

Appendix D
North Plains Connector LLC Ten-Year Plan

June 26, 2024

VIA E-MAIL AND FEDERAL EXPRESS

Mr. Steven Kahl
Executive Secretary
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480

**RE: North Plains Connector LLC's Ten Year Plan for 2024-2034
Case No. PU-24-___**

Dear Mr. Kahl:

Enclosed for filing are two copies of the following documents:

1. North Plains Connector LLC's Ten Year Plan: 2024-2034;
2. Notice of Filing Ten Year Plan: 2024-2034; and
3. Certificate of Service.

Electronic versions of the above-referenced documents and this letter were filed with the Commission today via e-mail.

If you have any questions, please let me know.

Sincerely,



MOLLIE M. SMITH

MMS/82510807
Enclosures

cc: Donnie Joe (DJ) Worth (w/ encls. via e-mail)

TEN YEAR PLAN: 2024-2034
North Plains Connector LLC

June 2024

In accordance with N.D.C.C. § 49-22-04 and N.D.A.C. Ch. 69-06-02, North Plains Connector LLC submits the following Ten Year Plan for years 2024 through 2034.

(1) *A description of the general location, size, and type of all facilities to be owned or operated by the utility during the ensuing ten years, as well as those facilities to be removed from service during the ten-year period.*

North Plains Connector LLC (North Plains), a wholly-owned, single-purpose indirect subsidiary of Grid United LLC (Grid United), plans to construct and operate the North Plains Connector, an interregional transmission line project intended to connect the Midcontinent Independent System Operator (MISO) and Southwest Power Pool (SPP) on the eastern grid with the Western Electricity Coordinating Council (WECC) electrical power markets on the western grid. The North Plains Connector plans include the following components:

- Two alternating current (AC)/direct current (DC) converter stations, one near Colstrip, Montana and one in Morton County, North Dakota.
- An approximately 339-mile, 525-kV high voltage direct current (HVDC) transmission line between the converter stations (approximate 170 miles in North Dakota).
- Alternating current (AC) transmission lines extending between each converter station and three points of interconnection to the grid:
 - In Montana, two approximately 3-mile single circuit 500-kV transmission lines between the western converter station and an existing substation near Colstrip;
 - In North Dakota, an approximately 22-mile double-circuit 345-kV transmission line between the eastern converter station and a future SPP switchyard in Morton County (to be constructed and owned by Basin Electric Power Cooperative); and
 - In North Dakota, an approximately 51-mile double-circuit 345-kV transmission line between the eastern converter station and the future Center substation in Oliver County (to be developed, constructed, and owned by Minnesota Power).
- Associated permanent facilities (e.g., fiber repeater stations and permanent access roads), and temporary facilities (e.g., laydown yards and temporary access roads).

In North Dakota, the North Plains Connector is intended to be located in the following counties: Golden Valley, Slope, Hettinger, Grant, Morton, and Oliver (the Project). North Plains plans to

submit a combined application for a Certificate of Corridor Compatibility and Route Permit to the North Dakota Public Service Commission (PSC) for the Project in 2025 and anticipates beginning construction in 2029 and commencing operations in 2032.

Other than the proposed Project, North Plains does not have any transmission or generation facilities located in North Dakota. The Project will have an estimated life of greater than 10 years. As such, North Plains does not have any plans to decommission any transmission or generation facilities within the timeframe of this plan.

- (2) *An identification of the location of the tentative preferred site for all electric energy conversion facilities and the tentative location of all electric transmission facilities on which construction is intended to be commenced within the ensuing five years and such other information as may be required by the commission. The site and corridor identification shall be made in compliance with the criteria published by the commission pursuant to section 49-22-05.1.*

As noted above, the proposed Project route goes through Golden Valley, Slope, Hettinger, Grant, Morton, and Oliver Counties, North Dakota. A map depicting the location of the proposed Project in North Dakota is attached as **Exhibit A**. The Project will be designed so as to comply with the exclusion and avoidance areas referenced in N.D.C.C. § 49-22-05.1 and identified in N.D.A.C. Section 69-06-08-02.

- (3) *A description of the efforts by the utility to coordinate the plan with other utilities so as to provide a coordinated regional plan for meeting the utility needs of the region.*

The Project plans to connect MISO and SPP on the eastern grid with WECC electrical power markets on the western grid. The Project interconnections at SPP, MISO, and WECC are intended to adhere to an outage plan and schedule for interconnection to energized facilities. North Plains will coordinate with the incumbent utilities (Basin Electric Power Cooperative, Inc. and Minnesota Power in North Dakota) on a specific timeline to interconnect the existing facilities to the new facilities.

- (4) *A description of the efforts to involve environmental protection and land-use planning agencies in the planning process, as well as other efforts to identify and minimize environmental problems at the earliest possible stage in the planning process.*

Core to North Plains' development philosophy is the integration of stakeholder input prior to officially entering the regulatory process. North Plains has engaged federal, state, Tribal, and local stakeholders throughout the development of the Project to incorporate feedback into Project siting. North Plains will continue to consult with these stakeholders to identify, avoid, minimize, and/or mitigate potential impacts to the environment from the construction and operation of the Project. North Plains has also been working closely with counties and townships to ensure conformance with local land use regulations, including securing zoning permits and entering into road use agreements, as needed. To assist with this agency and stakeholder engagement and analysis, North Plains has engaged a team of qualified environmental consulting and legal firms to study and identify avoidance and exclusion areas within the proposed Project corridor and route, in accordance with N.D.C.C. Ch. 49-22 and N.D.A.C. Section 69-06-08-02.

- (5) *A statement of the projected demand for the service rendered by the utility for the ensuing ten years and the underlying assumptions for the projection, with that information being as geographically specific as possible, and a description of the manner and extent to which the utility will meet the projected demands.*

Transmission infrastructure forms the backbone of the nation’s power system, ensuring that Americans have constant access to affordable and reliable electricity to power homes, businesses, and communities. Like other forms of infrastructure, such as transportation, municipal water/wastewater, and communications, the electrical grid needs significant investment in maintenance upgrades and modernization to meet rapidly changing market demands.

While the United States has an abundance of energy generation resources spread throughout the country, these resources are not always located in proximity to, or connected to load centers; thus the nation relies on a highly functioning, effectively connected grid to deliver reliable power from generation to load. Complicating the nation’s electrical system, the United States contains not one but three separate grids, known as interconnections. These three systems—the Western Interconnection, Eastern Interconnection, and the Texas Interconnection (or Electric Reliability Council of Texas)—are managed independently and transfer very limited amounts of energy between each other.

There are currently seven “cross-seam” connections between the Western and Eastern Interconnections; however, these small back-to-back DC ties are located in remote locations at the very edge of the seam and serve localized needs. These ties were designed to meet the load obligations of nearby utilities or wholesale power providers rather than to serve larger regional demand.

This grid structure has functioned for several decades, but changing market dynamics are forcing development of a more robust system. First, electrical energy consumption is increasing across the U.S. The U.S. Energy Information Administration’s Annual Energy Outlook from 2023 estimates that electricity consumption in the U.S. will increase by 15 percent by 2050.¹ Second, traditional capacity increases from performing minor system upgrades or adding new generation are unable to keep pace with the rapidly changing market demands. At least three primary factors affect the ability of the United States’ electrical grid to reliably deliver energy to consumers and are hastening the need for significant transmission infrastructure investment. These effects arise from:

- changes in public policy that decrease baseload generation capacity, and hamper the ability of overall supply to meet growing energy demands or load growth;

¹ U.S. Energy Information Administration, *Annual Energy Outlook 2023*, at 14 (March 16, 2023). Retrieved from <https://www.eia.gov/outlooks/aeo/>.

- rapid changes in the generation resource portfolio mix that affect reliability by reducing the ability to balance supply and demand in real time; and
- increasing frequency of extreme weather events that affect grid resiliency.²

North Plains plans to construct a high-voltage direct current transmission line and related facilities that are expected to provide additional transfer capacity at 525-kV between the eastern and western grids. Specifically, the Project is intended to connect the MISO and SPP markets on the eastern grid with the WECC electrical power markets on the western grid. Regulations governing the electrical grid require the Project to sell capacity without preference towards a particular generation technology. Portions of the Project or capacity rights may be owned by electric utilities, cooperatives, government entities, corporate energy providers, or independent generators in the WECC, MISO, or SPP regional power markets.

Ultimately, the purpose of the Project is to bridge the interregional gap between WECC in the Western Interconnection and SPP and MISO in the Eastern Interconnection. This high-capacity, bi-directional connection is intended to:



- improve reliability for both Interconnections by increasing transfer capacity and access to additional generation between markets;
- improve resiliency through the ability to tap regional dispatchable and inverter-based generation, and to provide dynamic voltage and frequency support services to help maintain operational flexibility; and
- mitigate weather-driven system outages by providing a path to quickly and efficiently shift power where needed most.

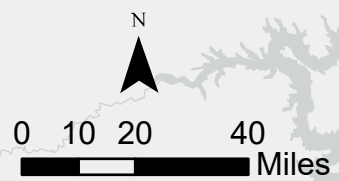
Not only is the North Plains Connector expected to provide these benefits to North Dakota, but it is also expected to benefit and strengthen the broader regional transmission grid.

² See, e.g., MISO, *MISO Updates – Reliability, Transmission, and EPA Regulations* (August 7, 2023). Accessed online June 13, 2024. Retrieved from <https://ndlegis.gov/sites/default/files/committees/68-2023/25.5031.02000-1100am-presentation.pdf>; see also Henderson, Natasha, *Transmission Grid Reliability, Resource Adequacy and Generation Interconnection in SPP (ND)* (August 7, 2023). Accessed online June 13, 2024. Retrieved from <https://ndlegis.gov/sites/default/files/committees/68-2023/25.5031.02000-100pm-presentation.pdf>; see also North American Electric Reliability Corporation, *2022 Summer Reliability Assessment* (May 2022). Accessed online June 13, 2024. Retrieved from https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_SRA_2022.pdf.

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 Proposed Route - Montana
 Proposed Route - North Dakota



STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

**IN THE MATTER OF THE FILING OF A
TEN YEAR PLAN BY NORTH PLAINS
CONNECTOR LLC**

Case No. PU-24-___

**NOTICE OF FILING TEN YEAR PLAN
2024-2034**

PLEASE TAKE NOTICE that North Plains Connector LLC, in accordance with N.D.C.C. § 49-22-04 and N.D.A.C. Ch. 69-06-02, filed a Ten Year Plan for the years 2024 through 2034 with the North Dakota Public Service Commission on June 26, 2024, and the Auditors for Golden Valley, Slope, Hettinger, Grant, Morton and Oliver Counties on June 26, 2024.

Dated this 26th day of June, 2024.

FREDRIKSON & BYRON, P.A.



By _____

MOLLIE M. SMITH, ND Bar #06714
Attorney for North Plains Connector LLC
60 South Sixth Street, Suite 1500
Minneapolis, MN 55402-4400
(612) 492-7270

CERTIFICATE OF SERVICE

I, the undersigned, hereby certify that a true and correct copy of the following document:

NOTICE OF FILING TEN-YEAR PLAN: 2024-2034

was served on the 26th day of June, 2024 by placing the same in the United States mail, postage prepaid, properly addressed to the following:

North Dakota Aeronautics Commission
P.O. Box 5020
Bismarck, ND 58502-5020

North Dakota Office of Attorney General
600 E. Boulevard Ave.
Dept. 125
Bismarck, ND 58505-0040

North Dakota Department of Agriculture
600 E. Boulevard Ave.
Dept. 602
Bismarck, ND 58505-0020

North Dakota Department of Health
600 E. Boulevard Ave.
Bismarck, ND 58505-0250

North Dakota Department of Human Services
600 E. Boulevard Ave.
Dept. 325
Bismarck, ND 58505-0250

North Dakota Department of Labor and Human Rights
600 E. Boulevard Ave.
Dept. 406
Bismarck, ND 58505-0340

North Dakota Department of Career and Technical Education
State Capitol, 15th Floor
600 E. Boulevard Ave., Dept. 270
Bismarck, ND 58505-0610

North Dakota Department of Commerce
1600 E. Century Ave., Suite 6
P.O. Box 2057
Bismarck, ND 58502-2057

Energy Infrastructure and Impact Office
North Dakota Department of Trust Lands
1707 North 9th Street
Bismarck, ND 58501

North Dakota Game and Fish Department
100 N. Bismarck Expressway
Bismarck, ND 58501-5095

North Dakota Industrial Commission
State Capitol, 14th Floor
600 East Boulevard Ave., Dept. 405
Bismarck, ND 58505-0840

Office of Governor Doug Burgum
State of North Dakota
600 E. Boulevard Ave.
Bismarck, ND 58505-0001

North Dakota Department of Transportation
608 E. Boulevard Ave.
Bismarck, ND 58505-0700

State Historical Society of North Dakota
612 E. Boulevard Ave.
Bismarck, ND 58505-0830

North Dakota Indian Affairs Commission
State Capitol Building
600 E. Boulevard Ave.
1st Floor - Judicial Wing, Rm. #117
Bismarck, ND 58505-0300

Job Service North Dakota
P.O. Box 5507
Bismarck, ND 58506-5507

North Dakota Department of Trust Lands
1707 North 9th Street
Bismarck, ND 58501

North Dakota Parks and Recreation Department
Liberty Memorial Building
604 E Boulevard Ave, Dept. 750
Bismarck, ND 58505

Natural Resources Conservation Service
North Dakota NRCS State Office
220 East Rosser Avenue
Federal Building
Bismarck, ND 58502-1458

North Dakota Department of Water Resources
1200 Memorial Highway, Dept. 770
Bismarck, ND 58504

United States Department of Defense
1400 Defense Pentagon
Washington, DC 20301-1400

United States Fish and Wildlife Service
North Dakota Ecological Services Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926

United States Army Corps of Engineers
North Dakota Regulatory Office
3319 University Drive
Bismarck, ND 58504

Federal Aviation Administration
United States Department of Transportation
800 Independence Ave. SW
Washington, DC 20591

North Dakota Transmission Authority
c/o North Dakota Industrial Commission
State Capitol 14th Floor
600 E. Boulevard Ave. Dept. 405
Bismarck, ND 58505-0840

North Dakota Pipeline Authority
c/o North Dakota Industrial Commission
State Capitol 14th Floor
600 E. Boulevard Ave. Dept. 405
Bismarck, ND 58505-0840

North Dakota Department of Environmental Quality
4201 Normandy Street
Bismarck, ND 58503-1324

North Dakota Geological Survey
600 East Boulevard Avenue,
Bismarck, ND 58505-0840

North Dakota Forest Service
State Headquarters - Molberg Center
307 - 1st Street East
Bottineau, ND 58318-1100

Federal Bureau of Land Management
Montana/Dakotas State Office
5001 Southgate Drive
Billings, MT 59101

Military Aviation and Installation Assurance Siting Clearinghouse
3400 Defense Pentagon, Room 5C646
Washington, DC 20301 – 3400

20th Airforce 91st Missile Wing
196 Missile Ave.
Minot AFB, ND 58705-5006

Minot Air Force Base
196 Missile Ave.
Minot AFB, ND 58705-5006

Grand Forks Air Force Base
757 Tuskegee Amn. Blvd.
Grand Forks Air Force Base, ND 58205
Building 418, East Entrance

Golden Valley County Board of Commissioners
c/o Tamra Sperry, County Auditor
PO Box 67
Beach, ND 58621

Slope County Board of Commissioners
c/o Lorrie Buzalsky
County Courthouse
206 Main Street
Amidon, ND 58620

Hettinger County Board of Commissioners
c/o Jeri Schmidt, County Auditor
County Courthouse
336 Pacific Ave
Mott, ND 58646

Grant County Board of Commissioners
c/o Sara Meier, County Auditor
P.O. Box 227
Carson, ND 58529

Morton County Board of Commissioners
c/o Dawn Rhone, County Auditor
County Courthouse
210 2nd Ave NW
Mandan, ND 58554

Oliver County Board of Commissioners
c/o Jaden Schmidt, County Auditor
PO Box 188
115 West Main
Center, ND 58530



MOLLIE M. SMITH

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

**IN THE MATTER OF THE FILING OF A
TEN YEAR PLAN BY NORTH PLAINS
CONNECTOR LLC**

Case No. PU-24-_____

CERTIFICATE OF SERVICE

Mollie M. Smith, being first duly sworn, does depose and state that on June 26, 2024, she served the following document:

Ten Year Plan: 2024-2034

by placing a true and correct copy of said document in envelopes addressed as follows:

Tamra Sperry
Golden Valley County Auditor
PO Box 67
Beach, ND 58621

Lorrie Buzalsky
Slope County Auditor
County Courthouse
206 Main St
Amidon, ND 58620

Jeri Schmidt
Hettinger County Auditor
336 Pacific Ave
Mott, ND 58646

Sara Meier
Grant County Auditor
P.O. Box 227
Carson, ND 58529

Dawn Rhone
Morton County Auditor
County Courthouse
210 2nd Ave NW
Mandan, ND 58554

Jaden Schmidt
Oliver County Auditor
PO Box 188
115 West Main
Center, ND 58530

and depositing the same, with postage prepaid, in the United States mail at Minneapolis, Minnesota.

A handwritten signature in cursive script that reads "Mollie M. Smith".

Mollie M. Smith