

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Midcontinent Independent System Operator, Inc.)	Docket No. ER16-1107-000
ALLETE, Inc.)	Docket No. ER16-1108-000
Great River Energy,)	

Midcontinent Independent System Operator, Inc.)	Docket No. ER16-1116-000
ALLETE, Inc.)	

**COMMENTS OF RESIDENTS AND RATEPAYERS AGAINST THE NOT-SO-GREAT
NORTHERN TRANSMISSION LINE (RRANT)**

As an Intervenor in Minnesota’s Certificate of Need proceeding¹ for the Great Northern Transmission Line, Residents and Ratepayers Against the Not-so-Great Northern Transmission Line (hereinafter “RRANT”) appreciate the opportunity to Comment and the brief extension granted by the Commission. While RRANT does not have resources to intervene in this docket, these comments are offered for consideration.

Residents and Ratepayers Against the Not-so-Great Northern Transmission Line agree with the concerns raised by Missouri River Energy Services (hereinafter “MRES”), particularly noting that third parties may well be affected by the proposed “Zonal Agreements.” Most importantly, Minnesota Power, MRES, and other ratepayers and the public interest is at issue, and those parties are not represented in this proceeding. From the initial proposal and application for a Minnesota Certificate of Need and Presidential Permit, the obvious purpose of

¹ Dockets of Minnesota PUC online at eDockets, search for 12-1163:
<https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showeDocketsSearch&showEdocket=true&userType=public>

the line is transmission of energy for wholesale markets, the first leg of a much larger project, designed to transfer large amounts of electricity. This wholesale marketing and sales of electricity is a private purpose, and the application and granting of the Certificate of Need was based on the premise that this was to be a “participant funded” project.

I. MRES HAS VALID AND REASONABLE CONCERNS ABOUT CAPACITY OF GNTL AND FUTURE EFFORTS TO ALLOCATE REVENUE REQUIREMENTS TO UNWILLING PARTIES

The Great Northern Transmission Line (hereinafter “GNTL”) is a “participant funded” project, a triple-bundled 500 kV transmission line, with specifications matching those of the other nearby 500 kV transmission lines. It is also the same configuration as the high capacity Susquehanna-Roseland transmission line in New Jersey.

A. GNTL IS AN EXTREMELY HIGH CAPACITY TRANSMISSION LINE

The claimed “need” for this GNTL project is very low, but the capacity for this project, a triple-bundled 500 kV transmission line, is very high. As applied for in the Minnesota Certificate of Need, the “need” is for 250MW in the MP/Manitoba Hydro PPA and 133 MW of transfer capacity, or at most, 383 MW, or a total of 750 MW for the Minnesota Power PPA and transmission requests of others, and 883 MW after “subsequent analysis.” MPUC Docket 12-1163, Ex. 42, Winter Direct, p. 3. The project capacity as designed, a 500 kV triple bundled 1192.5 kcmil ACSR “Bunting” conductor, is 2,000 amps and 1172 MVA. MPUC Docket 12-1163, Ex. 9, Application, p 24, 45; Ex. 42, Winter Direct, p. 4, 11. The MISO studies of this project were focused on 1100 MW increased capacity, consistent with the 1172 MVA rating. The 383 MW of Minnesota Power Transmission Service Requests is only roughly one-third of the 1100 MW planned transfer capacity and the 1172 MVA rating of the line. In the Minnesota

PUC Certificate of Need docket, there was an initial claim of an additional 500 MW in PPAs for Wisconsin utilities, but 250 MW was later withdrawn.

B. THE PROJECT AS APPLIED FOR IS BUT A SMALL PART OF THE PROJECT AS STUDIED.

This project, as proposed and studied by MISO, extend from Manitoba to the Minnesota Arrowhead substation, beyond the Blackberry substation, through Wisconsin towards or into Michigan. The Blackberry to Arrowhead portion was postponed after the initial Minnesota filing. As noted by RRANT in the Minnesota Certificate of Need proceeding, this project is the first leg of a much larger transmission project envisioned by MISO, shown in the MISO *Northern Area Study* as heading to the east, through Wisconsin or the UP, and towards Detroit:



Figure E-2: Northern Area Study Transmission Options

Minnesota PUC Docket 12-1163, Ex. 23, GNTL Application, Appendix M, MISO *Northern Area Study*, p. 5.²

Similarly, the *MH – US TSR Sensitivity Analysis Draft Report (Eastern Plan)* studied the

² MPUC CoN Docket 12-1163, Exhibit 23, GNTL Application, Appendix M eFiled: [201310-92773-06](https://www.puc.state.mn.us/dockets/12-1163/201310-92773-06)

same Dorsey to Blackberry to Arrowhead transmission addition:

- **250MW transfer, Riel-Shannon 230kV**
No valid constraints were found for 250 MW transfer.
- **750MW transfer, Dorsey-Blackberry 500kV**
The 750MW transfer option showed violations on two MP facilities. These would both be mitigated by increasing the thermal line ratings. Blackberry 500/230 kV Transformer is not a concern as actual size can still be changed to fit the need. It is estimated to cost 2.16 million to upgrade Blackberry-Nashwauk 115kV.
- **1100MW transfer, Dorsey-Blackberry 500kV, 345kV Blackberry-Arrowhead 345kV double circuit**
No valid constraints were found for 1100 MW transfer.
- **No Harm Test, Dorsey-Blackberry 500kV, 345kV Blackberry-Arrowhead 345kV double circuit**
No valid constraints were found for 1100 MW transfer.

MPCU Docket 12-1163, Ex. 30, GNTL Application, Appendix Q, p. 7.³ What's particularly interesting about the *MH – US TSR Sensitivity Analysis* is that the Dorsey – Arrowhead “1100 MW transfer” and the “No Harm Test” both showed that “no valid constraints were found for 1100 MW transfer,” but there were problems with the configuration applied for and permitted in Minnesota -- the 750 MW transfer from only Dorsey-Blackberry (not through to Arrowhead). According to the study, that configuration required mitigation on two Minnesota Power facilities, including increase of the line ratings, a change in the Blackberry transformer, and an upgrade of the Blackberry-Nashwauk line. In other words, the studies show higher transfer capacity works electrically, but the lower capacity does not, calling into question the credibility, practicality, and likelihood of the plan to utilize a lower capacity rather than the higher capacity..

The Manitoba – United States Transmission Development Wind Injection Study:

Maximizing Wind and Water showed the same comparison of a West Option and East Option:

The two main Manitoba to US transmission configurations evaluated include a Fargo (western) configuration with a Winnipeg, MB (Dorsey substation) to Fargo, ND (Bison substation) 500 kV then connecting to the CapX (Fargo to Twin Cities) transmission and an Iron Range (eastern) configuration with a Winnipeg,

³ MPCU Docket 12-1163, Ex. 30, GNTL Application, Appendix Q eFiled: [201310-92784-02](#) (Application List of Appendices and Master Exhibit List have these reversed, P is Q and Q is P).

MB (Dorsey substation) to Iron Range, MN (Blackberry substation) 500 kV line then continuing with a double circuit 345 kV to Duluth, MN (Arrowhead substation).

MPUC Docket 12-1163, Ex. 25, GNTL Application, Appendix O, *The Manitoba – United States Transmission Development Wind Injection Study: Maximizing Wind and Water*, p. 2.⁴

This study also reviewed Dorsey to Blackberry to Arrowhead:

Eastern Plan Phase 2 (E2)

In addition to the basic Eastern Plan facilities, a potential second phase of the Eastern Plan consists of the development of a ~60 mile double circuit 345 kV line from the Iron Range Substation to the Arrowhead Substation. To connect to the new 345 kV lines, the Iron Range Substation would be expanded to include two 1200 MVA, 500/345 kV transformers.

Eastern Plan Phase 2 with Blackberry – Arrowhead 345 kV Single Circuit Only (E2s)

In addition to the basic Eastern Plan facilities, a potential alternative second phase of the Eastern Plan consists of the development of a ~60 mile single circuit 345 kV line from the Iron Range Substation to the Arrowhead Substation. To connect to the new 345 kV line, the Iron Range Substation would be expanded to include a single 1200 MVA, 500/345 kV transformer.

The New Tie Line Loop Flow Impact Study Scope also proposed an Eastern Plan second phase extending to the Arrowhead substation in Duluth, with identical cut and pasted descriptions:

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MPUC Docket 12-1163, Ex. 29, GNTL Application, Appendix P, *The New Tie Line Loop Flow Impact Study*, p. 2.⁵

In order to get a 1100 MW increase in capacity, the *Dorsey – Iron Range 500 kV Project Preliminary Stability Analysis Draft Report* studied similar additions, and an extension to the

⁴ MPUC Docket 12-1163, Ex. 25, 26, 27 and 28 are the 4 parts of the GNTL Application Appendix O study. Ex. 25 eFiled: [201310-92790-01](#)

⁵ MPUC Docket 12-1163, Ex. 29, GNTL Application, Appendix P, The New Tie Line Loop Flow Impact Study [201310-92784-02](#)

Arrowhead substation, which connects it to environs beyond, was necessary to achieve the 1100 MW increase:

Manitoba – U.S. 1100 MW Facility Additions

For the Dorsey – Iron Range project the following facilities were added:

- New Blackberry 500/345 kV substation
- (2) Blackberry 500/345 kV transformers
- (1) Blackberry 500/230 kV transformer
- New 500 kV transmission line between Dorsey and Blackberry 500 kV substations
- 60% series compensation at the midpoint of the 500 kV line
- Double circuit Blackberry - Arrowhead 345 kV line

For the Dorsey – Fargo option the following facilities were added:

- New Bison 500/345 kV Substation
- (2) Bison 500/345 kV transformers
- New 500 kV transmission line between Dorsey and Bison 500 kV substations
- 60% series compensation at the midpoint of the 500 kV line
- A second Twin Cities – Fargo 345 kV line

MPUC Docket 12-1163, Ex. 24, GNTL Application, Appendix N, *Dorsey – Iron Range 500 kV Project Preliminary Stability Analysis Draft Report*, p. 4.

On November 14, 2014, Minnesota Power entered the *New Tie Line Loop Flow Impact Study Report*⁶, dated August 28, 2014 and provided copies for the parties. That study found:

The Eastern Plan **and the associated transmission configurations** notably reduce the impact of North Dakota – Manitoba loop flow on the Manitoba – Minnesota tie lines, and particularly M602F. The Western Plan and associated transmission configurations have the opposite impact on the amount of North Dakota – Manitoba loop flow present on M602F. Comparing the Eastern Plan and the Western Plan, it is evident that the Eastern Plan improves the performance of the Riel – Forbes 500 kV Line (M602F) because the Eastern Plan Dorsey – Iron Range 500 kV Line actually carries some of the North Dakota – Manitoba loop flow that would normally flow on M602F and R50M, reducing the overall impact of North Dakota – Manitoba loop flow on M602F. In contrast, the Western Plan actually causes more North Dakota – Manitoba loop flow on M602F, arguably degrading the performance of the line.

⁶

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This is because the Western Plan Dorsey – Barnesville 500 kV Line actually increases the total amount of North Dakota – Manitoba loop flow by providing an additional loop flow “entry path” (as discussed in the previous section) without providing an additional transmission line “exit path” adjacent to the existing Manitoba – Minnesota tie lines². The consequence is that nearly all of the resulting additional North Dakota – Manitoba loop flow associated with the Western Plan must flow on M602F. The end result of the Western Plan, therefore, is a significant increase in the impact of North Dakota – Manitoba loop flow on M602F. Therefore, in a consideration of the impact of North Dakota – Manitoba loop flow on the Riel – Forbes 500 kV Line, the Eastern Plan is to be preferred over the Western Plan.

MPUC Docket 12-1163, Ex. 62, *New Tie Line Loop Flow Impact Study Report*, p. 7-8. The Eastern Plan and the associated configurations that produce this result are, not surprisingly, are the 500 kV tie line to the Grand Rapids area in northeastern Minnesota... and the second between Grand Rapids and Duluth, MN:

- **E1b:** E1 + second circuit on existing Fargo – Monticello 345 kV line
- **E2:** E1 + double circuit Grand Rapids – Duluth 345 kV line
- **E2s:** E1 + single circuit Grand Rapids – Duluth 345 kV line
- **E2b:** E2 + second circuit on existing Fargo – Monticello 345 kV line

Id., p. 2, see also p. 20 for specifications. Further, the *Tie Line* study notes that the CapX 2020 and MVP projects “[h]ave the potential to alter the bias of power flow out of North Dakota in such a way that there is more power flowing south and east out of North Dakota and less loop flow through Manitoba.” Id. at 61, see also p. 26. They go a long way toward solving the loop flow problem. In this study, CapX and MVP lines were removed cumulatively from the case in order to demonstrate that the desired benefit resulted from the “Eastern Plan.”

1. **MVP_W:** Remove two MISO MVP 345 kV lines in North and South Dakota
2. **MVP_S:** In addition to MVP_W, remove several MISO MVP 345 kV lines in northern Iowa and southern Wisconsin
3. **CapX:** In addition to MVP_S, remove CapX2020 Brookings County – Hampton Corners and Hampton Corners – Briggs Road 345 kV lines

Id., p. 61. The studies found that the Iowa and Wisconsin MVP Projects and CapX 2020 provide outlet for generation that otherwise would frolic and detour through Manitoba, so then those

mitigating projects were removed, and then the “Eastern Plan” had a positive impact on loop flow and increased transfer capacity. However, these projects are built, under construction, or permitted pending construction, and taking them out of the case provides a false measure of the impact of the “Eastern Plan.” And whether the projects are included or not, there is an impact on flow from the Dakotas, of interest to MRES.

The study demonstrates the ability of these projects to significantly increase incremental transfer capability from Manitoba, which enables increased wholesale sales:

The Eastern Plan has been designed and is being permitted to facilitate a near-term need for at least 750 MW of incremental transfer capability from Manitoba to the United States (MHEX = 2925 MW). In the longer term, there is a potential need for a total of 1100 MW of incremental transfer capability from Manitoba to the United States (MHEX = 3275 MW). The Eastern Plan has been designed such that it could be staged with a double circuit Iron Range – Arrowhead 345 kV Line to achieve the full 1100 MW of potential incremental Manitoba to United States transfer capability, if the need arises.

Id., p. 49. The study also reveals an additional “benefit” of increasing North Dakota outlet capability by removing the Manitoba loop flow and freeing up capacity from the Dakotas:

Configuration E1 is capable of facilitating at least 2200 MW of North Dakota outlet capability (today’s level⁹) simultaneously with 2925 MW of Manitoba Hydro export without overloading M602F. In fact, it appears that configuration E1 could potentially facilitate up to 2613 MW of North Dakota outlet capability at this level of MHEX without overloading M602F, though other stability or thermal constraints besides M602F may exist at this level of simultaneous export. On the other hand, if North Dakota outlet capability is maintained at today’s 2200 MW level, configuration E1 could potentially facilitate a total Manitoba Hydro export of over to 3020 MW prior to an overload on M602F.

Id. The *New Tie Line Study’s* conclusions also point to the cumulative Manitoba and North Dakota export potential:

1. Both the Eastern and Western plans provide increased simultaneous North Dakota and Manitoba outlet capability compared to the Existing System.
2. The Eastern Plan configurations generally provide more potential simultaneous North Dakota and Manitoba outlet capability than the Western Plan configurations.

3. The addition of a double circuit Iron Range – Arrowhead 345 kV Line (configuration E2) is a more effective solution than a single circuit Iron Range – Arrowhead 345 kV Line (configuration E2s) for further increasing the potential simultaneous North Dakota and Manitoba outlet capability available from the Eastern Plan (configuration E1).
4. The addition of a second circuit on the Fargo – Monticello 345 kV Line (configuration W2b, E1b, or E2b) also further increases potential simultaneous North Dakota and Manitoba outlet capability, though the impact is more pronounced for the Western Plan.

Id. at 47. *See* studies cited by Hoberg, MN PUC Docket 12-1163, Ex. 41, Schedule 4, p. 1-4.

The Applicants also provided a “Table of Studies” but of these 17 studies listed, only six were provided in the Application as Appendices. The Applicant has the burden of production, and did not provide information sufficient to support its claims of need with anything other than its minimal megawatt Power Purchase Agreement. Minn. Stat. §216B.243, Subd. 3.

The claimed capacity of the project as applied for in the Minnesota Great Northern Transmission Line is inconsistent with the transmission studies used to support the need case, and utilization of the capacity is unclear. This project proposal, as approved by Minnesota, is only a segment of a heavily studied larger project. The “need” claim for this smaller segment, and the lower “need” claim, is not supported by the studies. Not only was the project as proposed not studied separately and independently in the studies provided, and is not capable of providing the benefits claimed by Applicants in its compartmentalized iteration, but the larger project would grossly increase not only Manitoba export but would facilitate an increase in North Dakota export as well. Every study relied on by the ALLETE in its Minnesota Certificate of Need application and project includes an extension to Duluth, and some extend beyond Duluth, and a higher transfer capacity. A project ending at Grand Rapids is not sufficient to provide the benefits desired and claimed, nor does a project ending at Grand Rapids represent the plans of ALLETE/Manitoba Hydro and MISO. A project based on a 250 MW Power Purchase Agreement, a 133 MW “Renewable Optimization Agreement, and/or an additional 250 or 500

MW of Power Purchase Agreements in Wisconsin or elsewhere do not justify a transmission line of this high capacity. The higher capacity is only possible, and is only likely, with the full project as studied by MISO. And as above, lower capacity requires network upgrades.

C. ALLOCATION OF REVENUE REQUIREMENTS TO UNWILLING PARITES

MRES correctly notes that the Great Northern Transmission Line is to be a “participant funded” transmission line, not to be cost-allocated to various ratepayers. That “participant funded” claim was made repeatedly in the GNTL Certificate of Need application, relied on by the Minnesota Public Utilities Commission, and quoted in its Order.⁷ MISO and ALLETE, as the FERC Petitioners in the instant case, and parties to Agreements, are in the unique position of structuring the Agreements to accommodate this larger project and increased capacity and wholesale marketing, as well as transfer cost apportionment in ways not transparent. However, there is no conflict between the federal and state jurisdictions regarding treatment of “participant funded” transmission. The issue is whether GNTL proponents are working to circumvent and avoid disclosure, transparency, and federal and state policy.

As MRES argues, it “may be impacted by changes to the revenue requirements included within the MP Pricing Zone, especially considering the long-term nature of the agreements...” submitted to FERC. MRES notes that only 883 MW of transmission capacity is accounted for in a Power Purchase Agreement (though a claim of one 250 MW PPA was retracted in the Minnesota PUC proceeding). MRES aptly points out the inconsistencies of MP’s claims in the Minnesota PUC proceeding, where only 383 MW area covered by TSRs and MP’s statement that

⁷ “The project is participant-funded.” Minnesota PUC Order, p. 3, §II. In the Matter of the Request of Minnesota Power for a Certificate of Need for the Great Northern Transmission Line, Docket No. E-015/CN-12-1163 (hereinafter MPUC Docket 12-1163). Search for 12-1163 online at: <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showeDocketsSearch&showEdocket=true&userType=public>

“[w]hile Minnesota Power will own 51% of the Project, Minnesota Power’s customers will be financially responsible for only 33.3% of the Project’s revenue requirements.” MRES Motion to Intervene, p. 5. As MRES notes, MP claims repeatedly that this is a “participant funded” project, a benefit of which is an implicit exemption from FERC’s Order No. 1000 transmission planning and cost allocation process. MRES, p. 6. MRES also notes the waffling disclosure that “Allete may seek to roll the GNTL-costs into its rate-base.” Id. Given Xcel Energy’s attempt in its current Minnesota rate case to roll transmission-rider cost recovery into its rate base⁸, changing its partially rider-recovered “Construction Work in Progress” CapX 2020 recovery to general rates, it’s not far-fetched to think MP may attempt the same or a similar scheme for its GNTL cost recovery.

The Minnesota PUC’s approval of the Certificate of Need for this project was based on the assertion that the GNTL would be participant funded, that the share to be paid by MP ratepayers in transmission riders would be limited, and the Minnesota PUC’s Order stated specifically regarding rate recovery in riders and operation and maintenance recovery:

- A) Limit Minnesota Power’s recovery in riders to an amount equal to 28.3 percent of the total capital costs of the Project or \$201 million (in 2013 dollars), whichever is less;

... and ...

- D) Require Minnesota Power to obtain prior approval from the Commission if it proposes to charge ratepayers for operation and maintenance costs greater than 33 percent of the project’s total operation and maintenance costs at any time in the future.⁹

⁸ See Xcel Energy’s rate case, MPUC Docket E002/R-15-826, available online at the PUC’s search page: https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showeDocketsSearch&showE_docket=true&userType=public

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FERC also has “participant funded” policies, cited by MRES. MRES appropriately raises FERC’s position on rate recovery for “participant fund” transmission, which is that project costs will NOT be included in the rates for service, nor will these costs be shifted to other ratepayers. The Agreements proposed by Minnesota Power, Great River Energy and MISO seem to seek to circumvent FERC and Minnesota PUC policy and Orders regarding “participant funded” transmission cost recovery. As above, there is no conflict between the federal and state jurisdictions regarding treatment of “participant funded” transmission.

D. MISO, ALLETE AND GRE “ZONAL AGREEMENTS” MUST RECEIVE CLOSE SCRUTINY

MISO, ALLETE, and GRE, must fully disclose, MRES must be afforded intervention, and the Zonal Agreements must receive close scrutiny of parties and the Commission, with particular attention paid to impacts on other-than-MP ratepayers and an eye out for compliance with FERC policy and consequences such as rate shifting, rate recovery impacts, and rate increases.

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