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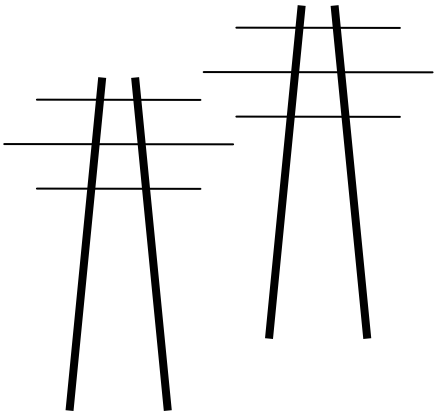

October 12, 2015

Judge James Mortenson
Office of Administrative Hearings
P. O. Box 64620
St. Paul, MN 55164-0620

RE: **In the Matter of the Application of Great River Energy and Minnesota Power for a Certificate of Need and Route Permit for the Menahga Area 115 kV Transmission Project in Hubbard, Wadena and Becker Counties, Minnesota**
OAH Docket: 5-2500-32715
PUC Docket: ET-2, E-015/CN-14-787 (Certificate of Need)
PUC Docket: ET-2, E-015/TL-14-797 (Route Permit)

Dear Judge Mortenson:

Enclosed, and filed on eDockets and eServed, please find a hard copy of Andersen's Notice of Appearance, Petition for Full Process and Contested Case with Affidavit of Overland and Attachments, and Petition for Intervention.

Andersen requests that these Petitions be granted, or in the alternative, Certified to the Commission for an Order.

I also note that the Notice for the Public Hearing in the above-captioned matter did not included an email for sending Comments with attachments, and I ask that one be provided.

Thank you for your attention to these matters. If you have any questions, or require further information, please let me know.

Very truly yours,

Carol A. Overland
Attorney at Law

cc: eFiled and eServed

CERTIFICATE OF SERVICE

RE: **In the Matter of the Application of Great River Energy and Minnesota Power for a Certificate of Need and Route Permit for the Menahga Area 115 kV Transmission Project in Hubbard, Wadena and Becker Counties, Minnesota**
OAH Docket: 5-2500-32715
PUC Docket: ET-2, E-015/CN-14-787 (Certificate of Need)
PUC Docket: ET-2, E-015/TL-14-797 (Route Permit)

I, Carol A. Overland, hereby certify that I have this day, served copies of the attached Andersen's Notice of Appearance, Petition for Full Process and Contested Case with Affidavit of Overland and Attachments, and Petition for Intervention by electronic filing, e-mail, or by depositing a true and correct copy thereof correctly addressed with postage pre-paid in the US Mail in Red Wing, Minnesota.

Dated: September 12, 2015

Carol A. Overland #254617
Attorney for Donna J. Andersen, Curtis Andersen, and Donna J. Andersen Trust
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Service List Member Information

Electronic Service Member(s)

Last Name	First Name	Email	Company Name	Delivery Method	View Trade Secret
Anderson	Julia	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	Electronic Service	Yes
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Ferguson	Sharon	sharon.ferguson@state.mn.us	Department of Commerce	Electronic Service	No
Jensen	Linda	linda.s.jensen@ag.state.mn.us	Office of the Attorney General-DOC	Electronic Service	No
Kaul	Will	wkaul@grenergy.com	Great River Energy	Electronic Service	No
Kotch	Stacy	Stacy.Kotch@state.mn.us	MINNESOTA DEPARTMENT OF TRANSPORTATION	Electronic Service	No
Kromar	Karen	karen.kromar@state.mn.us	MN Pollution Control Agency	Electronic Service	No
Lindell	John	agorud.ecf@ag.state.mn.us	Office of the Attorney General-RUD	Electronic Service	Yes
Lommel	Michelle	mlommel@GREnergy.com	Great River Energy	Electronic Service	No
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Moynihan	Debra	debra.moynihan@state.mn.us	MN Department of Transportation	Electronic Service	No
Patton	Bob	bob.patton@state.mn.us	MN Department of Agriculture	Electronic Service	No
Schmidt	Carole	cschmidt@grenergy.com	Great River Energy	Electronic Service	No
Schrenzel	Jamie	jamie.schrenzel@state.mn.us	Minnesota Department of Natural Resources	Electronic Service	No
Stephenson	Donna	dstephenson@grenergy.com	Great River Energy	Electronic Service	No
Wolf	Daniel P	dan.wolf@state.mn.us	Public Utilities Commission	Electronic Service	Yes

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STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger	**Chair**
Nancy Lange	**Commissioner**
Dan Lipschultz	**Commissioner**
John A. Tuma	**Commissioner**
Betsy Wergin	**Commissioner**

In the Matter of the Application of Great River Energy and Minnesota Power for a Certificate of Need and Route Permit for the Menahga Area 115 kV Transmission Project in Hubbard, Wadena and Becker Counties, Minnesota	**PUC Docket No. ET-2,E-015/CN-14-787** **PUC Docket No. ET-2,E-015/TL-14-797** **OAH Docket No. 5-2500-32715**

NOTICE OF APPEARANCE

NAME OF PARTY: Donna J. Andersen and Curtis Andersen, and the Donna J. Andersen Trust, Donna J. Andersen, Trustee
1300 County Road E East
St. Paul, MN 55110

You are advised that the parties above named will appear in this matter:

PARTY'S ATTORNEY:

Carol A. Overland, Attorney at Law
Legalectric
1110 West Avenue
Red Wing, MN 55066
(612) 227-8638
overland@legalectric.org

Carol A Overland

DATE: October 12, 2015

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STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger	**Chair**
Nancy Lange	**Commissioner**
Dan Lipschultz	**Commissioner**
John A. Tuma	**Commissioner**
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In the Matter of the Application of Great River Energy and Minnesota Power for a Certificate of Need and Route Permit for the Menahga Area 115 kV Transmission Project in Hubbard, Wadena and Becker Counties, Minnesota	**PUC Docket No. ET-2,E-015/CN-14-787** **PUC Docket No. ET-2,E-015/TL-14-797** **OAH Docket No. 5-2500-32715**

PETITION FOR FULL PROCESS AND REFERRAL FOR CONTESTED CASE AND ADDITIONAL PUBLIC HEARINGS IN CERTIFICATE OF NEED AND ROUTING DOCKETS

Donna J. Andersen and Curtis Andersen, and the Donna J. Andersen Trust, Donna J. Andersen, Trustee (hereinafter "Andersen"), landowners on the route proposed for the Menahga Area 115 kV transmission Line Project (hereinafter "Menahga Project"), hereby submit this Petition for Full Process and Contested Case. As a potentially directly affected landowner, on the solitary route proposed by the Applicant, Andersen has a direct interest in these proceedings, and the Power Plant Siting Act's "Alternate Review of Applications" process is insufficient. Andersen requests the Commission refer this project's Applications to the Office of Administrative Hearings for a Contested Case proceeding in both Certificate of Need and Routing dockets and additional Public Hearings, with at least one Public Hearing for each of the

Certificate of Need and Route dockets. In the alternative, Andersen requests an Order from the Commission for a referral of the Certificate of Need to Office of Administrative Hearings for a Contested Case and evidentiary hearing for the Certificate of Need, independently or to be held in conjunction with a separate Certificate of Need public hearing.

Procedurally, the Applicants in this case jointly filed a Certificate of Need and Route Application, and anticipated "that the Commission will hold a joint public hearing on both the Certificate of Need (hereinafter "CoN") and the Route Permit pursuant to Minnesota Statutes Section 216B.243, subdivision 4." Application, p. 1-10 – 1-11. The Department of Commerce and Commission staff encouraged the fast-track options. In two subsequent Orders, the Commission fast tracked this project -- through its February 26, 2015 decision filed on March 18, 2015 as its "Order… Directing Use of Informal Review Process and Authorizing Joint Proceedings and Combined Environmental Review"[1] for the Certificate of Need docket, and then through its May 21, 2015 decision, later filed as its "Order Directing Use of Summary Report Process and Granting Variance" regarding the Routing docket.[2]

The fast-tracking of these dockets improperly cuts out the public and the directly affected landowners. There is no justification for the rush to check off the "process" boxes and push this project through. Petitioner requests that the fast-track be slowed to facilitate meaningful public participation where concerns and options will be reasonably and carefully considered.

[1] Certificate of Need docket:

20153-108363-02	PUBLIC	14-787	☐	CN	PUC	ORDER--ORDER FINDING APPLICATION COMPLETE, DIRECTING USE OF INFORMAL REVIEW PROCESS, AND AUTHORIZING JOINT PROCEEDINGS AND COMBINED ENVIRONMENTAL REVIEW	03/18/2015

[2] Routing docket:

20157-112236-01	PUBLIC	14-797	☐	TL	PUC	ORDER--ORDER DIRECTING USE OF SUMMARY REPORT PROCESS AND GRANTING VARIANCE	07/08/2015

I. FAST-TRACKING THE DOCKETS – WHAT'S THE RUSH?

The Commission's fast-tracking decisions for the Certificate of Need was made very early in the process without sufficient record to justify that decision. In the routing docket, the impact of fast-tracking was to severely limit opportunities for input by the public and parties with an interest. While the details below may seem tedious, this step by step recap is necessary to see the lack of notice to landowners; the Commission's decision-making without public awareness or input; and lack of consideration for the difficulty of interpreting these notices, assessing impacts and determining what action to take.

A. FAST TRACK - CERTIFICATE OF NEED DOCKET – 14-787

The Menahga Project Certificate of Need docket was fast tracked by the Commission. In a Certificate of Need proceeding, there is no fast track process found in the statute, but under the general procedural rules the Commission may authorize "informal or expedited review" where:

A. there are no material facts in dispute;
B. the parties and the commission have agreed to informal or expedited proceedings; or
C. informal or expedited proceedings are authorized or required by statute.

Minn. R. 7829.1200. The rules require only ten days notice prior to this fast track determination.

On January 21, 2015, Notice of a Comment Period on Completeness was issued, which was served on a very narrow agency, industry and legal "insiders" group, and not landowners.[3] On January 30, 2015, a Revised Appendix J with Corrected Landowner List was filed, with a list of landowner names, but names only, no addresses, and no Certificate or Affidavit of Service is enclosed.[4] There is no Affidavit or Certificate of Service in the CoN record, but there is an

[3] Commission rules do not require service of such notices on landowners! This is an issue in current PUC rulemaking (12-1246).

20151-106421-04	PUBLIC	14-787	☐	CN	PUC	NOTICE OF COMMENT PERIOD--CERTIFICATE OF SERVICE AND SERVICE LISTS	01/21/2015

[4]

Affidavit of Service in Routing, filed February 17, 2015, showing service of Notice on January 26, 2015, which would cover the CoN Notice.[5] This January 26, 2015 notice is the first Notice in the dockets that was targeted to landowners directly affected by this transmission project. This notice gave the following time frame, which is typically sequential:

> **The Commission has one year to make a decision** on the Certificate of Need and six months to make a decision on the Route Permit Application (Minnesota Statutes 216B.243 and 216E.04). **The Commission may not issue a route permit for a project that requires a Certificate of Need until a Certificate of Need has been granted** (Minnesota Rule 7850.3900).

Notice, p. 2 (emphasis added). [6]

On February 13, 2015, Notice was issued regarding the Commission Agenda Meeting of February 26, 2015.[7] This was another "insiders only" notice. Landowners were not provided notice of this meeting and could only know of this meeting, the meaning and import of this

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20151-106873-01	PUBLIC	14-797	☐	TL	GREAT RIVER ENERGY AND MINNESOTA POWER	OTHER--MENAHGA AREA 115 KV PROJECT CERTIFICATE OF NEED AND ROUTE PERMIT APPLICATION - REVISED APPENDIX J WITH CORRECTED LANDOWNER LIST	01/30/2015

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20152-107393-01	PUBLIC	14-797	☐	TL	GREAT RIVER ENERGY AND MINNESOTA POWER	COMPLIANCE FILING--CONFIRMATION OF NOTICE FOR MENAHGA AREA 115 KV PROJECT ROUTE PERMIT APPLICATION	02/17/2015

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20152-107393-01	PUBLIC	14-797	☐	TL	GREAT RIVER ENERGY AND MINNESOTA POWER	COMPLIANCE FILING--CONFIRMATION OF NOTICE FOR MENAHGA AREA 115 KV PROJECT ROUTE PERMIT APPLICATION	02/17/2015

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20152-107347-04	PUBLIC	14-787	☐	CN	PUC	NOTICE OF COMMISSION MEETING--CERTIFICATE OF SERVICE AND SERVICE LISTS	02/13/2015

decision, if they knew how to dig into the arcane system of Commission resources.[8] Staff Briefing Papers were filed on February 19, 2015, in which staff focused on the "informal or expedited proceeding" option.[9]

> Certificate of Need Regulatory Proceeding
>
> A determination on the appropriate certificate of need proceeding for the proposed project must also be made by the Commission. Under Minn. Rules, part 7829.1000, the Commission may elect to refer the matter to the Office of Administrative Hearings for a contested case proceeding, or the Commission may authorize the use of the informal or expedited review process authorized in Minn. Rules, part 7829.1200. The informal or expedited proceedings may be used when contested case proceedings are not required, for example, when:
>
> 1. there are no material facts in dispute;
> 2. the parties and the commission have agreed to informal or expedited proceedings; or
> 3. informal or expedited proceedings are authorized or required by statute.

Briefing Papers, p. 3 (February 19, 2015).[10]

Andersen and the other landowners had no notice that the "informal or expedited" process was under consideration by the Commission, and no notice of how an expedited process might affect their interests. Nonetheless, the Commission met, based its decision on Staff's reach into general Commission practice and procedure rules, adopted staff's position of fast-tracking, and determined that:

> At this time there are no contested material facts, future factual disputes appear unlikely, and there are no other factors pointing to a need for contested case proceedings. The Commission will therefore authorize staff to develop the record and prepare this case for Commission action without contested case proceedings under Minn. Stat. §§14.57 *et seq*., **unless those proceedings are later determined to be necessary.** Accordingly, the Commission will direct the use of

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20152-107347-04	PUBLIC	14-787	☐	CN	PUC	NOTICE OF COMMISSION MEETING--CERTIFICATE OF SERVICE AND SERVICE LISTS	02/13/2015

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20152-107488-02	PUBLIC	14-787	☐	CN	PUC	BRIEFING PAPERS--FEBRUARY 26, 2015 AGENDA	02/19/2015

10

20152-107488-02	PUBLIC	14-787	☐	CN	PUC	BRIEFING PAPERS--FEBRUARY 26, 2015 AGENDA	02/19/2015

the informal review process under Minn. R. 7829.1200 to develop the record for the certificate of need.

Order, March 18, 2015.

This CoN fast-tracking decision, and the declaration that "there are no contested material facts, future factual disputes appear unlikely, and there are no other factors pointing to a need for contested case proceedings," just one month after the application was filed in the Certificate of Need and Routing dockets, has no basis of support in the record.

The procedural moves that served to limit public and affected party participation continued with CoN Comment and Public Hearing opportunities. On June 22, 2015, Notice was sent in the CoN docket regarding a Comment Period on the Merits of the Application, and Andersen was on this Notice List.[11] The Notice stated that Initial Comments due August 20, 2015, and Reply Comments due September 25, 2015, and requested comments regarding the following issues:

- The merits of the proposed project, particularly whether there are any contested issues of fact with respect to the representations made in the application pertaining to the certificate of need.
- The application's compliance with Minnesota Statutes, sections 216B.2421 to 216B.243, and Minnesota Rules part 7849.0010 to 7849.0400.

Notice, June 22, 2015[12]. Andersen was on this service list and did file comments on July 17, 2015.[13] This Notice had the caveat that "***Comments received after comment period closes may***

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20156-111652-01	PUBLIC	14-787	☐	CN	PUC	NOTICE OF COMMENT PERIOD--ON THE MERITS OF THE APPLICATION FOR A CERTIFICATE OF NEED	06/22/2015

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20156-111652-01	PUBLIC	14-787	☐	CN	PUC	NOTICE OF COMMENT PERIOD--ON THE MERITS OF THE APPLICATION FOR A CERTIFICATE OF NEED	06/22/2015

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***not be considered.*"** A Notice of Public Hearing, for October 19, 2015, was issued on October 2, 2015, [14] for both Certificate of Need and Routing dockets, 10 days **after** the CoN Comment period had **closed**. The "Public Hearing" would not occur until over three weeks after the CoN comment period closure!

B. FAST TRACK – ROUTING DOCKET – 14-797

The Menahga Project routing docket was also fast tracked, with public input and participation options eliminated by this choice. On January 26, 2015, a Notice of Route Permit Application was posted in eDockets, but there is no accompanying Service List.[15] An Affidavit of Service was filed on February 17, and states that the landowners were served with notice of the application on January 26, 2015.[16]

On May, 8, 2015, Notice was given of the May 21, 2015 Commission Agenda meeting, and the Commission was to address "What action should the Commission take regarding other procedural items."[17] This was another "insider" notice to agency, industry and legal

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20156-111652-02	PUBLIC	14-787	☐	CN	PUC	NOTICE OF COMMENT PERIOD--CERTIFICATE OF SERVICE AND SERVICE LIST	06/22/2015

14

201510-114515-02	PUBLIC	14-787	☐	CN	PUC	NOTICE--OF PUBLIC HEARING	10/02/2015

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20151-106621-01	PUBLIC	14-797	☐	TL	GREAT RIVER ENERGY AND MINNESOTA POWER	NOTICE--NOTICE OF ROUTE PERMIT APPLICATION FOR THE MENAHGA 115 KV PROJECT SERVED ON THE GENERAL LIST PER 7850.2100 SUBP. 2A	01/26/2015

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20152-107393-01	PUBLIC	14-797	☐	TL	GREAT RIVER ENERGY AND MINNESOTA POWER	COMPLIANCE FILING--CONFIRMATION OF NOTICE FOR MENAHGA AREA 115 KV PROJECT ROUTE PERMIT APPLICATION	02/17/2015

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representatives, and Andersen was not served with this notice at either the correct or incorrect address, and from a quick review, no landowners received notice of this meeting.[18] As difficult as it is for landowners to navigate process at the Commission, it is impossible without notice. On May 13, one week prior to the meeting, Commission staff filed Briefing Papers, presenting a process choice of "Summary *Proceedings* or Summary *Report*," recommending that Summary Report be used, where the ALJ only summarizes the comments received, without Findings and a Recommendation. In use of the Summary *Report* procedure, there is only one comment period and no reply comment period, and because there are no Findings or Recommendation, there is no opportunity for filing of exceptions by affected parties.[19] And five days later, just three days prior to the Commission meeting, DOC EERA responded with its "Hearing Process Timelines" which showed a markedly compact process. Both Briefing Papers and DOC EERA's comments were eFiled, and not served on landowners.

II. DO CHOSEN PROCEDURES PROVIDE DUE PROCESS AND AFFORD A BROAD SPECTRUM OF PUBLIC PARTICIPATION?

Fast-tracking the process moves Applications towards permits more quickly, and no fast-tracked permits have been denied. Fast-tracking in Certificate of Need and Route Permit dockets also cuts opportunities for public participation, both in the substantive docket and in environmental review through use of Environmental Assessments or Reports.

20155-110235-04	PUBLIC	14-787	☐	CN	PUC	NOTICE OF COMMISSION MEETING--MAY 21, 2015	05/08/2015

[18]

20155-110235-16	PUBLIC	14-787	☐	CN	PUC	NOTICE OF COMMISSION MEETING--CERTIFICATE OF SERVICE AND SERVICE LIST	05/08/2015

[19]

20155-110399-01	PUBLIC	14-797	☐	TL	PUC	BRIEFING PAPERS--MAY 21, 2015 AGENDA MEETING	05/13/2015

There is provision in the statutes and rules for a joint CoN and Route public hearing, in fact a preference. Minn. Stat. §216B.243, Subd. 4. The Power Plant Siting Act also provides the option of an "Alternative Review of Applications" in route permit proceedings. Minn. Stat. §216E.04. However, there is no specific procedure authorized by the rules in the statute. The Commission ordered a "summary report" with no discussion of its origin or reasoning in the Order, and rejected options that allowed for more complete public participation and opportunity to inform the record.

This Menahga Project is one that should not utilize the "Summary Report Process" because the "Summary Report Process" is not contemplated by statute or rule. Further, a "Summary Report Process" does not provide the public and affected landowners sufficient opportunity to review, prepare, comment on, and present their concerns and their case, input which could easily be included, nor does it provide the statutorily mandated "broad spectrum of public participation" of the Power Plant Siting Act. Conversely, the chosen process is so fast that it will be over before those affected by this project are even aware of the impacts. There has been no explanation, even any claim, that this project is urgent, that there is an emergency need to be met. Why the rush? It's not clear…

At the outset of any proceeding, it is difficult to ascertain whether a project will be contested or not, and to what extent. It takes time for affected parties to inform themselves about the project and learn how to participate and what is required. In this case, initial mailings to Andersen were sent to the address of the property, which does not have mail delivery, rather than the taxpayer address recorded at the county.[20] This has since been corrected, with the first notice with Andersen's address a Notice of the Informational Meeting and Scoping[21]. Other important

[20] See, e.g., CoN and Route Project Notice "Landowner List" contains the name of the Donna J. Andersen Trust, but no address:

notices, like notices for Commission meetings at which process issues would be decided, were not sent to landowners.

This project is contested, both the Certificate of Need and the Route, and as such, it is not appropriate for "Alternate Review." Andersen has learned about the project, participated to the extent possible, sent in Certificate of Need comments, and has now retained counsel to raise issues about the proposed project and address impacts on the Andersen property. Andersen contests both the need and the routing for this proposed project, and system and route alternatives.

III. MATERIAL ISSUES OF FACT ARE PRESENT

There are material issues of fact to be addressed, and the Menahga Project is one appropriate for a contested case. These issues include, and are not limited to:

A. NEED FOR THE PROJECT IS OVERSTATED

1. Applicant claims that "[t]he need for this Project has been discussed in the Minnesota Biennial Transmission Projects Report since 2007 (Tracking Number 2007-NE-N3)," but the project proffered as "2007-NE-N3" in Biennial Transmission Plans of 2007, 2009 and 2011 is not at all close to what has been proposed. See Attachment A, 2007, 2009, 2011 Biennial Transmission Plans (selected).

2. Project 2007-NE-N3 morphed into 2013-NE-N21 in the 2013 Biennial Transmission Plan, and that project is also not discernable as the proposed project. See Attachment B, 2013 Biennial Transmission Plan (selected).

20151-106872-01	PUBLIC	14-787	☐	CN	GREAT RIVER ENERGY AND MINNESOTA POWER	OTHER--MENAHGA AREA115 KV PROJECT CERTIFICATE OF NEED AND ROUTE PERMIT APPLICATION - REVISED APPENDIX J WITH CORRECTED LANDOWNER LIST	01/30/2015

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20152-107734-04	PUBLIC	14-787	☐	CN	PUC	NOTICE--CERTIFICATE OF SERVICE AND SERVICE LISTS	02/27/2015

3. This project appears to be, like Hiawatha and Hollydale, yet another transmission project proposed as a "solution" to a long standing distribution upgrade need. The distribution system has been in place for decades, neglected and not updated, and logically needs maintenance, replacement and upgrades to bring it into the 21st Century. See Attachment C, GRE 2008 Long-Range Transmission Plan, § C: GRE-MP 34.5 kV Region (selected).

4. The distribution system is arguably beyond its useful life and likely needs repairs and modernization whether or not the 115 kV transmission project is built. Id.

5. This project claims as a primary driver the addition of a 10 MW pumping station for the MPL Line 4 pipeline (hereinafter "MinnCan" or "Line 4"), yet does not factor in the load-decreasing impact of removal of the existing pumping station supply from the Hubbard substation on current distribution overloads. App. p. 5-1 – 5-3.

6. The project proposes double circuiting the far northeast for a "future Great River Energy project to the north," likely a pumping station for the Sandpiper pipeline, and does not contemplate as a system alternative, the simple extension of that line to Hubbard for service of a larger pumping unit at the current Hubbard area Line 4 pumping station. App. p. 1-5.

7. This project does not address the wide capacity discrepancy between the high capacity "477 thousand circular mil ACSR with seven steel core strands and 26 outer aluminum strands" conductor and the high rating of 139-140 MVA when compared to the modest 10 MW pumping station driver, and the nominal loads in the area:

    a. 19.66 MW total (Table 5-3)

    b. 13.56 MW in Todd-Wadena service area (Table 5-5)

    c. 5.267 MW in Minnesota Power service area (Table 5-9)

8. The project as proposed is over-designed for demand. As above, with just 5.267 MW for MP, 13.56 MW for Todd-Wadena, or a total of 19.66 MW load in the area, planning for peak demand does not justify a 115 kV transmission line with a rating of 139-140 MVA (essentially MW). See Attachment D, Ex. 35, App. 7 p. 1 from PUC Docket 01-1958, SW MN 345 kV CoN.

9. The low level of peak demand in this area's distribution system suggests that the "need" could be met through an upgrade and much-needed modernization of the 34.5 kV distribution system.

10. Need based on "Average Annual Growth Rate" is misleading and misrepresented in the tables in the Application, because the tables begin at 2010 during a time of depressed demand, rather than previous peaks, or even the higher rates of 2009. A longer term review of peak demand is necessary for an accurate picture. For

example, the Todd-Wadena shows a "growth" of 11.86 MW to 13.56 MW from 2010 to 2014 (less than 2 MW!), but if 2009 were included, that would reflect only a growth from 12.85 to 13.56, or only 0.71 MW growth! Figure 5-7, App. p. 5-16. Similarly, for Minnesota Power, the "Average Annual Growth Rate" shows 4.036 MW to 5.267, claiming a growth rate of 1.231 MW and a whopping 5.48% "growth increase." Inclusion of 2009 peak, at 5.040 MW to 2014 5.267 is an increase of just 0.227 MW, hardly worth mentioning. Further, table 5-11 begins with a forecasted Peak Demand of 18.83 for the Winter Season of 2013-2014, which contradicts Table 5-5 showing a 13.56 MW peak for 2014. These numbers do not support a 115 kV transmission proposal.

11. There is no rational basis for the 1% annual "Applied Growth Rate" or "Weighted Average Annual Growth Rate" forecasted.

12. The need and $23 million cost of the proposed project is not justified where upgrading the distribution system, at an estimated cost of $16.5 million would address distribution system reliability issues. App., p. 6-3.

13. This project, as proposed, is a "baseline reliability project." Section 5.2, App. p. 5-7. The choice of this project, and the choice of a transmission solution to a distribution problem, should be evaluated in light of cost recovery and return on investment under various tariffs and statutory mechanisms available for transmission projects when compared with cost recovery for distribution upgrades. Cost recovery and ROI could be an unstated underlying driver for the choice of transmission.

14. There is solar development visible in Menahga. The Applicants do not address the impact of this solar generation on peak demand in the Menahga area, which reached a peak of 4.210 MW in 2009, and since then has risen only to 3.974 MW in 2014.

15. The charts showing peak demand in the area, as above, do not address the "Existing MN Pipeline Substation" on the northwest end of the proposed project.

B. SYSTEM ALTERNATIVES PROVIDE SOUND OPTIONS

System alternatives must be considered, and there are system alternatives that would obviate the need for this project:

1. Upgrade and modernize the distribution system. This is long overdue and should be done whether or not the project goes forward. When this is completed, the area should be studied to determine if there is residual "need" not met by this upgrade.

2. Upgrade of the distribution system with removal of the existing pumping station from the distribution system should also be evaluated as a system alternative.

3. Where the distribution system is stressed between Hubbard, Menahga, and Sebeka, the Applicants have not addressed rebuild of the distribution system between these points to relieve that stress.

4. The Application does not address the "Existing MN Pipeline Substation" on the northwest end of the proposed project, nor does the Application show the source of that substation's energy. There are no distribution lines shown in that area. The impacts of removal of that pipeline substation, and/or construction of a "Straight River Substation" must be considered.

5. Use of the new Menahga substation to serve as the pumping station should be considered as a system alternative[22].

6. Proposed pumping station location is near Sebeka, the Red Eye substation. Upgrade or replacement of the existing pumping station near Hubbard should be considered, rather than removal of the Hubbard-served pumping station and siting pumping station elsewhere.

7. A direct 69 kV line from the east to the proposed MPL Sebeka Pumping Station should be considered. A 69 kV line with 477 kcmil ACSR would have a rating of 84 MVA, sufficient to meet load serving requirements into the future.

8. An east/west distribution line through Menahga area should be considered, to provide redundancy by adding service from east or west, in addition to the current north and south options which Applicants claim are not sufficient.

These and other system alternatives may be viable and should be considered.

C. ROUTING ALTERNATIVES MUST BE CONSISTENT WITH PEER AND MINN. STAT. §216E.03, Subd. 7(E)

The project, as proposed by Applicants, is not compliant with the transmission non-proliferation requirement of PEER and statute. People for Environmental Enlightenment & Responsibility (PEER), Inc. v. Minnesota Environmental Quality Council, 266 N.W.2d, 858, 868

[22] In the pipeline pumping station docket, there was little consideration of transmission alternatives or impacts. See "Environmental Review" document, p. 9. The Menahga Project Application also understates the impact of the pumping station additions, which would "increase the capacity of the 305-mile MPL Line 4 from its current throughput capability of approximately 165,000 bpd to its design capacity of approximately 350,000 bpd." See e.g., Commission letter of January 29, 2015 re: State Agency Participation, PUC Docket PL-5/CN-14-320.

(Minn. 1978); Minn. Stat. §216E.03, Subd. 7(e).

Nearly four decades ago, the PEER decision set out the Minnesota transmission routing policy of "nonproliferation," to maximize utilization of existing and proposed rights-of-way. In a clear statement of intent, with full knowledge of the impact of establishment of nonproliferation on those near existing corridors, the court held:

> *We therefore concluded that in order to make the route-selection process comport with Minnesota's commitment to the principle of nonproliferation, the MEQC must, as a matter of law, choose a pre-existing route unless there are extremely strong reasons not to do so. We reach this conclusion partly because the utilization of a pre-existing route minimizes the impact of new intrusion by limiting its effects to those who are already accustomed to living with an existing route. More importantly, however, the establishment of a new route today means that in the future, when the principle of nonproliferation is properly applied residents living along this newly established route may have to suffer the burden of additional powerline easements.*

People for Environmental Enlightenment& Responsibility (PEER), Inc. v. Minnesota Environmental Quality Council, 266 N.W.2d, 858, 868 (Minn. 1978). The court compared proliferation with the MEQC's balance of noncompensable impairment of the environment against the compensable damages of number of homes to be condemned, and noted that:

> A*lthough the hearing examiner, the MEQC, and the district court all accepted both their reasoning and their conclusion, condemnation of a number of homes does not, without more, overcome the law's preference for containment of powerlines as expressed in the policy of nonproliferation. Persons who lose their homes can be fully compensated in damages. The destruction of protected environmental resources, however, is noncompensable and injurious to all present and future residents of Minnesota.*

Id., p. 869. In that case, the court emphasized that those along transmission routes "may have to suffer the burden of additional powerline easements." Id. at 868. That is the case in this situation where the route proposed by the Applicants is in large part a greenfield route, and yet Applicants have not provided a compelling reason for this new greenfield route in the area of much existing corridor.

The PEER-based non-proliferation routing policy was recently emphasized by the addition of Minn. Stat. §216E.03, Subd. 7(e) requiring specific findings by the Commission:

> *The commission must make specific findings that it has considered locating a route for a high-voltage transmission line on an existing high-voltage transmission route and the use of parallel existing highway right-of-way and, to the extent those are not used for the route, the commission must state the reasons.*

Minn. Stat. §216E.03, Subd. 7(e). There is no basis or explanation by the Applicants for its choice not to utilize existing corridor.

The Application shows the proposed project route and there are existing corridor options that could be used if a Certificate of Need is issued. The project should utilize existing corridor:

1. The Project has a pipeline pump station as a primary driver. As such, it should utilize the pipeline corridor controlled by the benefactor of the project, the cause of the project, between the existing Hubbard/proposed Straight River substations and the Todd-Wadena Red Eye/Sebeka pumping station.

2. From the Northeast, heading west, the project should utilize the 230 kV corridor to Hwy. 71 south, and jog around to east side of Menahga to the Spirit Lake substation (east to new Menahga/Blueberry substation and south on Hwy. 71 to Sebeka.

3. From Northeast, follow Hwy. 23 and MP "515" line (underbuilding distribution) to a "T" at CSAH 31 heading eastward to Spirit Lake and the new Menahga/Blueberry, and south from "T" to point parallel to Red Eye and then east.

4. If project is driven by pipeline pumping station needs, from Northeast, build double circuit to 129th (in anticipation of need further north) and 115 kV to the existing MN Pipeline Substation where larger pumping station would be added, and terminate at that point. If wanted further south, follow pipeline route south.

5. Cost of the project, if using existing corridors, would be significantly less than the greenfield route proposed. Obtaining easement rights over the existing pipeline corridor from the pipeline owner, given its need for the pumping station, would also be less costly.

There are many routing alternatives that are viable, use existing corridor, and which should be considered.

IV. ANDERSEN REQUESTS FULL PROCESS, RESTORATION OF PUBLIC PARTICIPATION OPPORTUNITIES, AND MORE THOROUGH REVIEW

This project is contested, both the Certificate of Need and the Route, and as such, it is not appropriate for "Alternate Review." Further, "Summary Report Process" is not a procedural option under the statutes and rules. To more completely inform the record, Andersen requests that the Commission modify its previous Order for "Alternate Review" and refer to the Office of Administrative Hearings for a full process Contested Case proceeding, as it allowed for in its Order, with at least one additional Public Hearing for each of the Certificate of Need and Route dockets. Comments must be accepted regarding the Certificate of Need at the public hearing and the Comment period for the Certificate of Need must remain open for at least ten (10) days beyond the close of the public hearing.

In the alternative, Andersen requests an Order from the Commission for a referral of the Certificate of Need to Office of Administrative Hearings for a Contested Case for the Certificate of Need, independently or to be held in conjunction with a separate Certificate of Need Public Hearing.

Respectfully submitted:

October 12, 2015

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STATE OF MINNESOTA

BEFORE THE

MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger	**Chair**
Nancy Lange	**Commissioner**
Dan Lipschultz	**Commissioner**
John A. Tuma	**Commissioner**
Betsy Wergin	**Commissioner**

In the Matter of the Application of Great River Energy and Minnesota Power for a Certificate of Need and Route Permit for the Menahga Area 115 kV Transmission Project in Hubbard, Wadena and Becker Counties, Minnesota	**PUC Docket No. ET-2,E-015/CN-14-787** **PUC Docket No. ET-2,E-015/TL-14-797** **OAH Docket No. 5-2500-32715**

AFFIDAVIT OF CAROL A. OVERLAND
ATTORNEY FOR ANDERSEN

STATE OF MINNESOTA)
) ss.
COUNTY OF GOODHUE)

Carol A. Overland, after duly affirming on oath, states and deposes as follows:

1. I am an attorney in good standing, licensed in the State of Minnesota, Lic. No. 254617, and have extensive experience in utility regulatory proceedings in many venues.

2. I am working with Donna J. Andersen and Curtis Andersen, and the Donna J. Andersen Trust, Donna J. Andersen, Trustee (hereinafter "Andersen"), landowners on the route proposed for the Menahga Area 115 kV transmission Line Project (hereinafter "Menahga Project"), participating in both the Certificate of Need and Route Permit dockets.

3. Attached is a true and correct copy of 2007, 2009, 2011 Biennial Transmission Plans (selected)(Attachment A), available online at http://www.minnelectrans.com .

4. Attached is a true and correct copy of 2013 Biennial Transmission Plan (selected)(Attachment B), also available online at http://www.minnelectrans.com .

5. Attached is a true and correct copy of GRE 2008 Long-Range Transmission Plan, § C: GRE-MP 34.5 kV Region (selected)(Attachment C), available online at http://legalectric.org/f/2015/10/GRE_Long-Range-Xmsn-Plan_October-2008.pdf

6. Attached is a true and correct copy of Ex. 35, App. 7 p. 1 from PUC Docket 01-1958, SW MN 345 kV CoN (Attachment D).

Further your affiant sayeth naught.

Dated: October 12, 2015

Carol A. Overland

Carol A. Overland MN Lic. 254617
Attorney for Donna J. Andersen and Curtis Andersen, and the Donna J. Andersen Trust, Donna J. Andersen, Trustee (hereinafter "Andersen")
Legalectric
1110 West Avenue
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(612) 227-8638
overland@legalectric.org

Signed and sworn to before me this
12th day of October, 2015.

Lori A. Anderson
Notary Public

LORI A. ANDERSON
NOTARY PUBLIC - MINNESOTA
My Commission Expires Jan. 31, 2020

Attachment A

2007, 2009, 2011 Biennial Transmission Plans
(selected)

7.3.14 Hubbard-Menahga Area

Tracking Number. 2007-NE-N3

Utility. Great River Energy

Inadequacy. The 34.5 kV system between Hubbard and Verndale is incapable of supporting the voltage on contingency for the projected load by 2010.

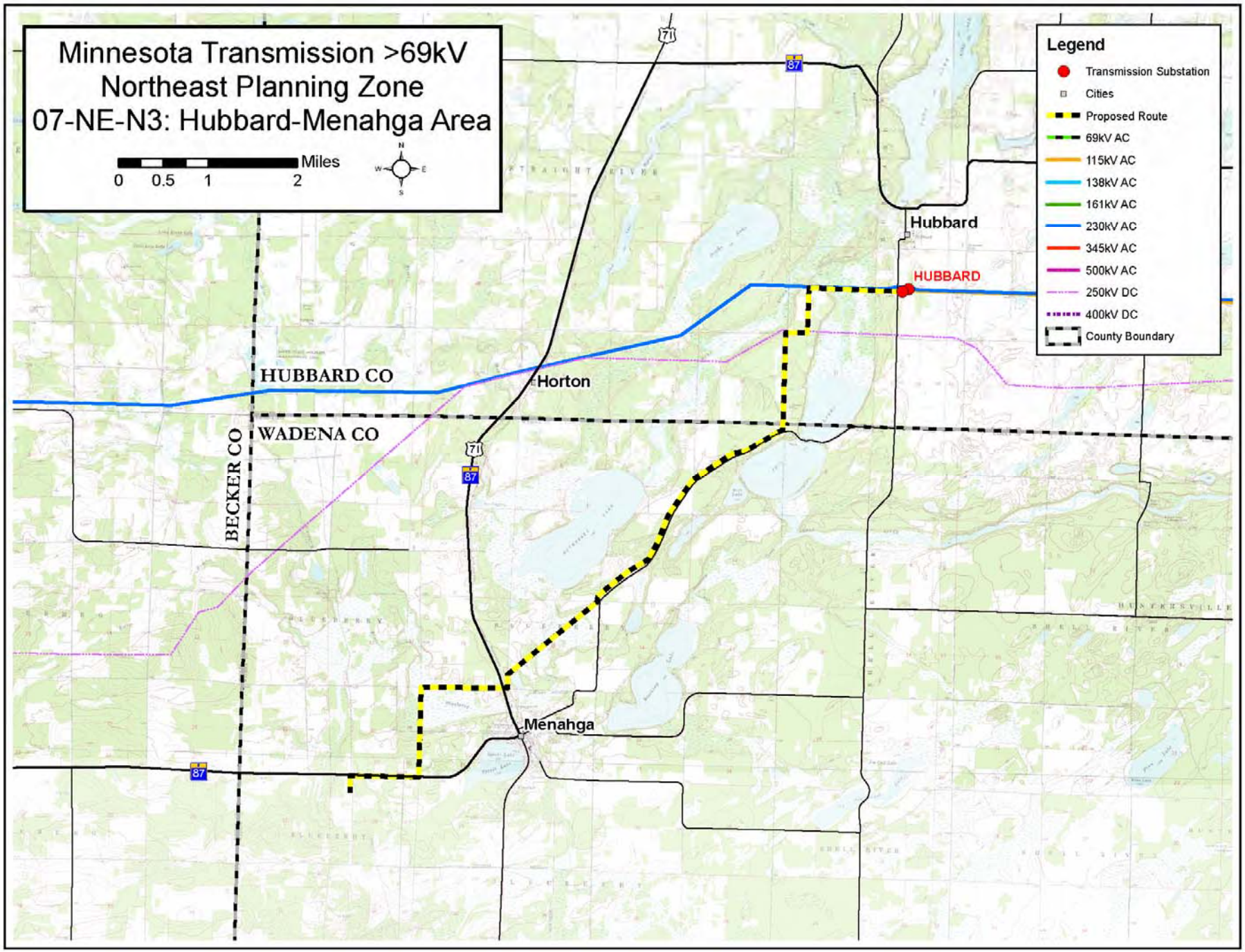
A map of the area is shown on the following page.

Alternatives. GRE had planned to construct a 34.5 kV line from Hubbard to Menahga. However, due to the potential of ethanol loads on the southern end of the system, a larger line should be developed for meeting potential larger loads in the area. The Hubbard-Menahga 115 kV line would be the start of a Hubbard-Menahga-Wadena/Compton-Wing River 115 kV line.

This area also has some wind potential. The existing 34.5 kV system, due to capacity limitations, would not provide the needs if a large windfarm were to develop in the area. The start of a 115 kV line between Hubbard and Wing River would provide the appropriate capability.

Analysis. The Menahga area sees low voltages on the loss of the Hubbard-Twin Lake 34.5 kV line. Historical load levels indicate that low voltage is already a problem if this critical contingency were to occur. MP is installing a 2.4 MVAR capacitor at Sebeka Regulator Station, which should be complete early in 2008, and this will push the voltage issues out a few years, depending on load growth.

Schedule. GRE is assessing this system as part of its Long Range Planning study, which is schedule to be completed in 2008. GRE may elect to proceed with this line in 2008. A Certificate of Need will be required if the line is longer than 10 miles.


Minnesota Transmission >69kV
Northeast Planning Zone
07-NE-N3: Hubbard-Menahga Area
Miles
0 0.5 1 2
Legend
Transmission Substation
Cities
Proposed Route
69kV AC
115kV AC
138kV AC
161kV AC
230kV AC
345kV AC
500kV AC
250kV DC
400kV DC
County Boundary
Hubbard
HUBBARD
HUBBARD CO
WADENA CO
BECKER CO
Horton
Menahga
71
87

6.3.11 Hubbard-Menahga Area

Tracking Number. 2007-NE-N3

Utility. Great River Energy

Inadequacy. The 34.5 kV system between Hubbard and Verndale is incapable of supporting the voltage on contingency for the projected load by 2010.

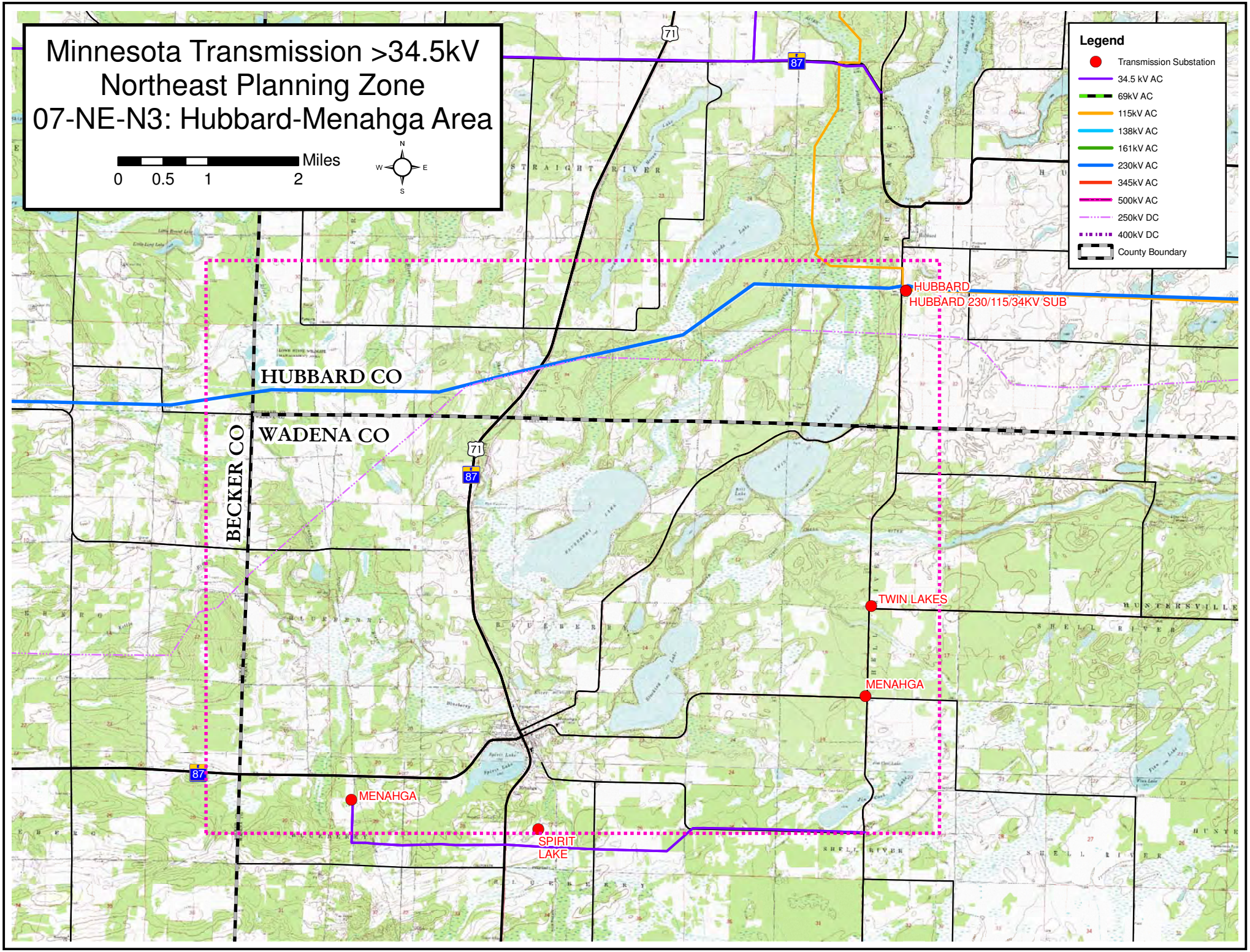
A map of the area is shown on the following page.

Alternatives. GRE is planning on constructing a 115 kV line between the radial Hubbard-Minnesota Pipeline 34.5 kV line and the Todd-Wadena Electric Cooperative Menahga substation. This line will be operated at 34.5 kV initially.

Analysis. The Menahga area sees low voltages on the loss of the Hubbard-Twin Lakes 34.5 kV line and the Leaf River area sees low voltages for loss of the Verndale source. Transferring the Menahga load from the Hubbard-Verndale system will rectify these low system voltages. Historical load levels indicate that low voltage is already a problem if this critical contingency were to occur.

115 kV transmission is proposed for this area as there is some wind potential along the corridor. The existing 34.5 kV system would not be able to serve the needs of a large wind farm in the area, due to capacity limitations on the system. The start of a 115 kV line between Hubbard and Wing River would provide the appropriate capability.

Schedule. GRE has scheduled this project for a 2013 energization. The proposed 115 kV line is not expected to exceed ten miles in length, which means that a Certificate of Need from the Public Utilities Commission will not be required.


Minnesota Transmission >34.5kV
Northeast Planning Zone
07-NE-N3: Hubbard-Menahga Area
Miles
0 0.5 1 2
N
W E
S
Legend
Transmission Substation
34.5 kV AC
69kV AC
115kV AC
138kV AC
161kV AC
230kV AC
345kV AC
500kV AC
250kV DC
400kV DC
County Boundary
HUBBARD
HUBBARD 230/115/34KV SUB
HUBBARD CO
WADENA CO
BECKER CO
TWIN LAKES
MENAHGA
MENAHGA
SPIRIT LAKE
71
87

MPUC Tracking Number	MTEP Year/App	MTEP Project Number	CON?	Utility	Description
2005-CX-1	2006 / A	279	Yes	CapX	Add new 230 kV Line between Boswell and Wilton (Bemidji – Grand Rapids 230 kV Line) to support the Bemidji area and the Red River Valley during winter peak conditions. This project is located in both the Northwest and Northeast zones. PUC Docket No. TL-07-1327
2007-NE-N1	2009/C	2548	Yes	MP	New 230/115 kV transformer & transmission line upgrade to 230 kV, Duluth area, St. Louis Co. Recent study indicates this project is not needed until the 2020 timeframe.
2007-NE-N2	2010/A	2547	No	MP	Transmission for Essar Steel, Grand Rapids-Nashwauk areas, Itasca Co., under construction PUC Docket No. TL-09-512
2007-NE-N3	2011/A	2571	Maybe	GRE	MN Pipeline-Menahga 115 kV line (operated at 34.5 kV) This project is impacted by pipeline pumping station voltage drop issues. The line may have to be extended to Hubbard or to RDO-Osage 34.5 kV line, unless voltage drop issues can be corrected. Either option may put line over 10 miles requiring a CON.
2007-NE-N5	2010/A	2576	No	GRE	Pokegama 115 kV distribution substation
2007-NE-N6	2012/B	2632	No	GRE	Onigum 115 kV conversion Line is currently less than 10 miles, however CON may be required if route is altered.
2009-NE-N1	2009/A	2552	No	MP	3 mile Skibo-Hoyt Lakes 138 kV transmission line, Hoyt Lakes area, St. Louis Co.

Attachment B

2013 Biennial Transmission Plans (selected)

6.4 Northeast Zone

6.4.1 Needed Projects

The following table provides a list of transmission needs identified in the Northeast Zone by MISO utilities. There were no projects identified in this zone by non-MISO utilities.

MPUC Tracking Number	MTEP Year/App	MTEP Project Number	CON?	Utility	Project Description and Timeframe
2003-NE-N2 *Cromwell – Wrenshall-Mahtowa-Floodwood Area*	2011/A	2634	Yes	MP/ GRE	Savanna Project: 115 kV Savanna switching station and Savanna-Cromwell and Savanna-Cedar Valley 115 kV lines, St. Louis Co., *PUC Docket Nos. CN-10-973 and TL-10-1307* *Timeframe: 2015*
2003-NE-N6 *Taconite Harbor – Grand Marais Area*	NA	NA	Yes	GRE	Taconite Harbor-Grand Marais 69 kV rebuild to 115 kV. This project has been delayed indefinitely due to drop in load growth.
2007-NE-N1 *Duluth Area 230 kV*	2009/C	2548	Yes	MP	Duluth 230 kV Project: New 230/115 kV transformer & transmission line upgrade to 230 kV to increase load-serving capability in the Duluth area. Recent study indicates this project is not needed until the 2020 timeframe.
2007-NE-N2 *Essar Steel Project*	2010/A	2547	No	MP	Essar 230 kV Project: Transmission for Essar Steel, Grand Rapids-Nashwauk areas, Itasca Co. Phase 1 is completed. *PUC Docket No. TL-09-512*.
2007-NE-N6 *Onigum Area*	2012/B	2632	No	GRE	Onigum 115 kV conversion. Line is currently less than 10 miles, however CON may be required if route is altered. Cass and Hubbard counties.

MPUC Tracking Number	MTEP Year/App	MTEP Project Number	CON?	Utility	Project Description and Timeframe
2009-NE-N1 *Nugget – Hoyt Lakes*	2009/A	2552	No	MP	Skibo-Hoyt Lakes 138 kV Line: New ~3 mile transmission line needed to provide redundant sources for expansion of an existing industrial customer; Hoyt Lakes Area, St. Louis Co.
2009-NE-N2 *Deer River Tap*	2012/C	2551	No	MP	28 Line Tap Reconfiguration: Put existing tap on dedicated breaker and rebuild to higher capacity, Cohasset – Deer River, Itasca Co. (This project has been cancelled in favor of MTEP Project #3531.)
2009-NE-N2 *Deer River Area (f/k/a Deer River Tap)*	2012/B	3531	No	MP	Deer River 230 kV Project: construct Zemple 230/115 kV Substation to increase load-serving capability and improve reliability in Deer River and the surrounding area; Deer River, Itasca Co. Due to line length, a CON was not required. *PUC Docket No. TL-13-68. Timeframe: 2015*
2009-NE-N4 *Brainerd Lakes – Remer-Deer River Area*	NA	NA	Yes	GRE	Macville-Blind Lake 115 kV line and Macville 230/115 kV substation. This project has been delayed indefinitely due to drop in load growth.
2009-NE-N5 *Ortman Project*	2010/A	2621	No	GRE	Build a new 230/69 kV transmission substation and build a new 20-mile 69 kV transmission line from the new Ortman Substation to the existing 69 kV transmission line just west of the Bigfork Substation

MPUC Tracking Number	MTEP Year/App	MTEP Project Number	CON?	Utility	Project Description and Timeframe
2009-NE-N6 *Staples-Motley-Long Prairie Area*	NA	NA	Maybe	GRE	Shamineau Lake 115 kV substation and 115 kV line. This project has been delayed indefinitely due to drop in load growth.
2009-NE-N7 *Park Rapids Area*	2010/A 2012/B	2566 2566	No No	GRE	Potato Lake 115 kV distribution sub and 115 kV line. Mantrap 115 kV conversion. This project is projected to be in-service in 2017 or sooner depending on load growth. The 2010/A portion of this project is complete. The 2012/B portion is expected to start in 2015. *PUC Docket No. TL-10-86.*
2009-NE-N8 *Barrows Area*	NA	NA	No	GRE	Barrows distribution substation and 115 kV line. This project has been delayed indefinitely due to drop in load growth.
2009-NE-N9 *Shell Lake Area*	2011/A	2599	No	GRE	Shell Lake 115 kV distribution substation and 115 kV line. This line will be built at 69 kV.
2009-NE-N10 *Iron Hub*	NA	NA	No	GRE	Iron Hub distribution substation and 115 kV line. This project has been delayed indefinitely due to drop in load growth.
2009-NE-N11 *Rush City-Cambridge-Princeton-Milaca Area*	NA	NA	Yes	GRE	Rush City-Milaca 230 kV line and Dalbo 230/69 kV source. This project has been delayed indefinitely due to drop in load growth.
2011-NE-N1 *9 Line Upgrade*	2011/A	3373	No	MP	Rebuild existing 115 kV line to higher capacity. Blackberry – Meadowlands, St. Louis & Itasca Co. A CON was not required for this project.

MPUC Tracking Number	MTEP Year/App	MTEP Project Number	CON?	Utility	Project Description and Timeframe
2011-NE-N2 *15 Line Rebuild*	2011/A	2549	No	MP	15 Line Reconfiguration: Rebuild & reconfigure existing 115 kV line to higher capacity, Fond-du-Lac – Hibbard, Duluth area, St. Louis Co.
2011-NE-N5 *North Met Sub*	2010/A	2761	No	MP	Construct new 138/13.8 kV substation to serve new mine, Hoyt Lakes area, St. Louis Co.
2011-NE-N8 *18 Line Upgrade*	2012/A	1292	No	MP	Increase capacity of existing 115 kV line, Forbes – United Taconite, Eveleth area, St. Louis Co.
2011-NE-N9 *Verndale Transformer*	2012/A	3534	No	MP	Increase 115/34.5 kV transformer capacity at existing Verndale Substation, Verndale, Wadena Co.
2011-NE-N10 *Laskin Transformer*	2009/A	2759	No	MP	Increase 115/46 kV transformer capacity and replace end-of-life equipment at existing Laskin Substation, Hoyt Lakes area, St. Louis Co.
2011-NE-N11 *Savanna 230 kV Expansion*	2012/C	3533	Yes	MP	Expansion of the Savanna Substation to 230/115 kV. Rebuild of existing 115 kV line (MTEP Project #3373) proved more economical for transmission line loading issue. Project may be required for future voltage support depending on area load growth; Floodwood area, St. Louis Co. *Timeframe: Deferred Indefinitely.*

MPUC Tracking Number	MTEP Year/App	MTEP Project Number	CON?	Utility	Project Description and Timeframe
2011-NE-N12 *Wrenshall Substation*	2012/C	3756	No	MP	Develop new 115/46 kV substation in Thomson – Cromwell 115 kV Line to improve reliability in eastern Carlton Co. The project will eliminate the need for existing distribution circuits that would otherwise need to be rebuilt due to age and condition and is also a lower cost alternative; Wrenshall, Carlton Co.
2011-NE-N13 *MH-MP 230 kV Line*	2012/C	3562	Yes	MP	230 kV transmission connection to Manitoba needed to deliver 250 MW PPA from Manitoba Hydro to Minnesota Power. Alternative to MTEP Project #3831; located in St. Louis, Itasca, Koochiching, Lake of the Woods, & Roseau Co. (see Section 3.3.2) *Timeframe:230 kV Alternative Deferred Indefinitely*
2013-NE-N1 *39 Line Reconfiguration*	2013/A	4039	No	MP	Reconfigure Laskin – Virginia 115 kV Line; easement expiration over mine property requires removal & relocation of the line; Eveleth area, St. Louis Co. *PUC Docket No. TL-12-1123*
2013-NE-N2 *North Shore Switching Station*	2013/A	4042	No	MP	New 115 kV switching station needed to improve industrial customer reliability. Silver Bay, Lake Co.
2013-NE-N3 *Two Harbors Transformer*	2013/A	4043	No	MP	New 115/14 kV transformer at Two Harbors Switching State; age & condition of existing Two Harbors substation. Two Harbors, Lake Co.

MPUC Tracking Number	MTEP Year/App	MTEP Project Number	CON?	Utility	Project Description and Timeframe
2013-NE-N4 *Mesabi 115 kV Project*	2012/B	3791	No	MP	115 kV switching station, capacitor banks, transmission line upgrades to improve reliability & facilitate industrial load growth in the Keewatin area, Itasca & St. Louis Cos.
2013-NE-N5 *Canisteo Proj*ect	2013/A	4040	No	MP	New substation in Boswell – Nashwauk 115 kV line to serve new industrial customer near Taconite, Itasca Co.
2013-NE-N6 *Panasa Project*	2013/A	4041	No	MP	Panasa Project: Tap of Nashwauk – Blackberry 115 kV line to serve new industrial customer near Calumet, Itasca Co.
2013-NE-N7 *Canosia Road Substation*	2013/B	4044	No	MP	New 115/14 kV substation in Arrowhead – Cloquet 115 kV line to unload feeders at existing Cloquet Substation and retire aging Midway Substation. Esko, Carlton Co.
2013-NE-N8 *Embarrass Transformer:*	2013/B	4045	No	MP	New 115/23 kV transformer at Embarrass Switching Station; unload Laskin – Virginia 46 kV system; Hoyt Lakes area, St. Louis Co.
2013-NE-N9 *15th Avenue West Transformer*	2013/C	4047	No	MP	New 115/34.5 kV transformer at 15th Avenue West; reliability, load growth, & unloading existing substations. Duluth, St. Louis Co.
2013-NE-N10 *Graham Mine Substation*	2013/C	4046	No	MP	New substation in Laskin – Hoyt Lakes 138 kV line to facilitate industrial customer expansion, Hoyt Lakes Area, St. Louis Co.
2013-NE-11 *Arrowhead 230 kV Cap Bank*	2012/A	3843	No	MP	New 40 MVAR capacitor bank needed for voltage support at HVDC terminal; Hermantown, St. Louis Co. *Timeframe: Completed*

MPUC Tracking Number	MTEP Year/App	MTEP Project Number	CON?	Utility	Project Description and Timeframe
2013-NE-N12 *Bison 230 kV Cap Bank*	2012/A	3842	No	MP	New 40 MVAR capacitor bank needed for voltage support at Bison Wind Energy Center; New Salem, North Dakota. This is a project in North Dakota and is reported here for informational purposes only. *Timeframe: Completed*
2013-NE-N13 *Great Northern Transmission Line*	2013/B 2012/C	3831 3832	Yes	MP/MH	New 500 kV & 345 kV lines from Winnipeg-Iron Range-Duluth to facilitate increased transfer capability from Manitoba – United States, increase regional access to clean, renewable Canadian hydropower, and improve system reliability (MTEP Project #3831 is the 500 kV build and Project #3832 is the 345 kV build). Impacted counties could include Kittson, Roseau, Marshall, Pennington, Red Lake, Polk, Clearwater, Lake of the Woods, Beltrami, Koochiching, Itasca, and St. Louis. (see Section 3.3.2) *PUC Docket No. CN-12-1163 Timeframe: October 2013*
2013-NE-N14 *NERC Facility Ratings Alert Medium Priority*	2013/A	4293	No	MP	Derates and physical mitigation on NERC "medium" priority lines. MP system-wide
2013-NE-N15 *NERC Facility Ratings Alert Low Priority*	2013/A	4294	No	MP	Derates and physical mitigation on NERC "low" priority lines. MP system-wide
2013-NE-N16 *HVDC Valve Hall Replacement*	2013/B	4295	No	MP	Modernization of Arrowhead & Square Butte converter stations. Hermantown area, St. Louis Co, MN & Center, ND

MPUC Tracking Number	MTEP Year/App	MTEP Project Number	CON?	Utility	Project Description and Timeframe
2013-NE-N17 *HVDC 750 MW Upgrade*	2013/C	3856	No	MP	Upgrade capacity of existing HVDC line & terminals to 750 MW. Hermantown area, St. Louis Co.
2013-NE-N18 *44 Line Upgrade*	2014/A	4425	No	MP	Increase capacity of existing 115 kV line, Forbes – Hibbing, St. Louis Co.
2013-NE-N19 *Hoyt Lakes Sub Modernization*	2014/A	4426	No	MP	Rebuild and reconfigure aged Hoyt Lakes Substation to serve new industrial customer. Hoyt Lakes area, St. Louis Co.
2013-NE-N20 *Haines Road Capacitor Bank*	2014/C	4427	No	MP	New 115 kV capacitor bank at Haines Road Substation needed for voltage support in the Duluth area, St. Louis Co.
2013-NE-N21 *Verndale – Hubbard 115 kV Line*	2014/B	2571	Yes	GRE/ MP	New Hubbard-Cat River 115 kV line that will replace 2007-NE-N3. Due to motor starting at pumping station, it was decided to immediately operate at 115 kV. To do so, Hubbard 115 kV bus would need the removal of a 115/34.5 kV transformer. This transformer would be moved to the new proposed Cat River Substation. The 115 kV line is expected to be over 20 miles in length and will serve 34.5 kV load between Verndale and Hubbard.

MPUC Tracking Number	MTEP Year/App	MTEP Project Number	CON?	Utility	Project Description and Timeframe
2013-NE-N22 *Osage Area 115 kV Line*	2014/B	4378	Yes	GRE	Due to system intact and contingency voltage concerns in the Osage area and the radial aspect of two GRE radial lines, it was decided to build a Hubbard-Elijah-Potato Lake 115 kV system to provide higher reliability to the loads of concern. To do so, Hubbard 115 kV bus would need the removal of a 115/34.5 kV transformer. This transformer would be moved to the new proposed Elijah Substation. The 115 kV line is expected to be over 17 miles in length and will serve 34.5 kV load between Hubbard and Long Lake largely in the Osage area. The Potato Lake-Mantrap radial is expected to be built to 115 kV prior to this project being in service (2009-NE-N7).
2013-NE-N23 *39 Line & 16 Line Reconfiguration*	2013/B	4428	No	MP	Reconfigure Laskin – Virginia 115 kV Line and Virginia – ETCO – Arrowhead 115 kV Line; easement expiration over mine property requires removal & relocation of the line; Possible alternative to 39 Line Reconfiguration (2013-NE-N13) due to construction issues. Eveleth area, St. Louis Co. *PUC Docket No. TL-12-1123*

6.4.2 Completed Projects

Some inadequacies in the Northeast Zone that were identified in the 2011 Biennial Report were alleviated through the construction and completion of specific projects over the last two years or can be moved to the completed category because changed circumstances have eliminated the need for the project. Information about each of the completed projects is summarized briefly in the table below. More information about these projects and inadequacies can be found in the 2011 Biennial Report. Also, additional information is available by contacting the designated person for the utility that was responsible for constructing the project.

MPUC Tracking Number	MTEP Year/ App	MTEP Project Number	CON	Utility	Description	Date Completed PUC Docket
2003-NE-N4 *Central Lakes Area*	2005/A	600	No	GRE/ MP	Southdale-Scearcyville 115 kV line (aka Baxter-Southdale) and Scearcyville Substation	July 2012
2003-NE-N5 *Pierz-Genola* Area	2010/A	1018	No	GRE/ MP	MP Little Falls to GRE Little Falls 115 kV line *PUC Docket No. TL-11-318*	April 2013
2003-NE-N9 *Nashwauk Area*	2011/B 2012/A	2569	No	GRE	Shoal Lake 115 kV distribution	October 2013

MPUC Tracking Number	MTEP Year/ App	MTEP Project Number	CON	Utility	Description	Date Completed PUC Docket
2005-CX-1 *Bemidji – Grand Rapids 230 kV Line*	2006/A	279	Yes	CapX	Added new 230 kV line between Boswell and Wilton (Bemidji – Grand Rapids 230 kV line) to support the Bemidji area and the Red River Valley during winter peak conditions. This project is located in both the Northwest and Northeast zones. *PUC Docket No. TL-07-1327.*	November 2012
2005-NE-N2 *Mesaba IGCC Generator*	2007/A	1025	No	Excelsior Energy[1]	Mesaba IGCC Generator outlet lines, Grand Rapids area, Itasca Co.	2005-NE-N2
2007-NE-N3 *Hubbard – Menahga Area*	2011/A	2571	NA	GRE	MN Pipeline-Menahga 115 kV line (operated at 34.5 kV). This project is impacted by pipeline pumping station voltage drop issues. Consideration was giving to extending the line to Hubbard or to the RDO-Osage 34.5 kV line.	Cancelled, replaced with the Hubbard – Cat River project 2013-NE-N21
2007-NE-N5 *Pokegama Area*	2010/A	2576	No	GRE	Pokegama 115 kV distribution substation	Dec. 2011
2009-NE-N3 *Line 28 Reroute*	2010/A	3091	No	MP	Relocate line, Nashwauk area, Itasca Co.	May 2013
2011-NE-N3 *Swan Lake Sub*	2010/A	2762	No	MP	New Swan Lake load serving Substation, Duluth, St. Louis Co.	April 2013

[1] Excelsior Energy is an independent energy development company that has proposed to construct and operate the Mesaba Energy Project and is not a MTO member. See Section 6.3.8 of the 2009 Biennial Report for more information.

MPUC Tracking Number	MTEP Year/ App	MTEP Project Number	CON	Utility	Description	Date Completed PUC Docket
2011 NE-N4 *LSPI 34.5 kV*	2009/A	2763	No	MP	Added LSPI 34.5 kV Transformer, Duluth, St. Louis Co.	March 2012
2011-NE-N6	2011/A	3374	No	MP	Re-energized existing Substation, Taconite MN area, Itasca Co.	April 2012
2011-NE-N7 *25 Line Tap*	2012/A	3532	No	MP	25L tap, constructed 115/34.5 kV substation, Hibbing MN area, St. Louis Co.	July 2012
2013-NE-N11 *Arrowhead 230 kV Cap Bank*	2012/A	3843	No	MP	New 40 MVAR capacitor bank needed for voltage support at HVDC terminal; Hermantown, St. Louis Co.	December 2012
2013-NE-N12 *Bison 230 kV Cap Bank*	2012/A	3842	No	MP	New 40 MVAR capacitor bank needed for voltage support at Bison Wind Energy Center; New Salem, North Dakota	August 2012

Attachment C

GRE 2008 Long-Range Transmission Plan
Section C: GRE-MP 34.5 kV Region (selected).

C: GRE-MP 34.5 kV Region

The GRE-MP 34.5 kV region covers the area that is served in majority by the GRE and MP 34.5 kV integrated transmission system with some substations taking service at 115 kV. Generally the region is centrally located west of the Brainerd area with tourism and agriculture being the main industries in the area. Some of the major towns served from this area on the northern side from west to east are Park Rapids, Walker, and Pequot Lakes. The central towns are Wadena to the far west and the major eastern loads of Baxter and Brainerd. On the southern side of the region, from west to east, are the towns of Long Prairie and Little Falls. Many smaller towns fill in the spaces between these regional communities. The member systems which serve this area are:

- Crow Wing Power (CWP)
- Itasca-Mantrap Cooperative Electric Association (IMCEA)
- Lake Country Power (LCP)
- Stearns Electric Association (SEA)
- Todd-Wadena Electric Cooperative (TWEC)

Located in the heart of Minnesota's lake country, Crow Wing Power serves over 36,000 members in Crow Wing, Cass, and Morrison counties. Crow Wing serves members in an approximately 2,800 square mile area, which includes eastern and northwestern Morrison County, the greater portion of Crow Wing County, and the southern portion of Cass County.

The Itasca-Mantrap service area includes approximately two-thirds of Hubbard County, one-half of Becker county, and small parts of Cass, Wadena, and Clearwater counties.

Lake Country Power serves a large diverse area in Northeastern Minnesota covering nearly 10,000 square miles. The area served varies from bedroom communities to lakeshore properties to remote wilderness. The Onigum substation is the only LCP load in this region.

Stearns Electric Association is located in central Minnesota, serving consumers in all of Stearns county, and portions of Todd, Morrison, Douglas, Pope, and Kandiyohi counties. The northern portion of Stearns is served by this region.

Todd-Wadena Electric Cooperative serves member consumers in a majority of the rural areas of Todd and Wadena counties along with portions of Becker, Cass, Douglas, Hubbard, Otter Tail, and Morrison counties.

This region has a diversified economy consisting largely of agriculture and related agri-businesses. Other economic activity includes logging, tourism, and various service-related businesses. Population growth is occurring in the region due to the region’s rural character and the many lakes that are spread across the region.

Existing System

The load in this region is primarily served by the 34.5 kV sub-transmission system. The 34.5 kV system is supported by a 115 kV system in the area, with a bulk 230 kV system serving the 115 kV system. The 230 kV system parallels the 115 kV system, except the Riverton-Benton County line. The other 230 kV lines are from Riverton to Badoura to Hubbard and Riverton to Wing River. These 230 kV points deliver power into the 115 kV system. The MP 250 kV DC line also passes through the area.

Fourteen 115 kV bulk delivery points to the 34.5 kV system are located at Brainerd, Baxter, Dog Lake, Little Falls, Blanchard, Long Prairie, Verndale, Hubbard, Akeley, Swanville, Eagle Valley, Long Lake, Platte River, and Pequot Lakes. Several 115 kV lines tie these substations together providing the main support to the area. A 69/34.5 kV transformation at Birch Lake provides an additional tie into the 34.5 kV system. Furthermore, the Badoura-Pequot Lakes-Birch Lake 115 kV project will provide further 115 kV support through a 115/69 kV transformer at Birch Lake and a new 115/34.5 kV source at the Pine River substation.

The 34.5 kV system contains several loops between the 115 kV sources from which the majority of the region's load is served. Some loads are served on radial lines from these 34.5 kV loops including some radials that extend over 15 miles from the main 34.5 kV loop. In many of these loops, 34.5 kV voltage regulators and capacitors are present to maintain adequate voltages on the system when one end of the loop fails.

Reliability and Transmission Age Issues

Transmission Lines on List of 50 Worst Composite Reliability Scores

Line 25	Little Falls 526FM 34.5 kV (PL)	Rank: 11
Line 224	Blanchard 502F 34.5 kV	Rank: 17
Line 244	Verndale 510FM 34.5 kV	Rank: 20
Line 289	Long Lake 545F (OT, RT) 34.5 kV	Rank: 24
Line 243	Long Prairie 501FM (TW-HAT, TW-IOT) 34.5 kV	Rank: 38
Line 29	Dog Lake 1T 34.5 kV (TW-WAT)	Rank: 46

Transmission Lines Built before 1980

Line 25	Little Falls 526FM 34.5 kV (PL)	8 Mi.-1958
Line 76	Badoura 507FM-Birch Lake 516F 34.5 kV (HO)	5 Mi.-1960
Line 224	Blanchard 508F 34.5 kV (ST-FN, ST-SU, ST-NTP)	12 Mi.-1969-71
Line 244	Verndale 510FM 34.5 kV (TW-LRT)	4 Mi.-1962
Line 289	Long Lake 545F 34.5 kV (OT, RT)	15 Mi.-1976
Line 29	Dog Lake 1T 34.5 kV (TW-WAT)	8 Mi.-1974
Line 231	Blanchard 524F 34.5 kV (ST-US, ST-SU)	13 Mi.-1971-75
Line 245	Hubbard 515F 34.5 kV (TW-MET)	6 Mi.-1971

The reliability of this region is generally a little worse than the GRE average. The line age information does not provide the full view of its reliability impact because it only covers part of the system. Much of the 34.5 kV system is owned and operated by Minnesota Power; GRE does not have line age and maintenance information for the MP facilities.

Line 25 from Little Falls is a 32 mile 34.5 kV line serving two substations. Its reliability performance is among the 50 worst lines for each of the six indices used. The majority of the line is owned by Minnesota Power, so most of the maintenance and age information is not available. Minnesota Power rebuilt nearly 10 miles of line from MP Little Falls to the Lastrup tap in 2006 with arresters. Also, the tap switch at Crow Wing's Little Falls substation has been replaced.

Line 224 from Blanchard is a 40 mile, 34.5 kV line serving two substations. This line is operated by Minnesota Power. Its reliability performance is among the 50 worst lines for each of the six indices used, with its worst performance from high numbers of momentary and sustained

outages. The majority of the line is owned by Minnesota Power, so most of the maintenance and age information is not available. MP rebuilt about six miles of this line and GRE added arresters on the GRE owned portions of the line in 2006. Also, a grounding survey is planned to determine grounding additions if indicated.

Line 244 from Verndale is a 19 mile, 34.5 kV line serving two substations. Its reliability performance is worse than the GRE average on all six indices. The majority of the line is owned by Minnesota Power, so most of the maintenance and age information is not available. Remote control has been added at the Sebeka tap switches to aid in outage restoration.

Line 289 from Long Lake is a 33 mile, mostly radial 34.5 kV line serving three substations. Its reliability performance is worse than the GRE average on all six indices; with it worst performance due to long term outages. The maintenance reports do not show much maintenance on this line. The recent addition of the Long Lake 115-34.5kV substation should improve overall reliability, but not for issues related to the radial supply. The RDO substation has been converted to 115kV supply and the planned Long Lake-Badoura 115kV line will provide it with two-way 115kV supply.

Line 243 from Long Prairie is a 28 mile, 34.5 kV line serving two substations. Its reliability performance was worse than the GRE average on five of the six indices. The majority of the line is owned by Minnesota Power, so most of the maintenance and age information is not available. The 2005 addition of the Eagle Valley 115-34.5kV substation has allowed the line to be reconfigured to reduce exposure. Also, remote control is being added to the Hartford tap switches to aid in outage restoration.

Line 29 from Dog Lake is a 20 mile, 34.5 kV line serving two substations. Its reliability performance was worse than the GRE average on four of the six indices. Part of this line is owned by Minnesota Power, so most of the maintenance and age information is not available. There are no recent or planned projects to improve reliability of this line.

Future Development

Load Forecast

The following forecast is the load served by the transmission system in the region. This load includes GRE, MP, and municipal load.

GRE-MP 34.5 kV Region Load (in MW)			
Season	2011	2021	2031
Summer	338.8	430.8	560.2
Winter	363.0	473.4	613.6

Planned Additions

The following are projects that are expected over the LRP time period that are not significant in defining alternatives for future load serving capability. This list may also include generation or transmission projects that are already budgeted for construction, but have yet to be energized.

- GRE and MP are planning a new 115 kV transmission line and substation that will connect CWP's Southdale substation to MP's 24 Line (Baxter-Dog Lake Tap) via a breaker station at Scearcyville. The scheduled ISD for this project is 2009.

- IM is planning a new Shingobee distribution substation with an ISD of 2009. GRE is building approximately 2.8 miles of 115 kV line from the Akeley-Badoura 115 kV line to connect the new substation to the system.
- GRE and MP are constructing the Badoura project consisting of 63 miles of new 115 kV transmission connecting the Pequot Lakes, Badoura, Birch Lake, and Long Lake substations. New transformations will be placed at Birch Lake (115/69 kV) and at a new substation at Pine River (115/34.5 kV). As a result of this project, CWP is upgrading their Pine River substation and IM is converting its Tripp Lake substation from 34.5 kV to 115 kV. The scheduled ISD for the project is 2010.
- GRE and MP are planning a new 115 kV transmission connecting the GRE Menahga 34.5 kV substation with MP's Hubbard-MN Pipeline 34.5 kV line. The scheduled ISD for the project is 2010.
- IM is planning a new Potato Lake substation in 2010. GRE is planning to connect the substation with approximately 6 miles of transmission line that taps the Mantrap Tap-Mantrap 34.5 kV line.
- CWP is proposing to add a new 115 kV distribution substation at Hardy Lake in 2012. This substation will directly tap the Southdale-Scearcyville 115 kV line.
- CWP is planning a new Shamineau Lake substation in 2014. GRE will connect this substation via a new 5 mile line that taps the MP Motley-GRE Motley 34.5 kV line.
- CWP is has identified a need for a new Barrows substation that will tap the Nokay-Southdale 115 kV line. The projected ISD for this addition is 2014.
- IM has identified the need for a new Shell Lake substation to be energized in 2015. In order to connect this substation to the bulk system, GRE plans to construct approximately 4.5 miles of transmission line from the Osage-Pine Point 34.5 kV line to the new substation.
- CWP is planning to add a new 115 kV distribution substation at Portage Lake in 2019. This substation will connect to the Tripp Lake-Birch Lake 115 kV line via a 4.0 mile 115 kV line.
- CWP is proposing to add a Gilbert Lake substation that taps the Riverton-Baxter 115 kV line. The expected ISD is 2024.
- CWP has identified a need for a new Ripley distribution substation that will directly tap the Dewing-Little Falls 115 kV line. The expected ISD for this project is 2029.
- CWP has indicated that a new Royalton substation is needed in 2029. This substation will directly tap the Little Falls-Langola Tap 115 kV line.

230-115 kV Bulk Delivery

Analysis of the 34.5 kV region has shown that the regional bulk system voltages are beginning to depress as system loading is increasing. Of concern are the 230 kV system voltages in and around the Riverton area. While not violating criteria, the high voltage system voltage issues directly lead to voltage issues on the lower voltage systems. A more detailed analysis of bulk system issues will have to be done as this is outside the scope of this study. Some of the System Intact voltages are listed in the below table.

Facility	2011 SUPK %	2021 SUPK %
Riverton 230 kV	102.2	97.2
Mud Lake 230 kV	101.8	96.8
Wing River 230 kV	101.5	95.7
Badoura 230 kV	102.9	97.3

Facility	2011 SUPK %	2021 SUPK %
Hubbard 230 kV	103.1	97.2
Little Falls 115 kV	102.5	96.7
Blanchard 115 kV	102.5	97.0
Platte River 115 kV	101.8	96.1
Swanville 115 kV	103.0	97.3

A new bulk source into the Little Falls area would help to boost the 115 kV voltages and improve regional 34.5 kV load serving capability. This source could come from the proposed Pierz 230/115 kV source in the ***Central Minnesota Region-Mille Lacs Area***. Other potential sources would involve 230 or 115 kV transmission from the St. Cloud and/or the Brainerd areas. Additions of 230 kV capacitor could help with the 230 kV system voltages. It is expected that the CAPX Fargo-Monticello 345 kV line would greatly help out with voltages in the area as through-flow to the St. Cloud and Twin Cities metro areas would be reduced.

A few bulk system thermal overloads were also observed. The Riverton-Brainerd and Mud Lake-Brainerd 115 kV lines overload for loss of the Mud Lake and Riverton 230/115 kV transformers, respectively.

Thermal Overloads

Facility	Rating MVA	Estimated Year	2011 MVA	2021 MVA
Riverton-Brainerd 115 kV line	90	2018	76.1	110.8
Mud Lake-Brainerd 115 kV line	120	2020	102.5	134.8

It is assumed that the cheapest option would be to rebuild these facilities to a higher capacity conductor. A new 230/115 kV transformation at Scearcyville may also provide loading relief to these facilities. However, further study is required to validate this option. Assuming a rebuild to 636 ACSR, the following are the recommended bulk facility installations. The lines will likely be rebuilt by MP as they are the owners of these facilities.

Estimated Year	Facility	Cost
2018	Riverton-Brainerd, 13.13 Mile, 636 ACSR, 115 kV line rebuild	$4,267,250
2020	Mud Lake-Brainerd, 4.41 Mile, 636 ACSR, 115 kV line rebuild	$1,433,290

Verndale-Dog Lake-Baxter-Brainerd Area

The Verndale-Dog Lake-Baxter-Brainerd system consists of the 34.5 kV system that ties these 115/34.5 kV sources together. The following are the 34.5 kV outlets for this area:

- 503 Line from Verndale
- 503 Line from Dog Lake
- 534 Line from Baxter
- 504 Line from Brainerd

This area also has two hydroelectric stations at Pillager and Sylvan. From Sylvan, the normally open 502 Line goes to the ***Little Falls-Platte River-Blanchard Area***.

Other lines exist in the Verndale and Brainerd area that tie to the system, but are not of concern to the capability of serving GRE substations of Staples, Ward, and Motley. The GRE 115 kV loads in the area include Aldrich (Verndale), Thomastown, Southdale, Baxter, Nokay, and Dewing. The following forecast is the load served in this area. This load includes GRE, MP, and Staples Municipal load.

Season	2011	2021	2031
Summer	124.5	166.7	226.6
Winter	117.3	151.5	195.9

The distribution substation interconnections that are scheduled over the LRP time period are depicted in the following table. In total, four distribution substation interconnections are planned for the Shamineau Lake, Hardy Lake, Gilbert Lake, and Barrows substation projects.

Estimated Year	Facility	Cost
2012	Hardy Lake 115 kV 3-way switch	$205,000
2014	Shamineau Lake- MP 524 Line, 5.0 Mile, 477 ACSR, 115 kV line and 3-way switch (operated at 34.5 kV)	$2,700,000
2014	Nokay-Southdale Line Tap to Barrows 1.0 mile, 336 ACSR 115 kV line and 3-way switch	$894,000
2024	Gilbert Lake 115 kV 3-way switch	$205,000

Area Deficiencies

Deficiencies seen in this area reside in the western portion of this system around Dog Lake and Verndale. The completion of the Scearcyville-Southdale 115 kV line in the eastern portion of the region will loop in the Southdale substation and create a 115 kV ring around the Brainerd/Baxter area, thus securing the transmission system through the LRP time frame. The overload of the Brainerd and Verndale 115/34.5 kV transformers can be alleviated by switching loads to the other transformers in the system if necessary. Most of the 34.5 kV voltage deficiencies seen are caused by loss of the Dog Lake 115/34.5 kV transformer.

Overloads

Facility	Rating MVA	Estimated Year	2011 MVA	2021 MVA	Contingency
Brainerd 115/34.5 kV transformer #1	30	2010	38.2	42.9	Brainerd 115/34.5 kV transformer #2
Brainerd 115/34.5 kV transformer #2	30	2010	38.3	43.0	Brainerd 115/34.5 kV transformer #1
Verndale 115/34.5 kV transformer #1	20	<2011	34.0	41.8	Verndale 115/34.5 kV transformer #2
Verndale 115/34.5 kV transformer #2	20	<2011	36.9	45.3	Verndale 115/34.5 kV transformer #1

Voltage Deficiencies

Substation	Estimated Year	2011 %	2021 %	Contingency
Shamineau Lake 34.5 kV	2017	95.6	89.3	Dog Lake 115/34.5 kV transformer
Ward 34.5 kV	2018	99.4	88.0	Dog Lake 115/34.5 kV transformer
GRE Motley 34.5 kV	2019	96.9	90.3	Dog Lake 115/34.5 kV transformer
GRE Staples 34.5 kV	2019	97.3	90.0	Verndale-Wing River 115 kV
MP Staples 34.5 kV	2020	96.7	89.3	Verndale-Wing River 115 kV

Alternatives

Alternatives look at providing a new source into the 34.5 kV system and converting more load from 34.5 kV to 115 kV.

Option 1: Motley 115 kV conversion and Shamineau Lake-Ward development

The conversion of the GRE Motley load to 115 kV would offload the 34.5 kV system to provide better voltage regulation upon outage of the Dog Lake 115/34.5 kV transformer. Adding a line between Shamineau Lake and Ward would allow for Ward to be served from the Dog Lake source upon loss of the Dog Lake Tap-Ward Tap 34.5 kV line or the Verndale-Aldrich 34.5 kV line. This line would be constructed to 115 kV standards and operated at 34.5 kV.

Estimated Year	Facility	Cost
2017	Motley- MP 24 Line, 4.3 Mile, 477 ACSR 115 kV line	$1,747,400
2017	GRE Motley conversion to 115 kV operation	$350,000
2018	Shamineau Lake-Ward, 6.75 Mile, 477 ACSR 115 kV line (operated at 34.5 kV)	$2,814,000

Option 2: Shamineau Lake 115/34.5 kV source

This option would establish a 115/34.5 kV source at Shamineau Lake and provide 34.5 kV outlets to the MP 534 Line, Ward, and North Parker substations. This would provide another source into the middle of the area plus provide support to the Blanchard area.

Estimated Year	Facility	Cost
2016	Shamineau Lake-North Parker, 13.6 Mile, 477 ACSR 115 kV line (operated at 34.5 kV)	$5,384,800
2019	Shamineau Lake 115/34.5 kV source	$6,201,400
2022	Shamineau Lake-Ward, 6.75 Mile, 477 ACSR 115 kV line (operated at 34.5 kV)	$3,149,000

Generation Options

Generation would be attractive on the low-side of the Verndale to unload the transformers. However, to offset transmission projects it would be more feasible away from the main delivery points to delay future lines or voltage support improvements. The capacity and radial nature of the 34.5 kV lines make it very difficult to justify generation placement in this area.

Present Worth

A cost analysis was performed on each option with loss savings assumed to be benchmarked against Option 1. The loss savings in MW for each option are as follows:

Option	2011 Summer	2021 Summer	2031 Summer
2	0.0	-0.5	-0.9

With the loss allocations, the present worth is summarized as follows (in 1000's):

Option	Cumulative Investment	Present Worth	Present Worth w/ Loss Savings
1	$9,644	$9,903	-
2	$30,417	$29,822	$27,927

Option 1 offers the least amount of investment. However, Option 1 provides marginal voltage support throughout the LRP time period. The Ward and Shamineau Lake substations will need additional transmission facilities that will allow for adequate voltage support for System Intact conditions in 2032. The Option 2 facilities offer much improved system performance over the Option 1 facilities and provide benefits not only to this area but the ***Long Prairie-Swanville-Blanchard Area*** as well via the Shamineau Lake-North Parker 115 kV line. Therefore, Option 2 is being preferred as the recommended plan.

Viability with Growth

GRE will have to watch the load growth closely in this region. The Shamineau Lake 115/34.5 kV source will provide for additional flexibility in serving the area loads as they grow as they could be potential candidates for 115 kV conversion. A 115 kV line to Shamineau Lake would also lend itself to be a potential start to a 115 kV loop to Long Prairie and/or Blanchard. However, if load growth does not occur at the expected rates, GRE will have to revisit the transmission plan for the area to see if an alternate option makes better sense to pursue.

Verndale-Hubbard Area

The Verndale-Hubbard area consists of the 34.5 kV system that ties the 115/34.5 kV sources between Verndale and Hubbard. The 34.5 kV MP 515 Line ties the Verndale and Hubbard substations together and serves the GRE substations of Twin Lakes, Menahga, Orton, Sebeka, and Leaf River. Other lines exist in the Verndale and Hubbard area that tie to the system, but are not of concern to the capability of serving these GRE substations. This load includes GRE and MP load.

Season	2011	2021	2031
Summer	16.9	21.0	26.4
Winter	21.9	27.5	35.1

GRE's Pipeline-Menahga 34.5 kV project will help to serve this system upon loss of either end of the loop. This project is currently budgeted with an expected ISD of 2010, will be constructed to 115 kV specifications, and is assumed as being in-service for the simulations.

Estimated Year	Facility	Cost
2010	Pipeline-Menahga, 8.5 Mile, 477 ACSR 115 kV line (operated at 34.5 kV)	$1,644,563

Area Deficiencies

Area deficiencies are voltage-related in nature and stem from the loss of ties to either the Hubbard or Verndale sources.

Voltage Deficiencies

Substation	Estimated Year	2011 %	2021 %
Leaf River 34.5 kV	2014	93.1	86.2
GRE Sebeka 34.5 kV	2017	95.8	88.9
Blue Grass 34.5 kV	2018	94.6	88.0
Sebeka Regulator 34.5 kV	2020	95.4	89.2
Orton 34.5 kV	2020	97.3	91.0
Twin Lakes 34.5 kV	2020	97.1	91.0
MP Sebeka 34.5 kV	2021	95.7	89.8

Alternatives

Alternatives look to providing additional sources and ties to the 34.5 kV system.

Option 1: Leaf River-Compton 115 kV line

Addition of a Leaf River-Compton 115 kV line operated at 34.5 kV would tie the Leaf River substation back to the Verndale substation upon loss of the Leaf River-Verndale 34.5 kV line.

Estimated Year	Facility	Cost
2021	Leaf River-Compton, 9.0 Mile, 477 ACSR 115 kV line (operated at 34.5 kV)	$3,642,000

Option 2: Hubbard-Wing River 115 kV development

This option looks at establishing a 115 kV path between the Hubbard and Wing River 115 kV substations and placing a new 115/34.5 kV substation at Orton Tap. Distribution substation conversions at Menahga, Leaf River, Compton, and Hewitt are required with this option.

Estimated Year	Facility	Cost
2021	Hubbard-Wing River 115 kV development	$26,316,010

Generation Options

As discussed in the ***Verndale-Dog Lake-Baxter-Brainerd Area***, generation would be attractive on the low-side of the Verndale substation to unload the transformers. However, to offset transmission projects it would be more feasible away from the main delivery points to delay future lines or voltage support improvements. Depending on load growth, distributed generation may offer a great opportunity in this area as small generation units may have long-term impacts on the transmission grid.

Present Worth

A cost analysis was performed on each option with line losses evaluated with Option 1 being the benchmark for loss savings. The loss savings in MW for each option are as follows:

Option	2011 Winter	2021 Winter	2031 Winter
2	0.0	-0.6	-2.6

With the loss allocations, the present worth is summarized as follows (in 1000's):

Option	Cumulative Investment	Present Worth	Present Worth w/ Loss Savings
1	$8,728	$7,093	-
2	$63,068	$51,315	$47,150

Based on the present worth values, it is evident that Option #1 is the preferred plan.

Viability with Growth

Option 1 provides adequate support to the system based on the present LRP load projections and would provide a base for deploying the Option 2 plan if needed. GRE will have to monitor load growth to see if Option 2 might become necessary. It may feasible to simply build the Orton Tap 115/34.5 kV source and Hubbard-Menahga-Orton Tap 115 kV line and convert Menahga to

115 kV operation. Wind projects may also push the development of the Option 2 facilities as the area around Verndale has the potential to see many wind interconnections.

Verndale-Eagle Valley-Long Prairie Area

The Verndale-Eagle Valley-Long Prairie system consists of the 34.5 kV system that ties the 115/34.5 kV sources between Verndale, Eagle Valley, and Long Prairie. Two 34.5 kV outlets, the 519 and 533 Lines, exist at Verndale, one outlet exists at Long Prairie (501 Line), and two outlets emanate from Eagle Valley (513 and 517 Lines). Other lines exist in the Long Prairie and Verndale area that tie to the system, but are not of concern to the capability of serving GRE substations at Hartford, Iona, Eagle Bend, Hewitt, and Compton. The following forecast is the load served in this area. This load includes GRE, MP, and Wadena Municipal load.

Season	2011	2021	2031
Summer	37.4	43.6	49.4
Winter	39.9	46.7	53.0

Area Deficiencies

The Eagle Valley 115/34.5 kV source greatly aids in holding the voltage at the Hewitt, Compton, and Wadena 34.5 kV substations upon loss of the Verndale source. However, the Compton voltage falls below criteria in 2022 and the Wadena voltage in 2023. Also of interest is the loading on the Verndale 115/34.5 kV transformers. The third 20 MVA, 115/34.5 kV transformer failed in 2006 and is has put additional strain on the remaining transformers. The most severe loading is seen when one Verndale 115/34.5 kV transformer is lost. Switching the system to have load sourced from other transformers will likely alleviate these overloads. The addition of the Shamineau Lake 115/34.5 kV source as identified in the ***Brainerd-Baxter-Dog Lake-Verndale Area*** would also offer transformer loading relief.

Overloads

Facility	Rating MVA	2011 MVA	2021 MVA	Contingency
Verndale 115/34.5 kV transformer #1	20	34.0	41.7	Verndale 115/34.5 kV transformer #2
		22.2	28.2	Dog Lake 115/34.5 kV transformer
Verndale 115/34.5 kV transformer #2	20	36.9	45.3	Verndale 115/34.5 kV transformer #1
		21.8	27.7	Dog Lake 115/34.5 kV transformer

Voltage Deficiencies

Substation	Estimated Year	2011 %	2021 %
Compton 34.5 kV	2022	97.2	92.3
Wadena 34.5 kV	2023	96.0	91.0

The GRE criterion is to have a 92% voltage at GRE buses, whereas MP buses have a criterion of 90% during contingency conditions.

Alternatives

The deficiencies in the area stem from the loss of the Verndale-Wadena 34.5 kV line as this puts the largest load in the area on a long radial line far from any source. Therefore, alternatives focus on 115 kV load conversion and providing additional ties into the Wadena area.

The following are options that were considered:

Option 1: Compton-Leaf River 115 kV line and Hewitt 115 kV conversion

This option examines adding a Compton-Leaf River 115 kV line that is initially operated at 34.5 kV. This would provide another tie to the Compton/Wadena area from the Verndale sub and help mitigate the Verndale-Wadena 34.5 kV outage. Conversion of the Hewitt substation to 115 kV via a Wing River-Hewitt 115 kV line would further offload the 34.5 kV system to maintain the Wadena voltage during contingency situations. Finally, a 21.6 MVAR cap bank would be placed at the Verndale 115 kV bus to provide voltage support upon loss of the tie to Wing River.

Estimated Year	Facility	Cost
2022	Hewitt 115 kV conversion	$350,000
2022	Wing River-Hewitt, 4.5 Mile, 477 ACSR, 115 kV line	$2,156,000
2022	Compton-Leaf River, 9.0 Mile, 477 ACSR, 115 kV line (operated at 34.5 kV)	$3,642,000
2026	Verndale 115 kV 21.6 MVAR capacitor bank	$281,200

Option 2: Wing River-Hubbard 115 kV development

This option looks at establishing a 115 kV path between the Hubbard and Wing River 115 kV substations and establishes a new 115/34.5 kV substation at Orton Tap in the ***Hubbard-Verndale Area***. Distribution substation conversions at Menahga, Leaf River, Compton, and Hewitt are required with this option.

Estimated Year	Facility	Cost
2022	Wing River-Hubbard 115 kV development	$26,316,010

Present Worth

A cost analysis was performed on each option with Option 1 being the benchmark for loss savings. The loss savings in MW for each option are as follows:

Option	2011 Winter	2021 Winter	2031 Winter
2	0.0	0.0	-2.6

With the loss allocations, the present worth is summarized as follows (in 1000's):

Option	Cumulative Investment	Present Worth	Present Worth w/ Loss Savings
1	$16,520	$12,605	-
2	$66,852	$50,835	$46,822

Option 1 offers the least cost plan and requires the least investment.

Viability with Growth

Load growth will have to be carefully monitored in this area. The Leaf River-Compton 115 kV line offers only limited support to the Wadena substation. Conversion of the Wadena load to 115 kV operations or establishing a 115/34.5 kV source at Wadena would provide more reliable service to this substation and would help with the Verndale transformer loading issues. Also, the area surrounding Wadena has the potential to have many larger wind farm interconnections that

could not be handled by the 34.5 kV system. In the event that that these wind projects develop, GRE would likely have to revert to the Option 2 facilities to handle the interconnections.

Long Prairie-Swanville-Blanchard Area

The Long Prairie-Swanville-Blanchard system consists of the 34.5 kV system that ties the 115/34.5 kV sources between Long Prairie, Swanville, and Blanchard. Three 34.5 kV outlets, 521, 524 and 508 Line, exist at Blanchard and one 34.5 kV outlet, the 527 Line, sources from Long Prairie. The Swanville source connects the 508 and 524 Lines. The 521 Line serves the MN Pipeline load individually as its start up causes voltage dips on the system. MP has isolated this load to its own 115/34.5 kV transformer at Blanchard. Other lines exist in the Long Prairie and Blanchard area that tie to the system, but are not of concern to the capability of serving GRE substations at Sobieski, Pine Lake, Pillsbury, Flensburg, and North Parker. The following forecast is the load served in this area and includes both GRE and MP load.

Season	2011	2021	2031
Summer	39.7	47.3	57.1
Winter	34.6	40.7	48.7

Area Deficiencies

No line overloads were identified within this area. Voltage deficiencies stem from loss of the Swanville source which requires significant reconfiguration of the system.

Voltage Deficiencies

Substation	Estimated Year	2011 %	2021 %
North Parker 34.5 kV	2016	97.0	86.1
GRE Flensburg 34.5 kV	2019	99.1	89.2
North Parker Jct. 34.5 kV	2019	97.9	87.3
Flensburg Switch 34.5 kV	2021	99.1	89.4

Alternatives

The immediate issue in this area is the voltage performance of the 34.5 kV system. The North Parker substation is on a radial line distant from all three area sources. Alternatives look to provide voltage support via new sources closer to the North Parker area.

Option 1: Pike Creek 115/34.5 kV source

This option provides a new source at the junction of the 34.5 kV 508 and 521 Lines by rebuilding the Blanchard to 508-521 Tie 34.5 kV line to 115 kV. This also places a stronger source closer to the MN Pipeline load which would likely help in reducing voltage dips upon starting of the compressor station.

The following is the estimated timeline for Option 1 installations:

Estimated Year	Facility	Cost
2016	Blanchard-Pike Creek, 9.15 Mile, 477 ACSR 115 kV rebuild	$2,516,250
2016	Pike Creek 30 MVA, 115/34.5 kV source	$3,814,400

Option 2: Shamineau Lake-North Parker development

This option establishes a 34.5 kV connection between Shamineau Lake and North Parker to provide support to the North Parker substation (constructed to 115 kV standards). Eventually, a Shamineau Lake 115/34.5 kV source is required for support of both the Shamineau Lake and North Parker areas.

Estimated Year	Facility	Cost
2016	Shamineau Lake-North Parker, 13.6 Mile, 477 ACSR, 115 kV line (operated at 34.5 kV)	$5,219,800
2019	Shamineau Lake 30 MVA, 115/34.5 kV source	$6,201,400

Generation Options

Generation would be attractive at North Parker to provide voltage support and defer transmission investment. However, the Shamineau Lake-North Parker transmission development would be beneficial to both the Dog Lake and the Swanville-Blanchard areas, thus making generation investment difficult to justify.

Present Worth

A cost analysis was performed on each option with line losses evaluated with Option 1 being the benchmark for loss savings. The loss savings in MW for each option are as follows:

Option	2011 Summer	2021 Summer	2031 Summer
2	0.0	-0.6	-0.8

With the loss allocations, the present worth is summarized as follows (in 1000's):

Option	Cumulative Investment	Present Worth	Present Worth w/ Loss Savings
1	$11,337	$12,969	-
2	$22,870	$23,484	$21,365

Option 1 is the least cost plan. However, as discussed in the ***Brainerd-Baxter-Dog Lake-Verndale Area***, the Shamineau Lake 115/34.5 kV source provides benefits to both areas. Therefore, Option 2 will be the recommended plan for the area.

Viability with Growth

Option 2 allows for future conversion of the North Parker and other area substations to 115 kV operation. The Blanchard and Little Falls 115 kV voltages are fairly weak as the sources into the 115 kV system are distant from these substations, thus the voltage support provided by the Pike Creek source to the 34.5 kV system is dictated by the 115 kV system voltage levels. Also, the Shamineau Lake 115 kV line also would provide the basis for a 115 kV loop to Blanchard or Long Prairie.

Blanchard-Platte River-Little Falls Area

The Blanchard-Platte River-Little Falls system consists of the 34.5 kV system that ties the 115/34.5 kV sources between Blanchard, Platte River, and Little Falls. One 34.5 kV outlet, the 511 Line, exists at Blanchard and another outlet, the 526 Line, emanates from Little Falls. The two outlets meet with the 5261 FDR line, which ties the system together as a looped system. The Platte River substation is in the middle of the radial line that serves Rice and provides

emergency support upon loss of the Blanchard source. Other lines exist in the Little Falls and Blanchard area that tie to the system, but are not of concern to the capability of serving GRE substations of Little Falls and Lastrup. The following forecast is the load served in this area. This load includes GRE and MP substations.

Season	2011	2021	2031
Summer	28.7	35.3	35.7
Winter	24.6	31.1	32.5

Two distribution interconnection projects are planned for the area for the Ripley and Royalton substations. GRE interconnection costs are listed in the following table.

Estimated Year	Facility	Cost
2029	Royalton 115 kV 3-way switch	$205,000
2029	Ripley 115 kV 3-way switch	$205,000

Long-term Deficiencies

The transmission system in this area is already deficient for both line overloads and voltage violations. They are as follows:

Overloads

Facility	Rating MVA	Outage	2011 MVA
Royalton 34.5 kV regulator	10	Little Falls Bulk-GRE Little Falls 34.5 kV	19.2
Royalton Regulator-Rice Tap 34.5 kV	18	Little Falls Bulk-GRE Little Falls 34.5 kV	19.2
Rice Tap-Little Rock 34.5 kV	18	Little Falls Bulk-GRE Little Falls 34.5 kV	18.8
Little Rock-526-511 Tie Sw. 34.5 kV	18	Little Falls Bulk-GRE Little Falls 34.5 kV	17

Voltage Deficiencies

Substation	2011 %	2021 %	Outage	Estimated Year
Pierz Regulator 34.5 kV	92.1	75.8	Little Falls Bulk-GRE Little Falls 34.5 kV	2013
Rich Prairie 34.5 kV	92.6	77.3	Little Falls Bulk-GRE Little Falls 34.5 kV	2013
Buckman 34.5 kV	93.7	79.5	Little Falls Bulk-GRE Little Falls 34.5 kV	2014
Lastrup 34.5 kV	97.6	88.7	System Intact	2014
Lastrup 34.5 kV	101.2	101.5	Little Falls Bulk-GRE Little Falls 34.5 kV	2016
Pierz Regulator 34.5 kV	99.0	91.2	System Intact	2016
Pierz 34.5 kV	99.0	91.1	System Intact	2016
GRE Little Falls 34.5 kV	102.8	83.5	Little Falls Bulk-GRE Little Falls 34.5 kV	2017
Lastrup 34.5 kV	97.2	88.2	Rice Tap-61k Distribution 34.5 kV	2017
Little Rock 34.5 kV	97.2	86.0	Little Falls Bulk-GRE Little Falls 34.5 kV	2018
Pierz 34.5 kV	102.4	83.7	Little Falls Bulk-GRE Little Falls 34.5 kV	2018
GRE Little Falls 34.5 kV	100.4	93.1	System Intact	2019
Little Falls 34.5 kV	101.1	94.6	System Intact	2021

The GRE criteria are to have a 95% System Intact voltage and a 92% contingent voltage at GRE buses, whereas MP buses have a criterion of 90% during contingency conditions. Also of note are the bulk system voltages at Little Falls and Blanchard in the out-year scenarios. While not below the 95% criterion for system intact violations, the 115 kV voltage is becoming

depressed which is leading to depressed voltages on the 34.5 kV system and causing the Royalton and Pierz regulator stations to saturate their LTC's.

Alternatives

The immediate issue in this area is relieving the flow on the 34.5 kV system upon loss of the Little Falls source. Also, it already takes two regulators to maintain voltage when the tie out of the Little Falls is lost. Taking these items into consideration, only one alternative was tested:

Option 1: 115 kV conversion

This option examines converting the GRE Little Falls and Lastrup substations to 115 kV operation by connecting them to the Little Falls 115 kV bulk substation. This would remove the two largest loads on this loop and greatly extend the life of the 34.5 kV system.

Estimated Year	Facility	Cost
2012	Little Falls-GRE Little Falls, 3.0 Mile, 795 ACSS 115 kV line	$2,099,000
2012	GRE Little Falls 115 kV conversion	$350,000
2018	GRE Little Falls-Lastrup, 12.0 Mile, 795 ACSS, 115 kV line	$6,646,000
2018	Lastrup conversion to 115 kV operation	$350,000

The 2012 timeline for the Little Falls conversion is based on the voltage. Conversion should take place as soon as funding can be procured for the project.

Generation Options

Generation would be attractive in the Buckman area, thus, providing a voltage source in the middle of the system. This generation however may not be able to resolve the voltage drop on the transmission lines, leading to continued voltage problems on the large loads located near the transmission sources.

Present Worth

Present worth analysis was not performed as there are no counter options provided for proposed plan.

Viability with Growth

Conversion of the GRE loads to 115 kV will greatly extend the life of the 34.5 kV system and provide 34.5 kV loading relief to the regulating stations. Establishing a 115 kV path to Little Falls from Lastrup will also provide a future tie to the Pierz 230/115 kV source (as discussed in the ***Central Minnesota Region-Mille Lacs Area***) to help with bulk system voltage support around the Little Falls area. GRE and MP will have to monitor the load growth in the Little Falls region to see if the Pierz source is needed sooner than the 2022 time frame as estimated by the Mille Lacs area needs. Depending on the timing, establishing a 115/34.5 kV source from this substation would place a source in the middle of the loop thus potentially delaying the conversion of the Lastrup substation until the Mille Lacs development is needed.

Akeley-Pequot Lakes Area

The Akeley-Pequot Lakes system consists of the 34.5 kV system that ties the 115/34.5 kV sources between Akeley and Pequot Lakes. A 69/34.5 kV transformation exists at the Birch Lake substation that provides additional support to the area. A future 115/34.5 kV transformation will be placed at Pine River upon completion of the Badoura project along with a Badoura-Pine River-Pequot Lakes 115 kV line and a Badoura-Birch Lake 115 kV line. These

facilities are scheduled for completion in 2010 and are assumed as part of the base models. The 34.5 kV system consists of:

- The 507 Line which ties the Birch Lake and Pequot Lakes 34.5 kV substations together and serves the GRE substations of Pine River and Tripp Lake. Both of these substations will be converted to 115 kV operation as part of the Badoura project.
- The 543 and 509 Lines which serve GRE load of Onigum.

The GRE Merrifield load is served from the Riverton-Pequot Lakes 115 kV line. This line not only serves the MP Pequot Lakes 115,34.5 kV substation, but also GRE's 115/69 kV substation. The load served in this region includes GRE and MP load with the following forecast:

Season	2011	2021	2031
Summer	30.4	38.1	45.4
Winter	38.9	52	63.7

Crow Wing Power is also planning to add a new Portage Lake substation in 2019. GRE will have to install approximately 4 miles of 115 kV line and a 3-way switch on the Tripp Lake-Birch Lake 115 kV line for the interconnection.

Estimated Year	Facility	Cost
2019	Portage Lake 4.0 Mile, 336 ACSR, 115 kV line and 3-way switch	$2,197,000

Area Deficiencies

Deficiencies stem from the loss of the Birch Lake 34.5 kV tie to Hackensack or the 69/34.5 kV source at Birch Lake. This requires that the large loads of Onigum and Walker be fully supplied from Akeley. The system between Badoura and Pequot Lakes is secure throughout the LRP timeframe upon completion of the Badoura project.

Overloads

Line Segment	Rating MVA	Estimated Year	2011 MVA	2021 MVA
Badoura Tap-Akeley 34.5 kV	22	2013	20.8	26.9
Akeley-Walker 34.5 kV	22	2016	25.3	19.5
Badoura Tap-Akeley Bulk 34.5 kV	17	2021	14.6	17.2

Voltage Deficiencies

Substation	Estimated Year	2011 %	2021 %
Onigum 34.5 kV	2009	89.9	79.7
Hackensack 34.5 kV	2015	93.1	84.8
Ten Mile Lake 34.5 kV	2015	93.2	84.9
Walker 34.5 kV	2019	95.5	88.4

Alternatives

Alternatives will focus on converting the Onigum load to 115 kV as this is the largest load on the 34.5 kV system between Akeley and Birch Lake. Onigum is the only Lake Country Power substation on the 34.5 kV system so conversion of this load would allow it to be backfed from LCP's other substations.

Option 1: Birch Lake-Onigum 115 kV line

This option establishes a Birch Lake-Onigum 115 kV line and Onigum 115 kV voltage conversion.

Estimated Year	Facility	Cost
2009	Birch Lake-Onigum, 9.85 Mile, 477 ACSR, 115 kV line	$4,861,550
2009	Onigum conversion to 115 kV	$350,000

Option 2: Shingobee-Onigum 115 kV line

This option establishes a Shingobee-Onigum 115 kV line and Onigum 115 kV voltage conversion. It is assumed that the Akeley-Shingobee Tap 115 kV line would be rebuilt to double circuit back to the Akeley substation so that the radial line could be on a dedicated breaker.

Estimated Year	Facility	Cost
2009	Shingobee-Onigum, 12.2 Mile, 477 ACSR, 115 kV line	$6,176,100
2009	Shingobee Tap-Akeley, 0.75 Mile, 477 ACSR, 115 kV double circuit line	$796,250
2009	Onigum conversion to 115 kV	$350,000

Generation Options

Generation would be attractive at the Onigum substation as this is the largest load on the Akeley-Birch Lake system and could provide voltage support to the area. However, due to its proximity to many lakes, distributed generation may be environmentally difficult to site.

Present Worth

A cost analysis was performed on each option with line losses evaluated for MP and GRE control areas with Option 1 being the benchmark for loss savings. The loss savings in MW for Option 2 are as follows:

Option	2011 Winter	2021 Winter	2031 Winter
2	0.1	0.1	-0.2

With the loss allocations, the present worth is summarized as follows (in 1000's):

Option	Cumulative Investment	Present Worth	Present Worth w/ Loss Savings
1	$6,207	$11,372	--
2	$8,721	$15,973	$16,188

Option 1 is the least cost plan and requires the least amount of investment.

Viability with Growth

Option 1 is shorter in distance and would utilize existing right of way along its entire route. As load grows in the Walker area, the Option 2 line could be constructed to loop in the Onigum and Birch Lake substations and provide another 115 kV connection to the Akeley area. The MP Walker load could then be easily converted to 115 kV to extend the life of the area 34.5 kV system.

Hubbard-Long Lake-Akeley Area

The Hubbard-Long Lake-Akeley system consists of the 34.5 kV system that ties the 115/34.5 kV sources of Akeley and Hubbard. The 115/34.5 kV Long Lake substation provides a source in the middle of the system. Two 115 kV lines tie the Badoura substation to the region; one terminating at Hubbard and one terminating at Long Lake as part of the Badoura project. Furthermore, a 115 kV line ties the Hubbard and Long Lake substations together. Three GRE distribution substations take service at 115 kV: RDO, Palmer Lake, and Long Lake. The 34.5 kV system consists of the following outlets:

- Akeley 544 Line which serves GRE load of Nevis.
- Long Lake 540 Line which serves the GRE load of Mantrap.
- Long Lake 540 and 541 Lines which serve the Park Rapids area.
- Long Lake 545 Line which serves GRE loads of Osage and Pine Point.
- Hubbard 523 Line which serves the MP Hubbard substation.

The load in the area has been increasing at a rate much greater than was anticipated during the previous long range plan. Based on current load projections, the 2011 loads will exceed the 2003 LRP 2026 load forecast. Additionally, the projected 2031 winter peak load will more than double the 2026 WIPK load forecast from the previous LRP. The load served in this region includes GRE and MP load with the following forecast:

Season	2011	2021	2031
Summer	61.2	78.8	119.6
Winter	85.8	123.9	184.7

There are two new substation interconnections planned for the area over the LRP time frame for the Potato Lake and Shell Lake substations. The Potato Lake substation is proposed to be interconnected to the Mantrap-Mantrap Tap 34.5 kV line via a 7.0 Mile, 477 ACSR, 115 kV line while the Shell Lake substation is proposed to be connected to the Osage-Pine Point 34.5 kV line via a 5.0 Mile, 336 ACSR, 115 kV line. GRE interconnection costs are as follows:

Estimated Year	Facility	Cost
2010	Potato Lake 7.0 Mile, 477 ACSR, 115 kV line (operated at 34.5 kV)	$2,901,000
2015	Shell Lake 5.0 Mile, 336 ACSR, 115 kV line (operated at 34.5 kV)	$2,380,000

Area Deficiencies

Due to the significant load growth projected to occur in the region, the 34.5 kV system will rapidly grow inadequate to serve the GRE substations in the area. This is demonstrated by the inability to achieve model solution with the 2031 WIPK loads applied. The remaining 115/34.5 kV transformer at Badoura is assumed to be placed at Akeley upon completion of the Badoura project and has been included in the modeling. Violations seen were purely voltage-related; there were no thermal overloads observed with the analysis.

Voltage Deficiencies

Substation	Estimated Year	2011 %	2021 %	Contingency
Potato Lake 34.5 kV	2013	96.1	66.8	Park Rapids Tap-Mantrap Tap 34.5 kV
Mantrap 34.5 kV	2013	96.8	68.6	Park Rapids Tap-Mantrap Tap 34.5 kV
GRE Osage 34.5 kV	2014	98.4	85.4	System Intact
Pine Point 34.5 kV	2014	98.5	83.8	System Intact
Dorset 34.5 kV	2015	98.7	76.8	Park Rapids Tap-Mantrap Tap 34.5 kV
GRE Nevis 34.5 kV	2016	100.1	83.9	Park Rapids Tap-Mantrap Tap 34.5 kV
MP Nevis 34.5 kV	2017	100.1	83.4	Park Rapids Tap-Mantrap Tap 34.5 kV

Alternatives

Options look at converting the majority of the area GRE load to higher voltage levels due to the large loads being located far from the 34.5 kV sources. All options include a new termination at the Hubbard substation. Due to lack of space at the Hubbard substation, the 115/34.5 kV Hubbard transformers would have to be relocated to other locations. A likely location for a new 115/34.5 kV source would be at the GRE Menahga substation. This would place a 115/34.5 kV source about midway between the Long Lake and Verndale sources. The TWEC Menahga distribution substation would be converted to 115 kV operation.

Option 1: Long Lake-Mantrap Tap 115 kV line and 115 kV conversion.

This option explores rebuilding the Long Lake-Mantrap Tap 34.5 kV line to 115 kV specs with 34.5 kV underbuild. This will place the Mantrap and Potato Lake loads on a dedicated breaker out of Long Lake and separate these loads from the Long Lake-Akeley loop. Eventually, these loads would have to be converted to 115 kV operation. To resolve the voltage issues seen at Pine Point and Osage, a voltage regulator would be placed approximately half way between the Osage 34.5 kV Tap Switches and the Osage 34.5 kV substation. Furthermore, a 115 kV loop would be constructed out of Hubbard to pick up the MN Pipeline, Osage, Shell Lake, and Pine Point substations once the voltage regulator can no longer hold the 34.5 kV voltage to an acceptable level. A 17 Mile, 115 kV line and a breaker station at Carsonville would connect the Osage/Pine Point area with the Potato Lake substation.

Estimated Year	Facility	Cost
2013	Long Lake-Mantrap Tap, 1.75 Mile, 477 ACSR, 115 kV line (operate at 34.5 kV)	$1,233,890
2014	Osage 25 MVA, 34.5 kV Voltage Regulator Station	$100,000
2017	Potato Lake and Mantrap 115 kV conversions	$1,000,000
2017	Mantrap Tap-Potato Lake Tap-Mantrap, 4.75 Mile, 477 ACSR 115 kV line	$1,444,640
2019	Hubbard-Carsonville-Potato Lake, 47.33 Mile, 477 ACSR, 115 kV loop	$20,839,950

Option 2: Potato Lake Tap 115/34.5 kV source

This option places a new 115/34.5 kV source at the Potato Lake Tap switches and would be initially fed via a new 4.25 Mile, 477 ACSR, Long Lake-Potato Lake Tap 115 kV line with 34.5 kV underbuild. Similarly to Option 1, the Potato Lake and Mantrap substations would be converted to 115 kV operation and the Hubbard-Carsonville-Potato Lake loop would be constructed after the installation of the Osage 34.5 kV regulator.

Estimated Year	Facility	Cost
2013	Potato Lake Tap 50 MVA, 115/34.5 kV source	$5,519,909
2014	Osage 25 MVA, 34.5 kV Voltage Regulator Station	$100,000
2019	Hubbard-Carsonville-Pine Point, 30.33 Mile, 477 ACSR, 115 kV loop	$12,147,950
2021	Potato Lake-Carsonville, 17 Mile, 477 ACSR, 115 kV line	$9,397,000
2021	Potato Lake Tap-Mantrap, 2.25 Mile, 477 ACSR, 115 kV line	$618,750
2021	Potato Lake and Mantrap 115 kV conversions	$1,000,000

Option 3: Itasca-Mantrap 115 kV development

This option initially converts the Mantrap and Potato Lake loads to 115 kV, adds the Osage 34.5 kV regulator station, and eventually constructs the Hubbard-Carsonville-Potato Lake 115 kV loop.

Estimated Year	Facility	Cost
2013	Potato Lake and Mantrap 115 kV conversions	$3,427,500
2014	Osage 25 MVA, 34.5 kV Voltage Regulator Station	$100,000
2019	Hubbard-Carsonville-Potato Lake, 47.33 Mile, 477 ACSR, 115 kV loop	$20,839,950

Option 4: Itasca-Mantrap 69 kV development

This option examines placing 115/69 kV sources at Long Lake and Hubbard and converting the majority of the Itasca-Mantrap loads to 69 kV operation. Potato Lake and Mantrap would be converted initially while the Hubbard-Carsonville-Potato Lake portions would be added when the Osage 34.5 kV regulator station fails to support Osage, Pine Point, and Shell Lake.

Estimated Year	Facility	Cost
2013	Long Lake 70 MVA, 115/69 kV source	$2,174,028
2013	Potato Lake and Mantrap 69 kV conversions	$2,760,000
2014	Osage 25 MVA, 34.5 kV Voltage Regulator Station	$100,000
2019	Hubbard 70 MVA, 115/69 kV source	$2,174,028
2019	Hubbard-Carsonville-Potato Lake, 47.33 Mile, 477 ACSR, 69 kV loop	$17,326,850

Generation Options

Generation would be attractive at the Osage or Pine Point substations. The amount of load served on the radial OT Line is requiring the majority of the transmission alternatives proposed above. Due to the cost of the proposed additions, any generation addition that causes delay may be cost justified.

Present Worth

A cost analysis was performed on each option with line losses evaluated against Option 1 for loss savings. The loss savings in MW for each option are as follows:

Option	2011 Winter	2021 Winter	2031 Winter
2	0.0	0.0	0.0
3	0.0	0.0	0.0
4	0.0	0.5	6.8

With the loss allocations, the present worth is summarized as follows (in 1000's):

Option	Cumulative Investment	Present Worth	Present Worth w/ Loss Savings
1	$51,105	$49,288	-
2	$60,770	$58,070	$58,874
3	$49,017	$48,323	$47,638
4	$49,172	$49,635	$58,560

Option 3 is the least cost plan and requires the least amount of investment.

Viability with Growth

Option 3 will provide the best flexibility to serve the load in the area. It will also offer most of the Itasca-Mantrap loads with 115 kV service and extend the life of the 34.5 kV system without major 34.5 kV system additions.

Recommended Plan

The following are suggested projects for the GRE-MP 34.5 kV region.

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Estimated Year	Responsible Company	Facility	Cost
2009	GRE	Birch Lake-Onigum, 9.85 Mile, 477 ACSR, 115 kV line	$4,861,550
2009	GRE	Onigum conversion to 115 kV	$350,000
2010	CWP	Pine River 115 kV distribution substation upgrade	$350,000
2010	IM	Tripp Lake 115 kV distribution substation upgrade	$350,000
2010	GRE	Pipeline-Menahga, 8.5 Mile, 477 ACSR, 115 kV line (operated at 34.5 kV)	$1,644,563
2010	GRE	Potato Lake 7.0 Mile, 477 ACSR, 115 kV line (operated at 34.5 kV)	$2,901,000
2010	IM	Potato Lake 34.5 kV distribution substation	$940,000
2012	GRE	Little Falls-GRE Little Falls, 3.0 Mile, 795 ACSS, 115 kV line	$2,099,000
2012	CWP	GRE Little Falls 115 kV conversion	$350,000
2012	GRE	Hardy Lake 115 kV 3-way switch	$205,000
2012	CWP	Hardy Lake 115 kV distribution substation	$1,090,000
2013	GRE	Potato Lake and Mantrap 115 kV conversions	$3,427,500
2014	GRE	Osage 25 MVA, 34.5 kV Voltage Regulator Station	$100,000
2014	GRE	Shamineau Lake - MP 524 Line, 5.0 Mile, 477 ACSR, 115 kV line and 3-way switch (operated at 34.5 kV)	$2,700,000
2014	CWP	Shamineau Lake 34.5 kV distribution substation	$940,000
2014	GRE	Nokay-Southdale Line Tap to Barrows 1.0 Mile, 336 ACSR, 115 kV line and 3-way switch	$563,000
2014	CWP	Barrows 115 kV distribution substation	$1,090,000
2015	GRE	Shell Lake 5.0 Mile, 336 ACSR, 115 kV line (operated at 34.5 kV)	$2,380,000
2015	IM	Shell Lake 34.5 kV distribution substation	$940,000
2016	GRE	Shamineau Lake-North Parker, 13.6 Mile, 477 ACSR, 115 kV line (operated at 34.5 kV)	$5,384,000
2018	GRE	GRE Little Falls-Lastrup, 12.0 Mile, 795 ACSS, 115 kV line	$6,646,000
2018	CWP	Lastrup conversion to 115 kV operation	$350,000
2018	MP	Riverton-Brainerd, 13.13 Mile, 636 ACSR, 115 kV line rebuild	$4,267,250
2019	GRE	Shamineau Lake 115/34.5 kV source	$6,201,400

GRE Long-Range Transmission Plan

Estimated Year	Responsible Company	Facility	Cost
2019	GRE	Hubbard-Carsonville-Potato Lake, 47.33 Mile, 477 ACSR, 115 kV loop	$20,839,950
2019	GRE	Portage Lake 4.0 Mile, 336 ACSR, 115 kV line and 3-way switch	$2,197,000
2019	CWP	Portage Lake 115 kV distribution substation	$1,090,000
2020	MP	Mud Lake-Brainerd, 4.41 Mile, 636 ACSR, 115 kV line rebuild	$1,433,290
2021	GRE	Leaf River-Compton, 9.0 Mile, 477 ACSR, 115 kV line (operated at 34.5 kV)	$3,642,000
2022	GRE	Shamineau Lake-Ward, 6.75 Mile, 477 ACSR, 115 kV line (operated at 34.5 kV)	$3,149,000
2022	TWEC	Hewitt 115 kV conversion	$350,000
2022	GRE	Wing River-Hewitt, 4.5 Mile, 477 ACSR, 115 kV line	$2,156,000
2024	GRE	Gilbert Lake 115 kV 3-way switch	$205,000
2024	CWP	Gilbert Lake 115 kV distribution substation	$1,090,000
2026	MP	Verndale 115 kV 21.6 MVAR capacitor bank	$281,200
2029	GRE	Royalton 115 kV 3-way switch	$205,000
2029	GRE	Ripley 115 kV 3-way switch	$205,000
2029	CWP	Royalton 115 kV distribution substation	$1,090,000
2029	CWP	Ripley 115 kV distribution substation	$1,090,000

Attachment D

Ex. 35, Appendix 7, p. 1
from PUC Docket 01-1958, SW MN 345 kV CoN

Table 1

Computation of Bare ACSR Overhead Conductor Ampacities (Steady State)

Per ANSI/IEEE Standard 738-1986

	mi/hr	ft/s
Wind speed	1.36	2.00
Coefficient of emissivity		0.5
Coefficient of solar absorption		0.5

	Temperature C	Temperature F
Ambient air temp	40	104
Conductor surface temp	100	212

Latitude	45 degrees N
Azimuth of line	90 degrees
Elev above msl	1000 ft

Air viscosity @ T ave	0.04943	lb/h ft
Air density	0.06192	lb/ft^3
Air thermal conductivity	0.00898	W/ft C
Altitude of sun	68.1	degrees
Azimuth of sun	180	degrees
Heat rec'd by a surface	94.64	W/ft^2
Elevation correction factor	1.0340	

Conductor			Resistance, Ohm/mi			Ohm/kft	Conductor heat transfer, W/ft					Ampacity	kV:	MVA rating @ nominal voltage						
			50	100	100	100	Forced convection heat loss			Radiated	Solar									
kcm	strand	diam,in	deg C	deg C	deg C	deg C	qc1	qc2	max	heat loss	heat gain		cond/ph:	1	1	1	1	1	2	3	kcm
4/0	6/1	0.563	0.5920	0.6979	0.6979	0.13218	17.43	15.27	17.43	3.79	2.30	378		45	75	90	106				4/0
266	6/7	0.633	0.5520	0.6507	0.6507	0.12324	18.49	16.36	18.49	4.26	2.58	405		48	81	97	113				266
336	18/1	0.684	0.3059	0.3606	0.3606	0.06830	19.23	17.16	19.23	4.61	2.79	555		66	111	133	155				336
336	26/7	0.721	0.3072	0.3623	0.3623	0.06862	19.75	17.71	19.75	4.85	2.94	562		67	112	134	157				336
477	26/7	0.858	0.2169	0.2557	0.2557	0.04843	21.57	19.66	21.57	5.78	3.50	702		84	140	168	196				477
477	24/7	0.846	0.2168	0.2556	0.2556	0.04841	21.42	19.50	21.42	5.70	3.45	699		84	139	167	195				477
556	26/7	0.927	0.1860	0.2192	0.2192	0.04152	22.43	20.60	22.43	6.24	3.78	774		93	154	185	216				556
636	24/7	0.977	0.1631	0.1922	0.1922	0.03640	23.04	21.26	23.04	6.58	3.98	839		100	167	201	234	334			636
795	26/7	1.108	0.1306	0.1538	0.1538	0.02913	24.58	22.92	24.58	7.46	4.52	972		116	194	232	271	387	1161	2525	795
795	45/7	1.115	0.1313	0.1544	0.1544	0.02924	24.64	23.01	24.64	7.51	4.55	972		116	194	232	271	387	1161	2524	795
795	30/19	1.140	0.1307	0.1540	0.1540	0.02917	24.92	23.32	24.92	7.68	4.65	979		117	195	234	273	390	1170	2543	795
954	45/7	1.165	0.1099	0.1291	0.1291	0.02445	25.19	23.62	25.19	7.84	4.75	1076		129	214	257	300	429	1286	2795	954
954	54/7	1.196	0.1094	0.1287	0.1287	0.02438	25.53	24.00	25.53	8.05	4.88	1085		130	216	259	303	432	1297	2820	954
1192	54/19	1.338	0.0863	0.1013	0.1013	0.01919	27.03	25.67	27.03	9.01	5.46	1263		151	252	302	352	503	1509	3281	1192
1272	54/19	1.382	0.0851	0.0998	0.0998	0.01886	27.48	26.17	27.48	9.31	5.63	1285		154	256	307	358	512	1536	3339	1272
1590	54/19	1.545	0.0657	0.0767	0.0767	0.01453	29.09	27.98	29.09	10.40	6.30	1512		181	301	361	422	602	1807	3928	1590
2312	76/19	1.802	0.0505	0.0584	0.0584	0.01106	31.47	30.69	31.47	12.13	7.35	1811		216	361	433	505	721	2164	4704	2312

Notes:
Sun computations based on noon local sun time
Solar absorption based on "Clear atmosphere"
Azimuth of line: N-S = 0, E-W = 90

Xcel Energy
Delivery System Planning & Engineering

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger	**Chair**
Nancy Lange	**Commissioner**
Dan Lipschultz	**Commissioner**
John A. Tuma	**Commissioner**
Betsy Wergin	**Commissioner**

In the Matter of the Application of Great River Energy and Minnesota Power for a Certificate of Need and Route Permit for the Menahga Area 115 kV Transmission Project in Hubbard, Wadena and Becker Counties, Minnesota	**PUC Docket No. ET-2,E-015/CN-14-787** **PUC Docket No. ET-2,E-015/TL-14-797** **OAH Docket No. 5-2500-32715**

DONNA J. ANDERSEN AND DONNA J. ANDERSEN TRUST
PETITION FOR INTERVENTION

Donna J. Andersen and Curtis Andersen, and the Donna J. Andersen Trust, Donna J. Andersen, Trustee, hereinafter "Andersen," hereby make this Petition for Intervention as a full party, with all the rights of a party, in the above-captioned Menahga Area 115 kV Certificate of Need and Routing docket. Petitioner wishes to participate to the fullest extent possible, including but not limited to, filing of Comments, Information Requests, cross-examination of witnesses, filing of Initial and Reply Briefs, and filing of Exceptions, and a Motion for Reconsideration, if necessary.

Donna J. Andersen and Curtis Andersen, and the Donna J. Andersen Trust, Donna J. Andersen, Trustee, hereinafter "Andersen," are directly affected landowners, on the only route

provided by Applicants, who own land in southern Hubbard County, in the northwest corner of this proposed project, land legally described as:

> T139N R35W Section 31, SW ¼ of SW ¼ & SE ¼ of SW ¼, Hubbard County, Straight River Township.

Notices were initially sent to the property address, where there is no mail delivery, rather than to Andersen at the "address of taxpayer" on file at the Hubbard County Recorder. That error has since been corrected, Andersen is now receiving notices, but Andersen missed out on the earlier activity in these dockets.[1]

Andersen has owned the 77.8 acre parcel on the north side of the Hubbard County Line, County Road 136, for 30 years. This property is Ms. Andersen's legacy to her children, and has been placed in trust for them. Andersen has been working with a Minnesota Forester and the DNR on a forestry plan, the land is enrolled in a Woodland Stewardship Plan, and the property is zoned Managed Forest land. If the transmission line were routed on Andersen property, at least 100 feet of mature trees over the half-mile stretch would be lose, and they could not be replaced in the easement. Loss of these trees could not be mitigated and is non-compensable.

The Andersen property is bounded on the north by the NSP 230 kV transmission line, and the Menahga Area 115 kV project would surround it on the east and south, meaning three of four sides of their property would have overhead transmission lines on it. The area is also targeted for

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20151-106872-01	PUBLIC	14-787	☐	CN	GREAT RIVER ENERGY AND MINNESOTA POWER	OTHER--MENAHGA AREA115 KV PROJECT CERTIFICATE OF NEED AND ROUTE PERMIT APPLICATION - REVISED APPENDIX J WITH CORRECTED LANDOWNER LIST	01/30/2015

1

20152-107734-04	PUBLIC	14-787	☐	CN	PUC	NOTICE--CERTIFICATE OF SERVICE AND SERVICE LISTS	02/27/2015

the Sandpiper pipeline. This project would be an unreasonable burden to the Andersen family and their property, it would ruin the value of their land and the hard work of forest preservation, and destroy their right to enjoyment of their property.

Andersen will be directly affected by the outcome of this proceeding if a Certificate of Need and Route permit were to be granted for this 115 kV transmission line. It is important for Andersen to participate in this Certificate of Need proceeding because this is the stage where it is determined whether the transmission option proposed by Applicants would be selected, and the Applicants have proposed only one route which goes over Andersen's land. Andersen wishes to participate in the Certificate of Need docket because it takes the position that the 115 kV transmission project, as proposed, is not necessary; that the need claimed by the Applicants, even if accepted at face value, could be addressed through viable system options, such as the upgrade of the 34.5 kV distribution system as proposed in the Application; shifting the new pumping station to the new Menahga substation; installing new pump at the site of the existing pumping station that is to be removed (Straight River substation); and/or use of other existing pipeline or transmission corridors rather than the greenfield route over Andersen property.

Andersen wishes to intervene because their interests are distinct from any other potential intervenors, both geographically due to their interest and location on the northwestern part of this project, and by their focus on the adequacy of a distribution system upgrade option, and use of existing corridors as required by statute and case law for routing. Andersen wishes to protect their interests and develop the record through participation in these administrative dockets.

Under the provisions of Minn.R. 1400.6200, subp.1, and 1405.0900, subp. 1, Andersen makes this Petition for an Order granting intervention as a full party, with all the rights of a party, in the above-captioned proceeding. The Commission has been directed by the legislature

to "adopt a broad spectrum of public participation as a principal of operation." Minn. Stat. §216E.08. The project docket procedure, as currently established, does not afford "a broad spectrum of public participation," and does not afford Andersen her due process.

There are no current Intervenors or parties requesting Intervention at this time, and there are no potential intervenors that could or would represent the distinct interests of Andersen. Andersen recognizes the rights and responsibilities of intervention and will participate to the fullest extent possible if granted Intervention in these dockets.

Andersen meets the criteria for intervention and respectfully requests to be granted intervention as a full party, with all the rights of a party, in the above-captioned proceeding.

October 12, 2015

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