
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<td>• Acquired voluntary survey permission on <strong>94%</strong> of the Right of Way.</td>
<td>• Signed MOU with ALLETE Inc. In January 2023</td>
<td>• Conducted field surveys during the 2022 field season. Completed <strong>60%</strong> of required field work.</td>
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<td>• After starting in December 2023, have acquired Option for Easement agreements on <strong>19%</strong> of the Right of Way.</td>
<td>• Optimal commercial structure would involve participation by all, or nearly all, of those utilities whose customers benefit from the line.</td>
<td>• Will conduct field surveys again during 2023 field season. Largely tribal and cultural.</td>
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<td>• A landowner group called &quot;The Pro North Plains Connector Landowner Group&quot; has formed, representing up <strong>40-50%</strong> of the private ROW. They are expected to sign in second quarter.</td>
<td>• Have held productive conversations with numerous utilities including NorthWestern Energy, Basin Electric Power Cooperative, Pacificorp, Bonneville Power Administration, Portland General Electric, Avista, Idaho Power and Montana Dakota Utilities,</td>
<td>• Have cost recovery agreement in place with Montana Department of Environmental Quality, and Montana Major Facility Siting Act application will be filed June 30, 2023. MT DEQ hopes to coordinate their environmental review and scoping with federal agencies.</td>
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<tr>
<td>• Public land represents about <strong>10%</strong> of the ROW.</td>
<td>• Continuing to explore commercial opportunities with additional utilities and generators</td>
<td>• Will begin North Dakota County permitting in June. Will apply for Certificate of Corridor Combability from the North Dakota Public Service Commission in early 2024</td>
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<td>• Acquired Option for Purchase on <strong>Eastern Converter Station (160 Acres)</strong>. Offers presented for Western Converter Station and SPP Switchyard .</td>
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# Interconnection Status

**NorthWestern Energy**  
*on behalf of Colstrip transmission owners*

- Transmission-to-transmission interconnection request no. 7 for 3,000 MW accepted Jan 2022
- Feasibility study complete
- System Impact Study underway

**MISO**

- 2,000 MW Merchant HVDC Connection (Attachment GGG) request submitted Oct 2021
- Queue no. H108
- Draft System Impact studies for withdrawal show $44.5M in Steady State network upgrades
- LRTP Tranche 1 impact to be determined
- Minnkota Affected System studies underway

**SPP**

- 1,500 MW Merchant Transmission Developer Interconnection Request presented at SPP Transmission Working Group (TWG) in May 2022
- TWG approved feasibility study scope in September 2022
- Initial study results expected Q1 2023
State Permitting and NEPA Lead Agency Coordination

Montana DEQ - MFSA and MEPA
- MFSA covers all state permits
- MFSA requires scoping and alternatives analysis
- MT DEQ and federal agencies have agreed to coordinate their review

Federal Permitting – DOE NEPA lead?
- BLM (12 miles)
- USFS (9 miles)
- USFWS Section 7 vs. Section 10
- USDA – license across Ft. Keogh
- USACOE

NEPA/MEPA Coordinated Scoping and Environmental Review – Q3 2023
- Shared RFP to engage third party contractor
- One environmental report covering entire route

North Dakota PSC – Corridor Certificate and Route Permit – Q1 2024
- Corridor broader than NEPA – will be covered
- No environmental review, but will hear from state game and fish
- County Conditional Use Permits required before filing – begin Q3 2023
PA Consulting ran a production cost modelling study showing the project providing nearly $11 billion in wholesale market savings.

Additional savings from ancillary services, resiliency, more efficient capacity planning, and mitigating extreme events are not including in these calculations.
Line flows have a distinct seasonal profile in PA's study

While the majority of the project's utilization is East to West, there is a noticeable seasonal profile that shows West to East utilization during the spring hydro runoff season.
Beyond the scope of the PA study, increased geographic breadth saves customers money during scarcity

Extreme weather can occur over a large area, but is typically still regional, leading to distinct impacts on prices in SPP, MISO, and WECC.

While West prices spiked during the September 2022 heat wave, SPP and MISO prices were unaffected.

When MISO and SPP prices spiked due to gas prices and high demand during Winter Storm Uri, the West was largely unaffected.
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