

From: Doug Shaw [mailto:dshaw@TNC.ORG]
Sent: Monday, August 10, 2015 3:43 PM
To: Storm, Bill (COMM)
Cc: juliea.smith@hq.doe.gov; Meredith Cornett
Subject: RE: Comments from The Nature Conservancy re: Docket Number 14-21

Resending our comments with attachments referred to below, including our March 10, 2014 letter.

Thanks

Doug Shaw

From: Doug Shaw
Sent: Friday, August 07, 2015 3:47 PM
To: 'bill.storm@state.mn.us'
Cc: 'juliea.smith@hq.doe.gov'; Meredith Cornett (mccornett@TNC.ORG)
Subject: Comments from The Nature Conservancy re: Docket Number 14-21

Docket Number 14-21

The Nature Conservancy (TNC) respectfully submits these comments for the public record on the Draft EIS for the Great Northern Transmission Line (GNTL).

TNC's mission is to conserve the lands and waters on which all life depends. Consistent with our letter of March 10, 2014 (on PUC Docket Number E-015/CN-12-1163, attached), our comments are focused on maintaining critical habitats for plants, animals, and natural communities, and are grouped here under the recommendations we provided in that letter:

- o Target existing major roads and transmission corridors (Map 1)
 - Overall, TNC favors the Blue Route in the West and Central Sections, as it adheres most closely to the principle of following major roads and transmission corridors, therefore minimizing impacts to critical habitats. In the East Section, neither the Blue nor the Orange Route satisfies this criterion.
 1. West Section. At the northern end, the proposed routes miss the opportunities to make use of existing major corridors, such as State Highway 89 or 310 as border crossings and State Highway 11 to travel East. Even more efficient would be to use the existing Border Crossing 500kV Variation and/or the Border Crossing 230 kV Variation.
 2. East Section. East Bear Lake Variation Area.
 - We support the Effie Variation in that makes use of the State Highway 65 Corridor.
 - We also support the East Bear Lake and Balsam Variations, both of which make use of existing power corridors.
- o Avoid TNC Ownerships and Easements (Map 2)
 - West Section: We were pleased to find that Kittson County and Marshall County have been dropped from the possible routes under consideration in the EIS. The Nature Conservancy has selected areas of high biodiversity significance on which to acquire land in fee or place conservation easements. Therefore, routing the line through areas owned by the Conservancy or subject to a conservation easement, as well as areas managed for natural resource value by DNR, will have disproportionate impact on natural resource values and should be avoided.
 - East Section. Unfortunately, both the Orange and Blue Routes traverse significant acreage of conservation easements held by TNC on DNR Forestry land in northeastern Itasca County (Segment E1). Please see Map 1 for our preferred route, which makes use of State Highway 1 to traverse east across the northern side of the easement lands and then South on State Highway 65. This is consistent with the Effie Variation identified above.
- o Avoid Areas of Outstanding and High Biodiversity Significance
 - Again, many of the Areas of Outstanding and High Biodiversity Significance are concentrated in Kittson County and Marshall County. We are therefore glad to see that this area is no longer being considered as a possible route due to likely impacts on these natural areas.
 - In addition, we support the Variations that circumvent other ownerships with significant habitats, such as Wildlife Management Areas and other state and federal ownerships identified in the draft EIS.
- o Minimize use of TNC conservation portfolio sites; where portfolio sites cannot be avoided, direct the new transmission line to existing major roads and transmission corridors (Maps 1 & 2).
 - We support the C2 Variation option as it does the best job of minimizing impacts to TNC's Black River portfolio site as well as following an existing transmission line corridor.

TNC will continue to coordinate closely with the Minnesota Department of Natural Resources and with the Nature Conservancy of Canada (NCC).

Please consider the environment before printing this email

Douglas T. Shaw, Ph.D
Assistant Chapter Director
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(612) 331-0705 (Phone)
(651) 900-0652 (Mobile)

The Nature Conservancy
in Minnesota, North Dakota & South Dakota
1101 West River Parkway, Suite 200
Minneapolis, MN 55415-0705



nature.org

0160-1

Additional border crossing alternatives would not address DOE's Purpose and Need to respond to a Presidential permit application. As stated in Section 1.2.2.1 of the EIS, DOE is considering whether or not to issue a Presidential permit for the proposed border crossing contained in the Applicant's October 2014 amended Presidential permit application. The scoping process provided opportunity to recommend alternatives to be analyzed in the Draft EIS. Alternatives to the proposed border crossing under consideration by DOE are presented in the EIS in response to scoping comments from resource agencies and the public, however, those alternatives are included for the purposes of analyses only.

No changes are made to the EIS in response to this comment.

0160-1

0160-2

Potential impacts to conservation easements, MnDNR Sites of Biodiversity Significance, and Wildlife Management Areas for each alternative variation are evaluated in the discussion of resources in the West and East Sections analyzed in Chapter 6 of the EIS.

0160-2

No changes are made to the EIS in response to this comment.

0160-3

As discussed in Section 1.2.1.4 of the EIS, once a route is selected and a Route Permit is issued by the MN PUC, the Applicant would contact all landowners or those holding an existing easement for conservation purposes, including but not limited to The Nature Conservancy, to gather information about their property, their concerns and to discuss how best to microsite the ROW across any property or conservation easement.

0160-3

Section 6.3.5 of the EIS in which the C2 Variation is analyzed for comparative environmental consequences, is updated to indicate that the C2 variation has the greatest potential to minimize impacts to The Nature Conservancy's Black River portfolio site of all variations in that area of the proposed Project.

0160-4

Thank you for your comment. Your concerns are addressed throughout Chapter 6 of the EIS. No changes are made to the EIS in response to this comment.

March 10, 2014

Re: PUC Docket Number E-015/CN-12-1163

Bill Storm, Environmental Review Manager
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101
Duluth, MN 55802

Dear Mr. Storm:

On behalf of The Nature Conservancy, thank you for the opportunity to submit comments for the Great Northern Transmission Line (GNTL). We are pleased to provide these comments as part of the public record.

The mission of The Nature Conservancy is to conserve the lands and waters on which all life depends. Our comments are therefore focused on maintaining critical habitats for plants, animals, and natural communities while also accommodating the energy needs that the GNTL helps our region to address.

The Nature Conservancy acknowledges that addressing the energy needs of northern Minnesota and Manitoba will call for an “all of the above” solution, and the GNTL project may have a role to play in such a strategy.

The GNTL environmental report should pay particular attention to selecting a route alternative that avoids adverse and unnecessary impacts to critical habitats for plants, animals, and natural communities. The Nature Conservancy has provided detailed comments and data layers on the proposed routing alternatives, and proposed a route that meets both energy and habitat conservation needs (see attached letter and maps dated 6/17/2013 and attached e-mail to Jim Atkinson dated 2/28/2014). We request that the environmental report carefully analyze the ability of the GNTL to: 1) Follow existing major roads and transmission corridors (Map 1); 2) Avoid Conservancy Ownerships and Easements (Map 2); 3) Avoid Areas of Outstanding and High Biodiversity Significance (Map 2); 4) Minimize use of Conservancy conservation portfolio sites; where portfolio sites cannot be avoided, direct the new transmission line to existing major roads and transmission corridors (Maps 1 & 2).

Again, The Nature Conservancy believes that the proposed GNTL can be part of a total energy solution for the region. **The proposed project is not a stand-alone, nor should it be; GNTL is but one of many sources that can contribute to the region’s energy needs.** As society moves away from our reliance on coal and fossil fuels and embraces conservation measures as well as a greater number of sources for clean, sustainable energy, projects like the GNTL can help with the transition. However, it is critical to conserve the area’s unique natural resources wherever possible; the Conservancy is pleased to offer guidance on how to accomplish both objectives.

We coordinate closely with the Minnesota Department of Natural Resources and with the Nature Conservancy of Canada (NCC). Both partners are therefore copied on this letter. NCC is working with

0160-4

Manitoba Hydro regarding similar criteria and considerations for routing. We will continue to share and exchange information with the MN DNR and NCC over the course of the project.

Sincerely,

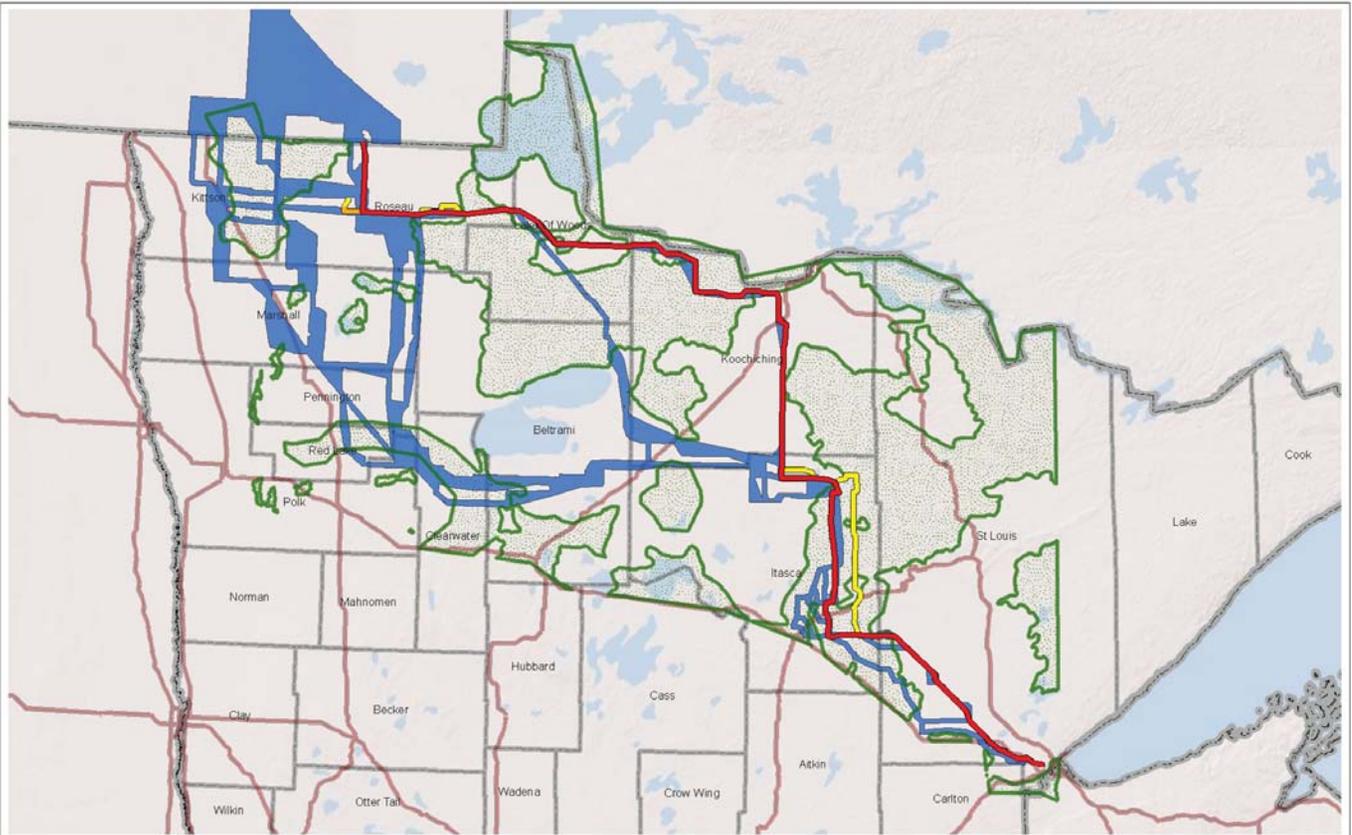
A handwritten signature in black ink, appearing to read 'D. T. Shaw', written in a cursive style.

Douglas T. Shaw, Ph.D.
Assistant Chapter Director

C: Peggy Ladner (TNC), Gail Lewellan (TNC), Meredith Cornett (TNC), Cary Hamel (NCC), Jamie Schrenzel (MN DNR), Christina Rolfes (HDR Engineering, Inc.), Jim Atkinson (ALLETE, Inc.)

Attachments:

Copy of signed letter from The Nature Conservancy to ALLETE (dated June 17, 2014)
Copies of Map 1, Map 2, shape file for TNC-preferred routing
Copy of e-mail update from The Nature Conservancy to ALLETE (dated February 28, 2014)



Map 1
Existing Road & Transmission Corridors
The Nature Conservancy Routing Recommendations
for the Great Northern Transmission Line
 Meredith Cornett, Director of Conservation Science
 June 17, 2013

- █ Great Northern Transmission Line (GNTL) Recommended Corridors
- █ TNC Recommendation - Within GNTL Corridor
- █ TNC Recommendation - Alternatives to GNTL Recommended Corridors
- █ TNC Recommendation - Added GNTL Corridor if TNC Alternative Route is selected
- █ TNC Conservation Portfolio Sites
- █ Major Highway



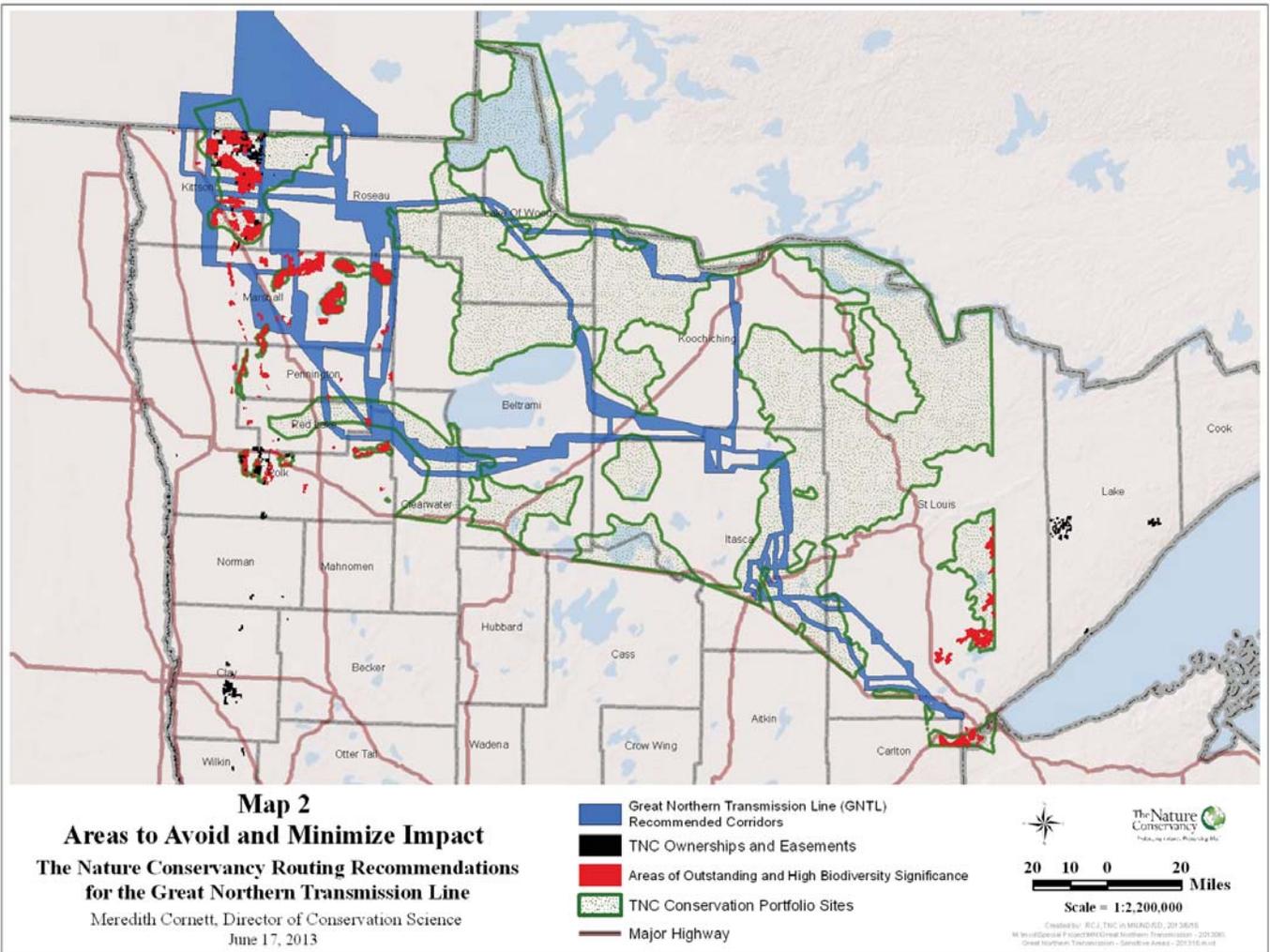


Scale = 1:2,200,000



Published online: 6/17/2013

Created by: R.C.J. TNC in MINNAPLANS_20130615
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 Great Northern Transmission - Corridors - 201316.mxd



From: [Carol](#)
To: [Storm, Bill \(COMM\)](#)
Subject: Great Northern Transmission Line
Date: Thursday, July 16, 2015 11:15:52 AM

It appears from the map that the proposed route that passes through Koochiching County near Northome will go right through my gravel pit near Battle Lake. This is a commercial operation on private property. I object to the route.

Will property owners be compensated?

Carol Avelsgaard
Northome, Mn

0161-1

Thank you for your comment. No changes are made to the EIS in response to this comment.

0161-1

0161-2

Section 2.9 discusses the process the applicant would follow to acquire easements for the ROW including compensation.

0161-2

No changes are made to the EIS in response to this comment.

Dr. Julie Ann Smith, Electricity Policy Analyst
DOE NEPA Document Manager
National Electricity Delivery Division (OE-20)
U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

10 August 2015

Re: PUC docket number TL-14-21; DOE number EIS-0499

Dear Dr. Smith:

To put it bluntly: Nobody wants a transmission line corridor near them.

I am an owner of 40.27 acres of land that lies near the proposed Great Northern Transmission Line corridor. My location is T61N R23W S32 NWSW, Property ID: 54-032-3200. This parcel has been owned by our family since 1933— 80+ years — and we have accordingly paid all of our property taxes. It is not lake property and, in fact, it is mostly wetland. It is remote and quite secluded relative to even today’s standards. It has always been a focus where annually our family gathers for reunions as well as multiple skiing and hunting trips during the year. Appendix S - Map 100 has my cabin listed as “Commercial or Non-Residential Structure”. I am sorry, but that is wrong. I pay Itasca County taxes for my seasonal residential cabin on my 40.27 acres of land. A review of the maps show numerous errors in improperly identifying existing structures. One can then surmise how many other errors are in these documents.

Northern Minnesota has a strong history in managing its forest resource base for economic well-being of its people and communities. Its boreal forest zone is a southern limit of the great North American boreal forest. The continuity and health of Minnesota’s boreal forest zone and associated wildlife is constantly being threatened by development activities. We are proud to have confirmed sightings of mink, otter, weasel, fisher, martin, wolverine, timber wolves, black bear, bobcats, cougar, moose, and other species over the years. The wildlife populations fluctuate with the characteristics of the forest cover which regenerates after intermittent harvests.

Power transmission corridors lay waste to vast areas slashing across and destroying the continuity of the boreal habitat. Power transmission corridors do not allow forests to regenerate and remove the area from our renewable resource base. Future right-of-way management activities require constant intervention by mechanical or chemical actions. The boreal forest does not need more physical and chemical impacts.

To reduce the fractionalization of property ownership as well as maintaining continuity of managed forest areas, Minnesota has the Sustainable Forest Incentive Act and a strong forest stewardship program to help, in part, small woodland owners. My forty acres are entered into the SFIA program and I am doing my best to pursue the goals of my forest management plan developed by a consultant forester. I value the extent of our boreal

0162-1

Map S-100 is updated in the EIS to correctly identify your structure as a residence.

0162-2

Potential impacts to forests and wildlife are discussed in Chapters 5 and 6 of the EIS.

No changes are made to the EIS in response to this comment.

0162-1

0162-2

forest and appreciate the renewable forest resource. I expect corporate entities to likewise respect and do their best to protect the resource.

It is imperative that these new transmission corridors follow existing power line or highway right-of-ways to preserve the continuity of our forest resource base and it is imperative that the project demonstrates that it has done its absolute best to minimize the need for new corridors -- minor cost savings are not an acceptable excuse.

I do have a couple of additional questions:

1. Has Minnesota Power & Light proven that they have made every effort to incorporate alternative energy sources so they can minimize the magnitude of the transmission lines and corridor?
2. When lakes and large open water wetlands partially or totally fall within the right of way of the project, is all vegetation removed or will there be a riparian zone left intact as is done with responsible logging operations? After all, protection of our water resources has recently been highlighted as an urgent need in Minnesota's natural resource management.

Thank you for considering my concerns.

Sincerely yours,

Dr. Erwin R. Berglund
6565 Pierce Street N.E.
Fridley, MN 55432
763-571-0293
erv.berglund@gmail.com

e-CC: juliea.smith@hq.doe.gov
bill.storm@state.mn.us
overland@legalelectric.org

CC: Ron Berglund
Sven Berglund
Ingrid Berglund
Emilie Berglund

0162-3

Thank you for your comment. No changes are made to the EIS in response to this comment.

0162-3

0162-4

Utilities are required to consider all their different options for generation, including renewables, as part of developing their integrated resource plan as part of developing the Certificate of Need application (see MN PUC eDocket #12-1163).

0162-4

No changes are made to the EIS in response to this comment.

0162-5

0162-5

Details of vegetation clearing would likely be documented in a Vegetation Management Plan; however, this document is not available at this time. Once DOE and MN PUC issue permits for the Project, this document would likely be developed by the Applicant, in coordination with the MnDNR and other appropriate agencies, as part of the environmental permitting process.

No changes are made to the EIS in response to this comment.

Please provide your contact information. This information and your comments will be publicly available.

Name: DAVID S. CHRISTENSON Phone: 218-743-3128
 Street Address: 24641 NORTH DEER LAKE ROAD
 City: EFFIE State: MN ZIP: 56639
 Email: CREATIVE @ BigFork.NET

Share your comments on the Draft EIS regarding the Great Northern Transmission Line project. Be as specific as possible.

- What information or analysis needs to be clarified?
- What information or analysis is missing or incomplete?
- Are any specific edits needed to make the document complete and accurate?

Draft EIS section or page number: 5.2.1.4 PROPERTY VALUE Information to be corrected or new information needed:

The proposed blue route that would run along the west shoreline through its entire length of DEER LAKE would lower property values in the VIEW watershed along with perceived risks associated with EMF will hurt property values! Along with this, destruction of natural habitat of the entire length of DEER LAKE west shoreline plus noise transmission from lines across

Draft EIS section or page number: 5.0 page 119 Information to be corrected or new information needed:

AFFECTED ENVIRONMENT + potential impacts of the proposed blue route along the west shoreline of DEER LAKE will negatively impact water based aircraft that use DEER LAKE as a SEA PLANE TRAINING AREA. The high transmission line would be a hazard for flight operations which use DEER LAKE as a water gathering area for fighting Wild Fires with the aerial water bombers.

Draft EIS section or page number: 5.0 page 130 Information to be corrected or new information needed:

The general impact on taxes and county revenue would be negative for the property values if the proposed blue route is used across the entire length of DEER LAKE'S west shore. The negative impact of lower property values due to the power line would greatly impact CARPENTER TWP as 70% of the TWP revenue is directly derived from the DEER LAKE residents. USE THE EFFIE VARIATION ROUTE!

Attach additional comments as necessary using the format above. If attaching additional comments, please number the page(s) and tell us how many pages you are including: _____ page(s).

0163-1

Thank you for your comment. Property value impacts from the proposed Project are discussed in Section 5.2.1.4 of the EIS. Impacts to biological resources, including natural habitat, are discussed in Chapters 5 and 6 of the EIS. Section 5.2.1.2 of the EIS addresses potential noise impacts from the proposed Project. The impact of the proposed Project on airports and air traffic are described in Section 5.2.1.6 while socioeconomic impacts from the proposed Project, including impacts on tax revenue, are discussed in Section 5.2.1.8.

No changes are made to the EIS in response to this comment.

0163-1

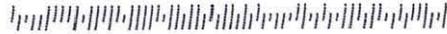
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Energy Environmental Review and Analysis
 MN Department of Commerce
 85 7th Place East, Suite 500
 Saint Paul, MN 55101-2198



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WILLIAM COLE STORM
 MN DEPARTMENT OF COMMERCE
 85 7TH PLACE EAST STE 500
 SAINT PAUL MN 55101-2198



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Comment Period: Draft Environmental Impact Statement
 Great Northern Transmission Line
 Docket Nos. E-015/TL-14-21

An environmental impact statement (EIS) evaluates the potential human and environmental impacts and possible mitigation measures associated with a proposed project. The EIS is issued as a draft so that it can be improved through public comment. The purpose of this comment period is to gather feedback about specific, factual information that needs to be clarified or included in the final EIS. Comments regarding new route alternatives are not considered.

After reading the Draft EIS, you might have developed a preference for a specific route alternative. This will be considered, but preferences are best expressed to an administrative law judge through the public hearing portion of the permitting process, currently scheduled for August 5, 6, 12 and 13, 2015.

Direct your questions regarding commenting or submitting your comments to the Environmental Review Manager, Bill Storm, at: bill.storm@state.mn.us or (651) 539-1844. Information regarding the proposed project is available at: <http://mn.gov/commerce/energyfacilities/Docket.html?id=33847>. For information regarding the public hearing contact the public advisor at consumer.puc@state.mn.us.

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Public Comment Period Closes Monday, August 10, 2015

Comments must be post-marked or received electronically by the comment deadline.

How to comment:

- Submit this form to the Environmental Review Manager at a public meeting
- Mail this form remembering to affix appropriate postage
- Mail comments in a separate envelope using the mailing address on this form
- Fax comments to the Environmental Review Manager: (651) 539-0109
- Email comments to the Environmental Review Manager: bill.storm@state.mn.us
- Use the online comment form at: <http://mn.gov/commerce/energyfacilities/#comment>

Comments do not need to be on this form to be accepted. We encourage you to provide comments in whatever way is most convenient for you. If commenting by email or fax use "Public Comment: Great Northern Transmission Line DEIS (E-015/TL-14-21)" in the subject line.

THANK YOU for commenting on the Draft EIS!

From: apache@web.lmic.state.mn.us
To: [Storm, Bill \(COMM\)](#)
Subject: Fahlman Mon Aug 10 10:56:35 2015 14-21
Date: Monday, August 10, 2015 10:56:36 AM

This public comment has been sent via the form at: mn.gov/commerce/energyfacilities/publicComments.html

You are receiving it because you are listed as the contact for this project.

Project Name: Minnesota Power Great Northern Transmission Line Project (Routing)

Docket number: 14-21

User Name: S Fahlman

County:

City: Sandstone

Email: 10000reasonswhy@gmail.com

Phone:

Impact: As a United States citizen, a resident of Minnesota and a property owner within the corridor of the Scoping Decision Route (Detail Map Page 23 of 153), I have concerns of the Great Northern Transmission Line project. First, it seems crazy that we as a nation keep adding to an already frail electrical grid. Major power lines such as this 500kv are certainly subject to failure from climatical events or an act of terrorism, resulting in large populations without the electrical power we rely on so greatly. Proceeding with this project seems similar to building a house on a flood plain. Maybe the river hasn't flooded in 50 years and yes, the transmission line towers are designed and built well but, one might learn from history and world events. Would we not be better to focus our time, energy and money on smaller and local energy production and therefore reducing our massive electrical grid? If an electric power company placed solar panels on each residential roof top as well as on business roof tops, enough electricity could be produced for the community. Maybe it is not quite that simple, but large transmission lines are not either.

As a long time Minnesota resident and rural property owner, I value our rural public and private lands and try to be a good steward of our natural environment. Construction of a high voltage power line obviously has an impact on the environment wherever it is located. Once constructed, they are an eye sore to the landscape and they are noisy with buzzing, banging and clanking under different weather conditions. There is also the concern of the electromagnetic forces surrounding the high voltage lines. We know they distort radio waves, affecting communication devices and public broadcasting but, I am not convinced we have thorough knowledge on the effects of human life. I also believe high voltage power lines have a negative effect on property values with the previously listed concerns as many people do not want to and will not live next to them. It can be difficult to sell property with a high voltage power line on or in the vicinity of.

As a property owner within a corridor as stated above, I was disappointed to find my residence was listed as a structure and not a residence in the initial scoping research. And it is still listed that way on the current maps. I used to live at this residence and continue to use it as a seasonal residence. I have kept this property as an investment as well as a possible permanent residence when I retire in a few years. If this high voltage line follows this route, I would not want to live there and I am concerned about being able to sell the property as well as getting a return on my investment.

In closing, I believe it is a poor decision for this project as a whole and I am not in favor of following the Scoping Decision route.

0165-1

The MN PUC determined that the proposed Project and its 250 MW capacity is needed by the Applicant in eDocket #12-1163 (Certificate of Need).

No changes are made to the EIS in response to this comment.

0165-2

Thank you for your comment. Section 5.2.1.2 and 5.2.1.5 of the EIS discuss the noise and electronic interference impacts from the proposed Project. Property values are discussed in Section 5.2.1.4 and EMF is discussed in Section 5.2.2.1. Aesthetic impacts from the proposed Project are discussed throughout Sections 5 and 6 of the EIS and visual simulations, provided in Appendix N, Photo Simulations, of the EIS, were prepared for seven viewpoints within the study area to represent typical views of the proposed project.

No changes are made to the EIS in response to this comment.

0165-1

0165-3

A discussion about the potential effects of transmission lines on property values is included in the EIS in Section 5.2.1.4. This includes a summary of the potential range of property value effects attributed to transmission lines. Further, Appendix J, Property Values Supplement provides a summary of the literature regarding the relationship between transmission lines and property values used to develop the property values analysis in Section 5.2.1.4.

0165-2

No changes are made to the EIS in response to this comment.

0165-3

0165-4

Map S-30 in Appendix S in the EIS is updated to show your home as a residence.

0165-4

Mitigation:

Submission date: Mon Aug 10 10:56:35 2015

This information has also been entered into a centralized database for future analysis.

For questions about the database or the functioning of this tool, contact:

Andrew Koebrick
andrew.koebrick@state.mn.us

From: [kepeters](#)
To: [Storm, Bill \(COMM\)](#); [julia.smith@hq.doe.gov](#)
Cc: [Anne Marguerite Coyle](#); [Don Peterson](#); [Jason Peterson](#)
Subject: DEIS comments
Date: Sunday, August 09, 2015 2:12:28 PM

Hello Mr. Storm and Dr. Smith,

In reference to Docket number TL-14-21 and DOE number EIS-0499.

I have reviewed the DEIS for the Great Northern Transmission Line and offer the following comments:

On Summary page 15- There's a statement that says the line is not expected to affect property values and cites a couple of references. I wonder if these studies included recreational property? From my perspective, the value of my property will be greatly diminished if this power line is constructed on or near my property. Things such as solitude and views unobscured by power lines may be hard to put a value on, but affect the things I value about my property nonetheless. I'd like to see more discussion and recognition of the impacts of the proposed power line on these types of values.

I am most familiar with the area near my property (T. 63 N. R. 27 W, S. 35, SE of SE) as I have recreated in this area for 20 years. A lot of timber has been harvested in this area in the past 15 years, resulting in large blocks of younger aged forest. Much of the remainder is old-growth cedar which provides thermal protection for deer in the winter and moose in the summer. The proposed route (Orange) goes right through one of the largest such stands of cedar in the area. This stand provided critical habitat for deer during the recent harsh winters, in fact was the only place you could find a deer track during the winter months. The Cutfoot variation would save one of these stands, but would impact another equally important stand located just to the south. The statement in S.10.2.8 "...proposed orange route has less potential impact on critical habitat designated for grey wolf " seems based solely on the fact that the Cutfoot variation is slightly longer. Instead, the amount of critical habitat affected by both routes should be measured (quantified) so that a meaningful comparison between the two routes can be made. Taking this a step further, I'd like to see a similar comparison between the Orange and Blue routes (i.e. which route will have more or less impact on old growth cedar stands which provide critical habitat for many species of wildlife including grey wolf.

On summary page 55 S.11.2.4 Natural Resources: In my opinion, the summary understates the localized impacts to wildlife. If critical habitat is lost (e.g. old-growth cedar stands are converted to open right-of-ways which fragment the forest and provide no thermal cover the wildlife that lives there will be negatively impacted. Fewer deer will survive the harsh winters, ultimately resulting in fewer wolves. I'd like more discussion of these potential impacts in the DEIS.

Thank you for the opportunity to comment.

Regards,
Kevin

0167-1

A discussion about the potential effects of transmission lines on property values is included in the EIS in Section 5.2.1.4. Further, Appendix J, Property Values Supplement provides a summary of the literature regarding the relationship between transmission lines and property values used to develop the property values analysis in Section 5.2.1.4. These studies included properties in a variety of settings and are not just limited to properties in urban settings where a transmission line would be less noticeable.

No changes are made to the EIS in response to this comment.

0167-1

0167-2

Impacts to forests and wildlife are discussed in Chapters 5 and 6 of the EIS. As discussed in Section 1.3.1.4 of the EIS, once a route is selected and a permit is issued, the Applicant would contact landowners to gather information about their property and their concerns and discuss how the ROW would best proceed across the property.

No changes are made to the EIS in response to this comment.

0167-2

0167-3

Impacts to wildlife are discussed in Chapters 5 and 6 of the EIS. Impacts to federally-listed species (i.e. wolf) and designated critical habitat are discussed in the Biological Assessment in Appendix R.

No changes are made to the EIS in response to this comment.

0167-3

0168-1

Map 6-61 in the EIS is updated to show your home as a residence.

Please provide your contact information. This information and your comments will be publicly available.

Name: Kathryn Krook Phone: 218-398-7529
Street Address: 2302 Diane Ln
City: Grand Rapids State: MN ZIP: 55744
Email: wallyk327@msn.com

Share your comments on the Draft EIS regarding the Great Northern Transmission Line project. Be as specific as possible.

- What information or analysis needs to be clarified?
- What information or analysis is missing or incomplete?
- Are any specific edits needed to make the document complete and accurate?

Draft EIS section or page number: Map 105 Information to be corrected or new information needed:

Balsam Variation - green route
Cabin on north side of Sceptail Lake (parcel # 04-177-4200) is
listed as non-residential. This cabin is utilized 52 weeks of the
year - summer cabin/deer shack/XC ski warming house. Please make this
correction to the Environmental Impact Statement.

0168-1

Draft EIS section or page number: _____ Information to be corrected or new information needed:

Draft EIS section or page number: _____ Information to be corrected or new information needed:

Energy Environmental Review and Analysis
 MN Department of Commerce
 85 7th Place East, Suite 500
 Saint Paul, MN 55101-2198

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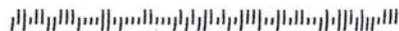
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AUG 11 2015 PM 4 1



WILLIAM COLE STORM
 MN DEPARTMENT OF COMMERCE
 85 7TH PLACE EAST STE 500
 SAINT PAUL MN 55101-2198

55101601399



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Comment Period: Draft Environmental Impact Statement

Great Northern Transmission Line
 Docket Nos. E-015/TL-14-21

An environmental impact statement (EIS) evaluates the potential human and environmental impacts and possible mitigation measures associated with a proposed project. The EIS is issued as a draft so that it can be improved through public comment. The purpose of this comment period is to gather feedback about specific, factual information that needs to be clarified or included in the final EIS. Comments regarding new route alternatives are not considered.

After reading the Draft EIS, you might have developed a preference for a specific route alternative. This will be considered, but preferences are best expressed to an administrative law judge through the public hearing portion of the permitting process, currently scheduled for August 5, 6, 12 and 13, 2015.

Direct your questions regarding commenting or submitting your comments to the Environmental Review Manager, Bill Storm, at: bill.storm@state.mn.us or (651) 539-1844. Information regarding the proposed project is available at: <http://mn.gov/commerce/energyfacilities/Docket.html?id=33847>. For information regarding the public hearing contact the public advisor at consumer.puc@state.mn.us.

FOLD HERE

Public Comment Period Closes Monday, August 10, 2015

Comments must be post-marked or received electronically by the comment deadline.

How to comment:

- Submit this form to the Environmental Review Manager at a public meeting
- Mail this form remembering to affix appropriate postage
- Mail comments in a separate envelope using the mailing address on this form
- Fax comments to the Environmental Review Manager: (651) 539-0109
- Email comments to the Environmental Review Manager: bill.storm@state.mn.us
- Use the online comment form at: <http://mn.gov/commerce/energyfacilities/#comment>

Comments do not need to be on this form to be accepted. We encourage you to provide comments in whatever way is most convenient for you. If commenting by email or fax use "Public Comment: Great Northern Transmission Line DEIS (E-015/TL-14-21)" in the subject line.

THANK YOU for commenting on the Draft EIS!

From: [Rich Libbey](#)
To: [Kaluzniak, Mike \(PUC\)](#)
Cc: [Rich Libbey](#); [Storm, Bill \(COMM\)](#)
Subject: Tornado History Project: Minnesota
Date: Monday, August 10, 2015 2:29:05 AM

<http://www.tornadohistoryproject.com/tornado/Minnesota>

Hi Mike We discussed the web site for tornados history in Minnesota in Grand Rapids last month. I apologize for not sending it earlier. The link above is the interactive web site for all tornados recorded in Minnesota for the last 50 years. It appears there have been none near the Effie Alternative Route for the GNTL. Rich

0169-1

Section 5.3.7.2 of the Draft EIS describes the weather studies that the Applicant would conduct a weather study to address unexpected transmission line outages due to extreme weather events and equipment failures. Based on the results of the weather study, the design criteria for the proposed Project may be adjusted to increase the robustness of the 500 kV transmission line design.

0169-1

No changes are made to the EIS in response to this comment.

From: [Mark Meester](#)
To: [Storm, Bill \(COMM\)](#)
Subject: Great Northern Transmission Line Route Selection
Date: Monday, August 10, 2015 10:59:47 AM

Sir:

I was unable to make the website comment form work. Hopefully this gets to the proper recipient(s) to be considered:

Several private aircraft operators in the local area regularly utilize the private airstrip located approximately 5 miles south of Littlefork and a 1 mile west of Highway 65. The easternmost proposed routing of the transmission line appears to put the line directly under a standard traffic pattern to the North-South runway. As such that routing would appear to be an unnecessary hazard to normal-unobstructed approaches to the airstrip.

Mark L. Meester, P.E.
President, Bartlett & Associates, Inc
501 Third Street
International Falls, MN 56649
218 244 1159

0170-1

Section 5.2.1.6 Transportation and Public Services discusses airstrips and potential impacts. Please note that the C2 Segment Option Variation Area includes the Airstrip Alignment Modification that was developed in an attempt to minimize impacts to the airstrip (see Section 4.3.2.5 for a description of this alignment modification).

0170-1

No changes are made to the EIS in response to this comment.

From: [Norm](#)
To: [Storm, Bill \(COMM\)](#)
Subject: Great Northern Transmission Line EIS
Date: Sunday, August 09, 2015 12:26:38 PM

0171-1
Minnesota Biological Survey Sites of Biodiversity Significance are discussed in Section 5.3.5 of the EIS.

No changes are made to the EIS in response to this comment.

Dear Mr. Storm,

I am a homeowner on Wasson Lake in northeast Itasca County in the East Section of the EIS. My concern is the impact of the Great Northern Transmission Line (the blue line route) on the large area noted in the EIS as "High Significance" , which is adjoining and east of Wasson Lake. I am not sure what the difference is between a high significance and an outstanding significance area. However, I am sure that this wetlands area has and will in the future greatly impact the water quality of the lake that I live on and other lakes in the surrounding area, not to mention the overall environmental impact on the area itself. My concern is that the construction and maintenance of the 200' corridor will have a detrimental impact on this area.

It appears that this detrimental impact could be in large part mitigated by selecting the orange line alternative route in the east section at a rather modest cost differential, while still being a meaningful distance away from the existing transmission lines.

Thank You for your consideration.

Norman Nystrom
51876 North Wasson Lake Road
Bigfork, MN 56628

0171-1

0171-2
Thank you for your comment. No changes are made to the EIS in response to this comment.

0171-2



UPM

The Biofore Company

William Cole Storm, Environmental Review Manager
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, Minnesota 55101

Blandin Paper Company

August 4, 2015

0173-1

The EIS is updated with information provided by the MnDNR that shows the location of the conservation easement parcels referenced in your letter. Maps 5-16, 5-23, 6-29, 6-49, 6-54, and 6-64 in the EIS are updated.

Tables 6-100 and 6-117 do not show conservation easement land, they only report state forest land, while Table 6-161 discusses land cover vegetation. Tables 6-162 and 6-185 show conservation easement land and the associated text acknowledges impacts on conservation easement land.

In Section 1.3.3 of the EIS, text is added to explain the purpose and requirements of state conservation easement agreements per your comment.

0173-1

Dear Mr. Storm:

After reviewing the DEIS (PUC Docket# ET015/TL-14-21 & DOE # EIS-0499) for the Great Northern transmission line, several items need to be addressed.

1. Maps showing State Conservation Easements are not complete; Molpus' easement shows on the map and the Blandin Paper Company easement does not.
2. On numerous pages (246, 272, 291, 311, 401, 403, 441, 459, 474, 484, 555, 588, 599) a statement is made: "No impacts to county lands, state conservation easements, or USFWS Interest lands would result from any of the alternatives considered". This is not correct. Page 537 and Tables 6-100, 6-117, 6-162, & 6-185 do mention some state conservation easements being affected by the transmission line but the impression is given that state conservation easements are minimally affected. The DEIS understates the effect of the transmission line on conservation easements.
3. In general, state conservation easements are not adequately addressed. There are many different conservation easements as they are individually negotiated between the landowner and the eventual easement holder (in this case, the State). The encumbrances on the land are different in each easement.

Blandin's conservation easement is a legally binding contract between the State of Minnesota and Blandin Paper Company. It is an encumbrance on the deed of every forest land parcel that Blandin owns. As stated in the easement Section 2.2.1: "[The purpose is] to continue management of the Protected Property [Blandin forest land] as a sustainable working forest in a manner that will protect in perpetuity the Conservation Values and to prevent any use of the Protected Property that will significantly impair or interfere with the Conservation Values including conversion of the Protected Property to non-forest uses".

The easement is to prevent fragmentation and provide economic value to the region through the use of forest management to maintain and improve the timber resource for multiple markets and provide wildlife habitat for the public's enjoyment. Non-forested uses, such as this transmission line, do not meet the requirements of the easement or the economic needs of the Paper Company. The transmission line routes will significantly affect Blandin's ability to manage the forest resource and, therefore, Blandin is not in favor of the proposed route locations.

Sincerely,

Cheryl J. Adams, Forest Resources Manager

RECEIVED

AUG 07 2015

MAILROOM

UPM-Kymmene Corporation

Blandin Paper Company-Forestry
115 SW First Street
Grand Rapids, MN 55744-3699
USA
Telephone: 218-327-6482
Fax: 218-327-6387

0174-1

To:

Julie Ann Smith, PhD, Electricity Policy Analyst
DOE NEPA Document Manager
National Electricity Delivery Division (OE-20)
U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585
JulieA.Smith@hq.doe.gov

Date: 8/9/2015

William Cole Storm, Environmental Review Manager
Energy Environmental Review and Analysis
85 7th Place East, Suite 500
Saint Paul, Minnesota 55101
bill.storm@state.mn.us

From:

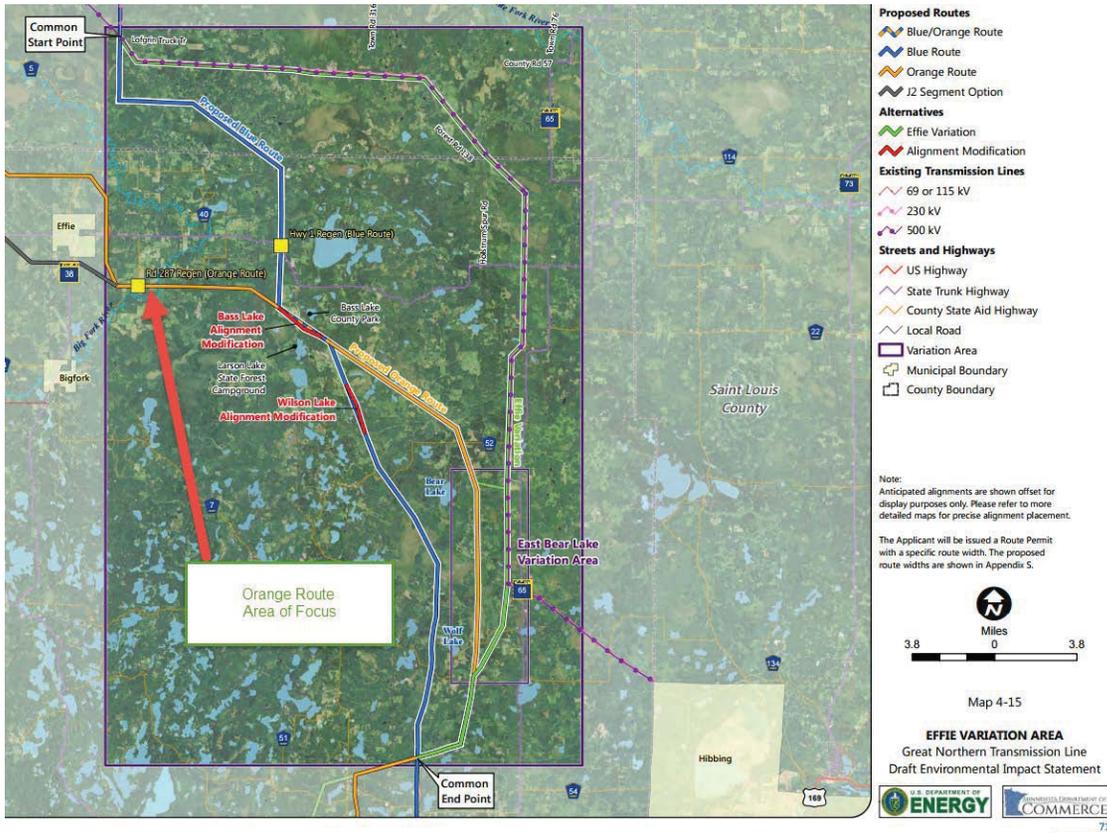
Chris Viere
6765 Black Duck Drive
Lino Lakes, MN 55014
Chris.Viere@gmail.com
651-253-6507

Regarding: Great Northern Transmission Line Project Draft Environmental Impact Statement (DEIS).

Comment on Effie Variation

The Effie Variation, using an existing corridor, would protect a legacy of cultural and environmental resources by preventing an entirely new utility corridor through a wilderness area which has received significant state, county and environmental organization's resource investment to protect. The comments provided here are intended to add depth to the impacts of constructing a new utility corridor through a section of the proposed orange route. This orange route area of focus is shown in the diagram below and was taken from page 71 of the DEIS. In the next section, I will discuss the impacts should a utility corridor be constructed in this section of the proposed orange route through this area of focus.

0174-1



Orange Route Impacts

The diagram below will be used to illustrate impacts should the proposed orange route be used.

1. **Cultural Impact:** The residents of the Effie and Bigfork area and beyond are familiar the legacy of the Knight family who originally homestead on the proposed Orange Route and this is a proud part of their scenic and historic wilderness heritage. The book *We Homesteaded* by James Knight describes this history along with the history of Chief Busticoggan (Bois Forte Band of Chippewa) who lived nearby and whom was a friend of the Knights. The diagram below shows 1. The Original Knight Homestead and 2. The James Knight homestead. Both homesteads are still owned by the Knight family and a rustic log cabin still sits on the original Knight homestead. The proposed orange route would pass through the historical Knight area and would diminish this regional cultural heritage.

Additional Information see: Knight, J. (1975). *We Homesteaded: A First-Hand Account of Pioneer Life in Minnesota's Bigfork River Country*. Grand Rapids: Rapids Publishing.

2. **Environmental Impact:** As the proposed Orange route crosses the Bigfork River on the James Knight homestead, it enters a larger forested area that remains mostly intact as result of one of the largest and most successful land conservation efforts in the country. Prior to this utility corridor, the threat to this forest was a mass self-off of Timber Company owned property. Fortunately state, county, and conservation groups worked to together to create a remarkable success story that protected what remains in this forest. For example on the diagram below, Reference point 3 shows a large parcel purchased by the Nature Conservancy in approximately 2007 from Forest Capital Partners. The Nature Conservancy then held the property until Itasca County could fund the purchase of this property. The Nature Conservancy's move protected this forest segment which would have otherwise been sold to private interests and likely divided. The larger surrounding contiguous forest (item 4 on the diagram) was the recipient in 2010 of \$36M in public investment to prevent fragmentation of 187,876 acres and curtailed the impact of this sell-off. This remains one of the largest investments from the Clean Water Land and Legacy Amendment. The proposed Orange route would contradict this significant investment by fragmenting this forest and opening up a utility corridor.

Additional information: <http://www.legacy.leg.mn/projects/mn-forests-future-upper-mississippi-project>.

0174-2

The MnDNR provided updated shapefiles that identify conservation easement land in the Project area - including this property. This information is updated on Maps 5-16, 5-23, 6-29, 6-49, 6-54, and 6-64 in the EIS.

0174-2

0174-3

A draft Programmatic Agreement (PA) is developed for the proposed Project in accordance with Section 106 of the National Historic Preservation Act (36 CFR 800.4(b)(2)). The draft PA developed for the proposed Project is included in Appendix V of the EIS. The PA will:

Allow for the adjustment of the APE to ensure that direct and indirect effects on the National Register of Historic Places (NRHP)-listed or -eligible cultural resources are properly considered. NRHP-listed or -eligible resources may include, but would not necessarily be limited to, archaeological resources;

0174-3

architectural, built, or aboveground resources; properties of traditional religious and cultural importance to a federally recognized Indian tribe; and/or TCPs. Stipulate the need for additional cultural resources investigations within the APE to identify and evaluate resources for NRHP-eligibility. Such investigations would address the identification of archaeological and architectural, built, or aboveground resources within the APE and evaluate these resources for NRHP-eligibility by qualified consultants. Address the identification and evaluation of TCPs by qualified consultants to identify TCPs, which may include properties of properties of traditional religious and cultural importance to a federally recognized Indian tribe, and evaluate these properties for NRHP-eligibility; Include obtaining background information from written and oral sources on the prehistory and history of the area, such as the accounts of the Knight Family and indigenous Native Americans such as Chief Busticoggan of the Bois Forte Band of Chippewa from such sources as *We homesteaded: A first-hand account of pioneer life in Minnesota's Bigfork River country*, written by James K. Knight in 1975.





Western Mesabi Mine Planning Board

*P.O. Box 166
Bovey, MN 55709*



0175-1

Thank you for your comment. No changes are made to the EIS in response to this comment. Potential issues associated with mining in this region are discussed in Sections 5.5.2, 6.4.1.2, 6.4.2.2, 6.4.3.2, 6.4.4.2, and 6.4.5.2.

August 6, 2015

Minnesota Department of Commerce
Mr. Bill Storm, Environmental Review Manager
85 7th Place East, Suite 500
St. Paul, Minnesota 55101

Re: Comment on Draft EIS, Great Northern Transmission Line, Docket TL-14-21

Dear Mr. Storm:

The Western Mesabi Mine Planning Board (WMMPB) is a Minnesota joint powers board comprised of most local government units from Keewatin to Cohasset, including Itasca County. Among WMMPB's purposes are formulating a management plan and developing strategies for environmental protection and orderly development of public and private lands; protecting those lands from uncontrolled and unplanned development, pollution or degradation through the preparation and adoption of comprehensive local plans and ordinances; and identifying areas of high future mining potential and preserving these lands for future mining opportunities. The proposed Great Northern Transmission Line is projected to cross the Mesabi Iron Range between Taconite and Marble, Minnesota, an area within the Mesabi corridor which constitutes WMMPB's member focus area.

Upon review of the maps provided with the draft EIS, especially Map 108 which includes the area of primary interest and concern to WMMPB and its objectives, WMMPB feels that the preferred alignment would be the blue-orange route. Major reasons include:

1. The blue-orange route closely follows county road 7, which in addition to being a highway is informally already a well established primary utility and infrastructure corridor crossing the Biwabik Iron Formation. The iron formation is of major current and future economic importance to the region and to Minnesota, comprising an estimated 30% of the entire economy of northeastern Minnesota, according to third party studies. Good engineering and public planning, municipal and rural, generally prefers that utilities and infrastructure such as highways/roadways, utility pipelines, electric transmission lines, and other utilities be co-located within corridors so as not to be dispersed over

0175-1

A Joint Powers Board			Officers:	Staff:
Arbo Township	City of Grand Rapids	Lone Pine Township	Leo Trunt, Chair	R.D. Learmont, Coordinator
City of Bovey	Greenway Township	City of Marble	Edward Bolf, Vice Chair	Deborah Rantala,
City of Calumet	Itasca County	City of Nashwauk	Carter Pettersen,	Recording Secr/Treasurer
City of Cohasset	City of Keewatin	Trout Lake Township	Secretary/Treasurer	e-mail to: dlearmon@2z.net
City of Coleraine	City of LaPrairie			

- large areas, which leads to greater disturbances with potential relatively negative environmental and social impacts;
2. WMMPB suggests not adopting that part of the Balsam Variation as it is shown traversing sections 15, 16 and 17 of T 56 N R 24 W. As shown on map 108 there are indications of substantial iron resources immediately to the south; the three land referred to would be critical ancillary lands needed for future iron ore mining in the area and should not be encumbered by construction of a major and expensive electric power line (Great Northern Transmission) that could more efficiently and less burdensomely be located elsewhere when it is first constructed and would thereby create more efficiencies for the project proponent and its ratepayers and less long term social disturbance and negative economic impact in the area. Map 108 shows numerous drill hole locations immediately south of the Balsam Variation, tending to confirm that substantial iron resources exist in that area, and there are technical reasons to expect that significant iron resources also exist north, west, and east of the mapped drill hole area. These are natural resources that should not be encumbered, hindered, or prevented from development by poor location of the proposed power line when the blue-orange route, a preferred route with less medium and long term negative economic impact, provides a better location along with the other utilities in the same corridor.
 3. The blue-orange routing also better fits the Itasca County iron mining overlay zone, a part of the county's long term comprehensive plan and zoning ordinance, the reasons for such overlay zone being established being similar to the reasons provided in points 1 and 2 preceding.

In summary, WMMPB believes that the blue-orange routing would be the preferred routing for crossing of the Mesabi Range by the Great Northern Transmission Line if such line is constructed. It is recommended that the southernmost several miles of the Balsam Variation not be used for this major power line due to encumbrances that would be placed by it upon the iron ore resource and ancillary lands needed for future development of the iron resource and the unnecessary and avoidable related costs and impacts - financial, social, and environmental - that would be created by locating the power line outside of the existing county highway 7 utility corridor as it crosses the iron formation and for several miles both north and south of the known iron formation.

Thank you for providing the opportunity for comment.

Sincerely,

/s/ R. D. Learmont

R. D. Learmont, Coordinator

Thank you for your comment. No changes are made to the EIS in response to this comment.

A Joint Powers Board			Officers:	Staff:
Arbo Township	City of Grand Rapids	Lone Pine Township	Leo Trunt, Chair	R.D. Learmont, Coordinator
City of Bovey	Greenway Township	City of Marble	Edward Bolf, Vice Chair	Deborah Rantala,
City of Calumet	Itasca County	City of Nashwauk	Carter Pettersen,	Recording Secr/Treasurer
City of Cohasset	City of Keewatin	Trout Lake Township	Secretary/Treasurer	e-mail to: dlearmon@2z.net
City of Coleraine	City of LaPrairie			

From: [Rich Libbey](#)
To: [Storm, Bill \(COMM\)](#)
Cc: [Kaluzniak, Mike \(PUC\)](#); [Rich Libbey](#)
Subject: Comments on DEIS-PUC Docket # TL-14-21--DOE # EIS-0499
Date: Monday, August 10, 2015 4:23:40 PM

Dear Mr. Storm I would like to submit the Minnesota Tornado History Project for consideration in the Final Draft Environmental Impact Statement for the Great Northern Transmission Line to aid in assessing the potential risk or lack there of to the Effie Alternative corridor sharing .

<http://www.tornadohistoryproject.com/tornado/Minnesota>

Grand Rapids Mn. 55744

Rich Libbey 18603 Hale Lake Drive,

0177-1

Electrical system reliability and weather events are discussed in Chapter 5 of the EIS.

No changes are made to the EIS in response to this comment.

| 0177-1

From: [Rich Libbey](#)
To: [Storm, Bill \(COMM\)](#)
Cc: [Kaluzniak, Mike \(PUC\)](#); [Rich Libbey](#)
Subject: Fw: Comments on DEIS-PUC Docket # TL-14-21---DOE # EIS-0499
Date: Monday, August 10, 2015 4:30:46 PM

0178-1
Thank you for your comment. No changes are made to the EIS in response to this comment.

Dear Mr. Storm

Subject: Comments on DEIS-PUC Docket # TL-14-21---DOE # EIS-0499

Rich-----during my entire career, I knew of three tiny moose clusters (not really populations) that have persisted. One is in the Bear Lake area (just N of Buck Lake), another in the Moose - Willow WMA (S part N of Co. 18), and another in the Moose Wallow WMA SW of Reservoir Lake NE of Outing.

Bill Berg-retired wildlife biologist-MN DNR

Mr. Berg is commenting on known moose clusters in Itasca County. One of which is in the area of the proposed routes in N E Itasca County by the Bear Lake Wasson Lake Bog.

Drive, Grand Rapids, MN 55744

Walton League

Rich Libbey—18603 Hale Lake

Grand Rapids Chapter of the Izaak

0178-1

From: [Rich Libbey](#)
 To: [Storm, Bill \(COMM\)](#)
 Cc: [Kaluzniak, Mike \(PUC\)](#); [Rich Libbey](#)
 Subject: Comments on DEIS-PUC Docket # TL-14-21---DOE # EIS-0499
 Date: Monday, August 10, 2015 4:10:08 PM

Mr. Storm-- Thank you for this opportunity to make some additional comments on the completeness of the Draft EIS-PUC Docket # TL-14-21 and DOE # EIS-0499.

My comments will generally be directed toward the Effie Alternative Route in NE Itasca County and SE Koochiching County.

* It would be useful to know the past history of the existing 230KW and 500KW lines that the Effie Alternative would parallel. How often if ever have the lines been out of service for weather related events and were both lines affected simultaneously? If there have been outages were they mechanical failures or weather related? When did these events occur? Where did they occur?

*What are the design options that can mitigate the effects of weather events? Building more robust towers and using non-cascading towers were mentioned. How does tower height and structure spacing affect line integrity?

*What is the historical record of severe storm events in the area that might affect the system reliability?

* <http://www.tornadohistoryproject.com/tornado/Minnesota> This link to The Minnesota Tornado History Project has a record of all recorded tornados in Minnesota in the past 50 years.

*What is the view shed of the proposed Blue and Orange Routes between Bass Lake Park and Larson Lake Camp Ground at various tower heights and spacing?

*What is the percentage of cost sharing between Manitoba Hydro and Minnesota Power relative to ownership, line construction and line maintenance. This information was provided in the Certificate of Need but I didn't see it in the Draft EIS. It would be useful in calculating the financial impact for Minnesota Rate payers.

*What is the view shed of the lines as they cross the Wolf Lake- Wasson Lake Bog site of high biological diversity and an existing snowmobile trail?

*What are the anticipated affects to tourism and the resort business of the three routes as they affect aesthetics and enjoyment of the north woods?

*Are there Goshawk Nesting sites along the proposed routes? They are a species of special concern and very sensitive to territorial disturbance and forest fragmentation and power line collisions.

* A small resident population of moose are in the Wolf Lake –Buck lake area. How could this population be affected?

*How will the spread of earthworms and exotics along the route be minimized?

0179-1

Electrical system reliability and weather events are discussed in Chapter 5 of the EIS.

No changes are made to the EIS in response to this comment.

0179-2

Viewshed maps for specific areas have not been prepared as part of the EIS. The assessment of visual impacts relies on the idea stated in Section 5.3.1.1 that, "The 1,500 foot ROI for aesthetic resources was identified because the proposed Project is most likely to be visible within this near-foreground distance zone and views of the proposed Project from aesthetic resources within this distance zone have the greatest potential to result in visual impacts for sensitive viewers." Visual simulations, provided in Appendix N, Photo Simulations, of the EIS, were prepared for seven viewpoints within the study area to represent typical views of the proposed project. These simulations are intended to provide reviewers with a sense of what the transmission line would look like from various distances and in various landscape settings within the study area.

Bass Lake Park and Larson Lake Campground are located more than 1,500 feet from the proposed Blue and Orange routes. Although the transmission line may be visible from these locations and surrounding areas, there is less potential for the proposed Project to result in visual impacts for sensitive viewers beyond the near-foreground distance zone.

No changes are made to the EIS in response to this comment.

0179-3

The percentage of cost sharing between Manitoba Hydro and the Applicant and the impact on energy costs is outside of the scope of this EIS. The MN PUC certificate of need process is the appropriate permit mechanism for evaluating and addressing these issues.

No changes are made to the EIS in response to this comment.

0179-4

Comment response 0195-2 discusses visual impacts.

Wolf Lake (at least 3,000 feet) and Wasson Lake (more than 2 miles) are located beyond the near-foreground from the proposed Blue and Orange routes. Although the transmission line may be visible from these locations and surrounding areas, there is less

potential for the proposed Project to result in significant visual impacts for sensitive viewers beyond the near-foreground distance zone. Visual impacts are likely to be significant for snowmobile trails and other visually sensitive resources occurring within the near-foreground distance zone.

No changes are made to the EIS in response to this comment.

0179-5

Recreation and tourism impacts from the proposed Project are discussed in Section 5.2.1.9 of the EIS.

No changes are made to the EIS in response to this comment.

0179-6

Potential impacts to wildlife, including rare species and/or migratory birds are discussed in Chapters 5 and 6 of the EIS.

The invasion of earthworms into forests occurs primarily through dumping of fishing bait. While it is possible construction equipment could transport seeds of invasive plant species, it is unlikely that construction equipment would transport living earthworms along the construction site.

No changes are made to the EIS in response to this comment.

Thank you for this opportunity
to comment, Rich Libbey -18603 Hale Lake Drive—Grand Rapids, Minnesota 55744

Grand Rapids Wes Libbey Chapter of the Izaak Walton League of America

Archived: Tuesday, August 11, 2015 9:30:02 AM
From: Cheryl D. Feigum
Sent: Tuesday, August 11, 2015 9:26:29 AM
To: Wu, Charlene
Cc: Dohoney, Courtney; Jessica L. Butler
Subject: FW: Manitoba Hydro / Minnesota "Not So Great" Transmission Line
Importance: Normal

Cheryl D. Feigum, PhD
 Vice President
 Senior Environmental Scientist
 Minneapolis office: 952.832.2680
 cell: 701.412.1301
 cfeigum@barr.com
 www.barr.com

resourceful. naturally.



From: Smith, Julie A (OE) [mailto:JulieA.Smith@hq.doe.gov]
Sent: Tuesday, August 11, 2015 8:24 AM
To: Cheryl D. Feigum <CFeigum@barr.com>; John N. Wachtler <JWachtler@barr.com>; Mike B. Strong <MStrong@barr.com>; Courtney Dohoney (CDohoney@ene.com) <CDohoney@ene.com>; Belin, Daniel <DBelin@ene.com>; Bill Storm (bill.storm@state.mn.us) <bill.storm@state.mn.us>
Subject: FW: Manitoba Hydro / Minnesota "Not So Great" Transmission Line

Comment in email below. Please add to record. J

From: Ron Berglund [mailto:rhberglund@gmail.com]
Sent: Monday, August 10, 2015 11:33 PM
To: Smith, Julie A (OE) <JulieA.Smith@hq.doe.gov>
Subject: Manitoba Hydro / Minnesota "Not So Great" Transmission Line

Dear Ms. Smith,

As an outdoor recreation enthusiast in Manitoba and North Central Minnesota, I want to voice my opposition to this plan.

The destruction and severe environmental impact on rivers, boreal forests and wetlands is terrible beyond words and the future generations have to endure this impact.

Ron Berglund
 41 Magellan Bay
 Winnipeg, Manitoba Canada
 R3K 0P7

0180-1

Thank you for your comment. No changes are made to the EIS in response to this comment.

0180-1

[204 889 2900](tel:2048892900)

Message scanned by the Symantec Email Security service. If you suspect that this email is actually spam, please send it as an ATTACHMENT to spamsample@messagelabs.com

0181-1 cont'd

0181-1
Continued

Bill Storm

Environmental Review Manager

MN Department of Commerce

85 7th Place East, Suite 500

St. Paul, MN 55101

Re: Great Northern Transmission Line: TL-14-21

August 4, 2015

Dear Bill Storm,

Our names are James and Patricia Schaffran. We are landowners located within the Wilson Lake Alignment Modification. This modification would impact the following residential lakes-Wilson Lake, Blind Pete Lake, Horsehead Lake, Wasson Lake, Scooty Lake, Hartley Lake and Wolf Lake. Besides impacting the residential population in this area, the line would also impact the moose population northwest and north of Horsehead Lake and the wolf population north of Horsehead Lake. This area is critical habitat for these animals, as well as, deer and small game animals.

The route that would have the least impact on residential home owners, the surrounding lakes and wildlife is the Effie variation. The advisory taskforce appointed for this Project has indicated a willingness to minimize the line's impact on residential, lake and wildlife areas. The Wilson Lake Alignment Modification does not satisfy this recommendation.

Please remove the Wilson Lake Alignment Modification from consideration.

Sincerely,

James and Patricia Schaffran

56196 Horsehead Lake Road

Bigfork, MN 56628

From: Yufna Soldier Wolf [<mailto:yufnanathpo@gmail.com>]
Sent: Thursday, July 09, 2015 1:15 PM
To: Storm, Bill (COMM)
Subject: courteous email

Bill,
I am emailing in regards to this project. Please know I am reviewing your letter and location's significance to my tribe the Northern Arapaho. I will follow up with a letter in the next week.

Thanks!

--
Yufna Soldier Wolf
NATHPO-Director
307-840-0837 call or text Cell
307-856-1628 Office call or lv msg

Message scanned by the Symantec Email Security service. If you suspect that this email is actually spam, please send it as an ATTACHMENT to spamsample@messagelabs.com



Minnesota Pollution Control Agency

520 Lafayette Road North | St. Paul, Minnesota 55155-4194 | 651-296-6300
800-657-3864 | 651-282-5332 TTY | www.pca.state.mn.us | Equal Opportunity Employer

August 10, 2015

Ms. Julie Ann Smith, PhD, Federal Document Manager
DOE Office of Electricity Delivery and Energy Reliability
1000 Independence Avenue SW
Washington, DC 20585

Mr. William Cole Storm, Environmental Review Manager
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101

RE: Great Northern Transmission Line Project, Draft Environmental Impact Statement
DOE Number EIS-0499 and MPUC Docket Number TL-14-21

Dear Ms. Smith and Mr. Cole Storm:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement (DEIS) for the Great Northern Transmission Line Project (Project). The Project is proposed to be located in Minnesota beginning at the Canadian/United States international border at the Province of Manitoba and Roseau County in Minnesota, extending across the northern portion of Minnesota to the existing Blackberry Substation near Grand Rapids, Minnesota. Regarding matters for which the Minnesota Pollution Control Agency (MPCA) has regulatory responsibility and other interests, the MPCA has the following comments for your consideration.

Construction Stormwater:

The DEIS acknowledges the need to obtain a National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Construction Stormwater Permit prior to beginning construction and outlines the development of a Stormwater Pollution Prevention Plan (SWPPP) to address stormwater erosion and sediment concerns. As with other transmission line projects of this scope, however, there is a potential for disturbing greater than 50 acres of land and triggering an MPCA staff review. The DEIS does not appear to evaluate the potential for meeting this criteria for triggering an MPCA staff review of the SWPPP. There also did not appear to be an evaluation whether the Project was located within one mile of an impaired water or special waters as identified in the NPDES/SDS Construction Stormwater Permit. Information regarding the MPCA's Construction Stormwater Program can be found on the MPCA's website at: <http://www.pca.state.mn.us/water/stormwater/stormwater-c.html>. Questions regarding Construction Stormwater Permit Requirements should be directed to Scott Fox at 651-757-2368.

Wetlands:

In the discussion of needed permits and authorizations, the DEIS discusses the U.S. Army Corps of Engineers Section 404 permit, but does not mention the MPCA's Section 401 Certification Program. The DEIS must also include the Section 401 Certification as a necessary authorization.

0183-1

Sections 1.3.3 and 5.3.4.1 of the EIS are updated to include discussion that disturbance of more than 50 acres of land will trigger a MPCA staff review of the project SWPPP.

Several of the proposed routes and alternatives would require crossing impaired waters and special waters (i.e. trout streams, SNAs), as discussed in Chapters 5 and 6 of the document.

0183-2

The EIS states that the project will require Section 401 Water Quality Certification from the MPCA in Section 1.3.3. Text about this approval is added to Section 5.3.4.1 of the EIS.

Specific wetland impacts will be quantified upon selection of a project alignment and project design. A mitigation plan for unavoidable wetland impacts is not available at this time. Once DOE and MN PUC issue permits for the Project, a wetland mitigation plan will be developed by the Applicant in coordination with USACE, BWSR, and appropriate local units of government as part of the environmental permitting process.

0183-1

0183-2

Ms. Julie Ann Smith, Mr. William Cole Storm

Page 2

August 10, 2015

0183-2 cont'd

The DEIS lists the National Wetlands Inventory wetlands located within the West, Central, and East Section right-of-ways. However, it is not clear if the DEIS lists the total number of wetlands or the actual acreage of wetland impact in each Section. The DEIS should more clearly describe the total wetland impacts that are likely to occur from the Project, both temporary and permanent impacts.

Project applicants are required to first avoid and minimize their wetland impacts, and then mitigate for any wetlands that are lost due to the Project. Although mitigation sites and ratios are determined during permitting, it would be helpful if the DEIS provided available information about both how impacts will be avoided during construction and about possible options for mitigation of wetland impacts.

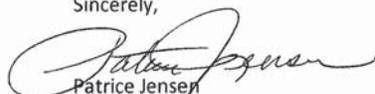
Minnesota Duty to Report:

Minnesota Statute 115.061 states: "(a) Except as provided in paragraph (b), it is the duty of every person to notify the agency immediately of the discharge, accidental or otherwise, of any substance or material under its control which, if not recovered, may cause pollution of waters of the state, and the responsible person shall recover as rapidly and as thoroughly as possible such substance or material and take immediately such other action as may be reasonably possible to minimize or abate pollution of waters of the state caused thereby. (b) Notification is not required under paragraph (a) for a discharge of five gallons or less of petroleum, as defined in section 115C.02, subdivision 10. This paragraph does not affect the other requirements of paragraph (a)."

The Project Proposer is required to notify the Minnesota Duty Officer in the event of a release to the environment of hazardous substances or more than five gallons of petroleum, and it is the Project Proposer's responsibility to handle solid wastes and contaminated soil and groundwater that may be encountered in accordance with the SWPPP as appropriate, or with a MPCA approved Remedial Action Plan. Once the final route is chosen, MPCA recommends that the Proposer conduct a Phase I Environmental Site Assessment to determine to an extent ahead of time, what kinds of potential contamination issues may be encountered during construction of the Project.

Again, the MPCA appreciates the opportunity to review this project. Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the Project for the purpose of pending or future permit action(s) by the MPCA. Ultimately, it is the responsibility of the Project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning MPCA's review of this DEIS, please contact me at 651-757-2465 or by email at Patrice.jensen@state.mn.us.

Sincerely,



Patrice Jensen
Planner Principal
Environmental Review Unit
Resource Management and Assistance Division

PJ:pj

cc: Dan Card, MPCA
William Wilde, MPCA
Scott Fox, MPCA

0183-2
Continued

0183-3

Section 5.2.2.7 of the EIS describes the immediate actions that the Applicant will implement in the event contamination is identified unexpectedly during construction activities. The Applicant will immediately report the presence of contamination to the property owner so the owner can make an evaluation as to whether the contamination must be reported to the Minnesota Duty Officer per Minnesota Statute, section 115.061.

In addition, the Applicant would develop and implement a SPCC Plan and a SWPPP in compliance with state and federal regulations. The spill and contaminated soils would be collected, treated, and disposed of in accordance with all applicable federal, state, and local requirements.

0183-3

Section 5.2.2.7 identifies the presence of one contaminated site within the proposed routes and variations. To fully address the potential contamination issues that may be encountered during construction of the proposed Project, Section 5.2.2.7 of the EIS will include MPCA's recommendation to conduct a Phase I Environmental Site Assessment once the final route is chosen.

No changes are made to the EIS in response to this comment.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 REGION 5
 77 WEST JACKSON BOULEVARD
 CHICAGO, IL 60604-3590

AUG 10 2015

REPLY TO THE ATTENTION OF:

E-19J

Julie Ann Smith, Ph.D.
 Office of Electricity Delivery and Energy (OE-20)
 U.S. Department of Energy
 1000 Independence Avenue SW
 Washington, DC 20585

Re: Great Northern Transmission Line Project, U.S. – Canada Border, Northern Minnesota,
 Draft Environmental Impact Statement (DEIS).
 CEQ No.: 20150178

Dear Dr. Smith:

The United States Environmental Protection Agency (EPA), Region 5 reviewed the Draft Environmental Impact Statement (DEIS) prepared by the U.S. Department of Energy (DOE) and Minnesota Department of Commerce – Energy Environmental Review and Analysis (DOC-EERA) for the Great Northern Transmission Line Project (GNTL), pursuant to Section 309 of the Clean Air Act (CAA), Section 102(2)(C) of the National Environmental Policy Act (NEPA), and Council on Environmental Quality regulations (40 CFR Parts 1500-1508). This letter provides our comments.

Minnesota Power (Project Proponent, Applicant), an operating division of ALLETE, Inc., is seeking: 1) a Presidential permit from DOE to construct, operate, maintain and connect a new high voltage electric transmission line across the U.S.-Canada (Manitoba) border in northern Minnesota, and 2) a Route Permit under the Minnesota Power Plant Siting Act from the Minnesota Public Utility Commission. The joint Federal/State DEIS was prepared to avoid duplication in environmental review procedures.

GNTL is proposed as an approximately 220-mile long, 500-kilovolt (kV) overhead, single-circuit, alternating current (AC) electric transmission system in Minnesota, from the Canadian Province of Manitoba to the existing Blackberry Substation near Grand Rapids, Itasca County, Minnesota. The GNTL proposal also includes expansion of the existing Blackberry Substation to accommodate the required 500-kV interconnection and construction of a new 500-kV series compensation station, regeneration stations, permanent access roads, temporary access roads, laydown areas, and fly-in sites. GNTL would carry electricity generated in Canada by hydroelectric facilities operated by Manitoba Hydro, a Canadian electric utility, and would support the regional electric grid, including transmitting approximately 883 megawatt (MW) of additional power in Minnesota.

The DEIS presents a range of issues and analysis of potential impacts associated with two alternative transmission line routes (Blue route and Orange route) in Minnesota, their associated potential variations/local route alternatives and modifications, and five potential international border crossing locations. A DOE and Minnesota Power preferred alternative for the international crossing location at latitude 49 00 00.00 N and longitude 95 54 50.49 W is identified, roughly 2.9 miles east of Highway 89 in Roseau County, Minnesota. The DEIS also identifies the Blue Route as Minnesota Power's preferred alternative route.

Base on EPA's review of the project, we rate the DEIS Preferred Alternative as Environmental Concerns -Insufficient Information (EC-2). The EC-2 rating indicates that we have concerns that the document does not contain enough information to fully assess the environmental impacts that should be avoided in order to fully protect the environment. See the enclosed Summary of Rating Definitions for a detailed explanations of EPA's ratings.

EPA concerns regard potential impacts to wetlands, upland forest and associated wildlife habitat, federal and state listed species, cultural resources and identification/disclosure of mitigation measures. Enclosed are our detailed comments. We make recommendations for additional information to include in the Final EIS (FEIS).

EPA requests DOE provide two hard copies and three CDs of the FEIS for our review and comment. If you would like to discuss the content of this letter and enclosure in more detail, please contact Virginia Laszewski of my staff at 312/886-7501 or at laszewski.virginia@epa.gov.

Sincerely,



Kenneth A. Westlake,
Chief, NEPA Implementation
Office of Enforcement and Compliance Assurance

Enclosures (2): EPA's DEIS comments, and Summary of Rating Definitions

Cc (email): Bill Storm, Environmental Review Manager, Minnesota Department of Commerce, bill.storm@state.mn.us
Tamara Cameron, Chief Regulatory, U.S. Army Corps of Engineers–St. Paul District, Tamara.E.Cameron@mvp02.usace.army.mil
Bill Baer, U.S. Army Corps of Engineers, William.A.Baer@usace.army.mil
Andrew Horton, U.S. Fish and Wildlife Service, Twin Cities Field Office, Horton.andrew@usfws.gov

EPA Comments on Great Northern Transmission Line (GNTL) Project
Draft Environmental Impact Statement (DEIS)
 [U.S. Department of Energy (DOE/EIS-0499) / Minnesota Department of Commerce (E015/TL-14-21)]
 (CEQ No.: 20150178)

Alternatives - Preferred Border Crossing Location and Preferred Alternative Route

The DEIS identifies and assesses impacts associated with 5 potential border crossing alternative locations and variations, and identifies a DOE and Minnesota Power preferred alternative for the international crossing location (Proposed Border Crossing-Blue/Orange Route) at latitude 49 00 00.00 N and longitude 95 54 50.49 W, roughly 2.9 miles east of Highway 89 in Roseau County, Minnesota.

In addition, the DEIS identifies and assesses impacts associated with two major alternative routes (Blue Route and Orange Route), segment options and variations thereof from potential border crossing locations to the Blackberry Substation. The DEIS identifies the Blue Route as Minnesota Power's preferred alternative route. The Blue Route originates at the DOE/Minnesota Power DEIS identified preferred international border crossing location.

The DEIS also identifies and discusses proposed locations and potential impacts associated with the compensation station, regeneration stations and expansion area for the Blackberry Substation. However, the DEIS has minimal to no specific information regarding the proposed locations, and type and estimated amount of resources impacted by the proposed permanent access roads, temporary access roads, laydown areas, stringing areas, and fly-in sites.

More than half the length of the GNTL Blue Route utilizes new terrain that is largely wetlands and forest land in a substantially rural area with limited roads. For the Blue Route, the data tables in DEIS *Appendix E* identify 1,976 acres of forested wetland and 2,265 acres of upland forest within the 200-foot ROW. To establish and maintain this ROW, trees in the ROW will need to be cut and prevented from growing in perpetuity. Due to the remote nature of the ROW, there may be additional impacts that have not yet been accounted for in the DEIS.

Recommendations: EPA recommends the FEIS identify Minnesota Power's proposed locations for permanent and temporary access roads, laydown areas, stringing areas and fly-in sites. We recommend these facility locations along with potential pole locations be identified on all FEIS resources maps/figures depicting the preferred alternative route. In addition, the FEIS should identify the amount and type of each resource impacted by these facilities for each proposed facility location and disclose this information in an FEIS Preferred Alternative Impacts Summary Table. (See additional EPA comments and recommendations later in this enclosure regarding wetland impacts under the headings "Wetlands and Clean Water Act Section 404," and for *Appendices E, F and G* under the heading "Appendices.")

0184-1

As discussed in Section 2.9.7 of the EIS, once a route is selected, the Applicant will identify the locations for all permanent and temporary access roads, laydown areas, stringing areas, fly-in sites, and structure locations. They will work with the appropriate federal and state agencies to develop survey plans, conduct fieldwork, and determine the wetland and other resource impacts for the project in order to complete federal and state permitting processes. Until a route is selected, the exact locations of these project components cannot be known.

No changes are made to the EIS in response to this comment.

0184-1

Wetlands and Clean Water Act Section 404

The DEIS identifies avoidance and minimization efforts made, to date, for locating the Blackberry Substation expansion, new compensation station and regeneration sites. However, there is minimal to no information in the DEIS to substantiate that pole placement and other associated GNLT facilities (i.e., permanent and temporary access roads, laydown areas, stringing areas and fly-in sites) would have minimal to no direct wetland impacts.

Recommendations: The FEIS should specifically identify how many acres of wetland will be directly affected by the discharge of fill material, as well as how many acres will be converted from one wetland type to another. The FEIS should also include specifically what the project proponent proposes as compensatory mitigation to offset wetland losses. We recommend the FEIS include a Wetland Mitigation Plan.

2.0 Proposed Project

2.11 Construction Procedures (page 34) *“The Applicant has indicated that they would retain an environmental inspector during project construction, responsible for understanding all of the conditions of the proposed Project’s environmental permits and ensuring that contractors abide by these conditions. These Applicant proposed measures are potential MN PUC Route Permit conditions.”*

Recommendations: We recommend that a third party independent inspector, such as the Minnesota Department of Natural Resources (MnDNR), be utilized as recommended by MnDNR in their August 15, 2014 letter (page 8 of 26), Third Party Independent Monitors, that was addressed to DOC regarding the GNLT Route Permit application. We recommend the FEIS disclose whether or not MnDNR or some other third party independent environmental inspector will be used for GNLT construction.

5.0 Affected Environment and Potential Impacts

Air Quality

Page 106, *Air Quality in the ROI* - The DEIS correctly identifies that all counties in the region of influence (ROI) are in attainment or unclassifiable (to be considered in attainment) for all National Ambient Air Quality Standards (EPA 2015). Therefore, DOE’s proposed action is exempt from applicability of the General Conformity Rule requirements of the Clean Air Act.

Construction Impacts

Page 110 - *The Criteria Pollutants* section indicates that the total emissions of criteria pollutants from construction of the proposed Project cannot currently be quantified.

Recommendation: We recommend the FEIS include an estimate of the total emissions of criteria pollutants from construction of the proposed Project.

Page 109 – *General Impacts* section identifies best management practices (BMPs) which could be included as MN PUC Route Permit conditions, such as: minimizing idling of construction vehicles; utilizing existing power sources or clean fuel generators rather than diesel-powered

0184-2

0184-2

The EIS states that the project will require Section 401 Water Quality Certification from the MPCA in Section 1.3.3. Text about this approval is added to Section 5.3.4.1 of the EIS.

At this time, specific quantities of wetland impact for all alternatives cannot be calculated as there is no associated detailed project design. As such, a mitigation plan for unavoidable wetland impacts is not currently available. Once a project alignment is selected and DOE and MN PUC issue permits for the Project, detailed project design will begin. Wetland impacts will be quantified and an associated mitigation plan will be developed by the Applicant in coordination with USACE, BWSR, and appropriate local units of government as part of the environmental permitting process.

0184-3

0184-3

The Applicant will work with appropriate state and federal agencies to comply with requirements in their permits, including using an environmental inspector. The Applicant will select an environmental inspector after the Route Permit has been issued.

No changes are made to the EIS in response to this comment.

0184-4

0184-4

Criteria Pollutant and CO2 emissions from construction of the project are estimated and are provided in Section 5.2.1.3 of the EIS.

0184-5

0184-5

Employment of additional emission reduction strategies during construction of the proposed Project will be dependent on the Applicant to implement as the proposed Project is not expected to result in long-term adverse criteria pollutant or climate change and GHG emissions which would allow for regulatory agency enforcement of emission reduction strategies.

No changes are made to the EIS in response to this comment.

generators, ensuring that construction equipment is properly tuned and maintained prior to and during on-site operation; and developing a project-specific dust control plan. Page 110 – *The Criteria Pollutants* section refers the reader to Table 2-2 for the project proponent’s proposed mitigation measures to reduce construction emissions. However, Table 2-2 (pages 41- 42) identifies only one proposed measure to address air quality during construction: “Regular, frequent cleaning of construction equipment and vehicles on the ROW.”

Recommendation: We recommend Minnesota Power pursue opportunities to use clean diesel equipment, vehicles, fuels and other emission reduction strategies during project construction. The FEIS should identify additional air quality measures that Minnesota Power proposes to utilize and/or MN PUC intends to include as conditions in the MN PUC Route Permit.

Page 111- *The Climate Change and GHG Emissions* section discusses the 12.01 million metric tons of CO₂ equivalent representing the loss of carbon sink for the Proposed Orange Route.

Recommendation: Please site a reference for this calculation and clarify if the timeframe is for one or four years.

Operation, Maintenance, and Emergency Repair Impacts

Page 111-*The Criteria Pollutants* section states, “*These potential operational emissions are expected to be small and would result in limited impacts to air quality and would not affect the attainment status in the regions*”.

Recommendation: The document should provide an estimated range of emissions.

Forests and Wildlife Habitat, Forest Fragmentation and Invasive/Noxious Species

Wetland and upland forests play an important role in protecting water quality in the immediate watershed, providing wildlife habitat, and acting as a carbon sink. The proposed Blue Route would require the removal of approximately 4,829 acres of forest in the 200-foot ROW (*Air Quality in the ROI, Construction Impacts, Climate Change and GHG Emissions, page 110*), fragmenting existing forestland and providing an opportunity for the introduction and spread of invasive/noxious species. In addition, there may likely be additional wetland and upland forest lost due to construction of GNTL-associated facilities that have not been adequately identified and accounted for in the DEIS.

Recommendations: For forest impacts that do not require compensation under existing federal and/or state regulations, we recommend the project proponent undertake voluntary forest compensation for permanent and temporary tree losses due to construction and operation of the preferred alternative. Mitigation might include, but not be limited to, helping to finance forest restoration projects by local, state and/or federal natural resource agencies.

0184-5 cont'd

0184-5
Continued Employment of additional emission reduction strategies during construction of the proposed Project will be dependent on the Applicant to implement as the proposed Project is not expected to result in long-term adverse criteria pollutant or climate change and GHG emissions.

No changes are made to the EIS in response to this comment.

0184-6

As described earlier in the section regarding Construction Impacts on Climate Change and GHG Emissions, the estimates of carbon sink losses are calculated using the following reference:

0184-6 Methods for Calculating Forest Ecosystem and Harvested Carbon with Standard Estimates for Forest Types of the United States. United States Department of Agriculture, Forest Service, Northeastern Research Station. General Technical Report NE-343. Smith, James E., Linda S. Heath, Kenneth E. Skog, and Richard A. Birdsey. 2006.

0184-7 The EIS text in Section 5.2.1.3 regarding Construction Impacts on Climate Change and GHG Emissions is revised to state that the total loss of sink for the four years of construction is attributed to the final year of the proposed Project.

0184-7

Criteria pollutant and CO₂ emissions from construction of the proposed Project are estimated and provided in Section 5.2.1.3 of the EIS. Since maintenance emissions would be considerably less than construction related emissions, there would be no expected impact to air quality from on-going maintenance activities.

0184-8

0184-8 The concerns of this comment relate to voluntary recommendations the applicant can take, which is outside of DOE's scope of authority. At the federal level, mitigation discussions related to forest resources will fall under USFWS's authority pursuant to the MBTA.

No changes are made to the EIS in response to this comment.

EPA also recommends the project proponent prepare, in coordination with MnDNR and the U.S. Fish and Wildlife Service (USFWS), a vegetation management plan to address control of invasive/noxious species plant intrusions. The plan should list the noxious weeds and exotic plants that occur in the resource area. In cases where noxious weeds are a threat, the plan should detail a strategy for prevention, early detection of invasion, and control procedures for each species. We recommend the vegetation management plan be included in the FEIS. (This recommendation is reiterated later in this enclosure for *Appendix B*, under the heading “Appendices.”)

Cultural Resources/Tribal Interests and National Historic Preservation Act, Section 106
7.3.4 Archaeology and Historic Resources (page 666) *“As discussed in Section 5.3.3.2, transmission line construction can result in damage, destruction, or alteration of historic buildings and buried archaeological resources. A Programmatic Agreement (PA) is under development by Department of Energy (DOE), Tribes, Minnesota State Historical and Preservation Office (SHPO), Advisory Council on Historic Preservation (ACHP), the Applicant, and other consulting parties to avoid and minimize impacts to cultural resources.”*

5.3.3.3 General Impacts to Cultural Resources (page 175) *“The PA that DOE intends to execute for the proposed Project will include stipulated measures to address the potential operation, maintenance, and emergency repair impacts on cultural resources and historic properties. Stipulations would be developed to identify cultural resources and historic properties, determine the effects of the proposed Project on historic properties, and determine measures that would be implemented to avoid, minimize, and mitigate adverse effects on historic properties.”*

Recommendation: We recommend that the signed/dated PA be included in the FEIS, if feasible. If not feasible, we recommend a draft of the PA be included in the FEIS and the final PA included as part of DOE’s Record of Decision (ROD) for GNTL. (See our recommendation for *Appendix P* later in this enclosure under “Appendices.”)

Listed Species, Candidate Species, and Species of Concern/Rare Species

1.2.4.2 Section 7 of the Endangered Species Act (page 6) *“The USFWS oversees compliance with the ESA (16U.S.C. Section 1536), which requires that federal agencies ‘insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat of such species.’ DOE, as the lead federal agency for the proposed Project, prepared a Biological Assessment in accordance with the ESA to analyze potential Project related impacts on federally-listed threatened and endangered species, candidate species, and species proposed for listing, and their designated critical habitats. Consultation under Section 7 of ESA is on-going. USFWS will issue a Biological Opinion and Incidental Taking Permit statement if necessary.”*

0184-9

Chapter 6 of the EIS identifies that the MN PUC Route Permit could also require the development of a Vegetation Management Plan as a permit condition, which could include plant surveys along the permitted ROW, incorporate vegetation clearing, and management of invasive species. The MN PUC typically requires the Applicant to prepare a plan in coordination with the MnDNR as a condition of the Route Permit.

No changes are made to the EIS in response to this comment.

0184-10

A draft Section 106 Programmatic Agreement (PA) is included in Appendix V of the EIS. DOE is conducting its NEPA analysis in coordination with its Section 106 consultation requirements of the NHPA. Once a final PA for the proposed Project is executed, it will be posted on DOE's EIS website (<http://www.greatnortherneis.org>). The executed PA will be incorporated by reference into DOE's REcord of Decision for the proposed Project.

0184-10

Recommendation: We recommend the FEIS update the status of DOE's Section 7 consultation with USFWS since the DEIS. Include DOE / USFWS communication/correspondence in FEIS Appendix Q.

5.3.5.2 General Impacts (page 192) – *“The proposed Project may affect, but is not likely to adversely affect these federally-listed species or designated critical habitat; the draft Biological Assessment (Appendix R) provides discussion on potential impacts of the proposed Project on Federally-listed species and designated critical habitat.”*

DEIS Appendix R does not contain a draft Biological Opinion. (See additional EPA comments regarding DEIS Appendix R later in this enclosure under the heading “Appendices.”)

Recommendation: We recommend the final Biological Assessment (BA) and the USFWS Biological Opinion (BO) be included in the FEIS. (This recommendation is reiterated later in this enclosure for Appendix R under the heading “Appendices.”)

6.2.1.4 Natural Environment, Wildlife (page 262) – *“The Applicant's proposed measures to avoid, minimize, or mitigate impacts on wildlife resources are summarized in Section 2.13 and in the Applicant's Route Permit Application. These measures, are primarily focused on birds (Minnesota Power 2014, reference (1)). Additional measures should include development of an Avian Protection Plan (APP), which would include an avian impact risk mitigation strategy, as suggested by the MnDNR (MnDNR 2014, reference (110)). The MN PUC Route Permit could require that an APP be developed and implemented as a permit condition. The Applicant should also work with the USFWS and MnDNR to include broader measures to avoid, minimize, or mitigate potential impacts to all wildlife species and associated habitats.”*

Recommendation: We recommend the FEIS include Minnesota Power's GNTL Avian Protection Plan (APP). (Also see EPA recommendation for Appendix B, later in this enclosure under the heading “Appendices.”)

8.0 List of Preparers

8.1 Federal and State Agencies

Page 673 - Table 8-1 List of Preparers – Federal and State Organization. The title of Table 8-1 and presentation of the information in this table implies that the Federal cooperating agencies along with DOE and DOC-EERA prepared the DOE/DOC-ERRA DEIS.

Recommendation: To accurately reflect the roles of DOE and DOC-ERRA as lead federal and state agencies, respectively; and, EPA as a cooperating federal agency in DOE's EIS process, we recommend that Table 8-1 be re-titled: *“Table 8-1 List of the Lead Federal and State Agencies, and Federal Cooperating Agencies.”*

0184-11

The Biological Assessment in Appendix R provides an update of DOE's Section 7 of the ESA consultation with USFWS. Section 1.1.4.2 of the EIS is updated with a sentence indicating that a BA is included in the Appendices of the EIS, as well as a statement of the status of DOE's Section 7 consultations for the proposed Project.

0184-11

0184-12

The Biological Assessment is included in Appendix R of the EIS.

0184-12

0184-13

Thank you for your comment. As discussed in Section 6.2.1.4 of the EIS, an Avian Protection Plan (APP) may be a special condition of the Route Permit and would be developed in coordination with USFWS and MnDNR, as required. No changes are made to the EIS in response to this comment.

0184-13

0184-14

The title of Table 8-1 is updated in the Final EIS.

0184-14

Appendices

Appendix A

Tribal Consultations

Recommendation: We recommend the FEIS include additional correspondence/communications between DOE and the tribes since the DEIS.

Appendix B

Route Permit Generic Template and Example – The generic Route Permit *Section 4.10 Special Conditions* states: “*The Permittee shall provide a report to the Commission as part of the plan and profile submission that describes the actions taken and mitigative measures developed regarding the project and the following special conditions.*”

[Describe any special conditions]

Examples of special conditions included in permits:

- Avian Mitigation Plan
- Environmental Control Plan
- Agriculture Mitigation Plan
- Vegetation Management Plan
- Property Restrictions
- Minnesota Department of Natural Resources Requirements
- Minnesota Pollution Control Requirements
- Minnesota State Historical Preservation Office Requirements
- Minnesota Department of Transportation Requirements”

Recommendations: EPA recommends the FEIS include the draft version of MN PUC Route Permit for GNTL, if available. We also recommend the FEIS include, but need not be limited to, an Aviation Mitigation Plan, Vegetation Management Plan, Erosion and Sediment Control Plan, and Stormwater Pollution Prevention Plan (SWPPP), Minnesota Department of Natural Resources Requirements, Minnesota Pollution Control Requirements, and Minnesota State Historical Preservation Office Requirements.

Appendix E - Route Analysis Data Tables, Appendix F – Rare Species Data Tables, and Appendix G – Rare Communities Data Tables. EPA appreciates the inclusion of these data tables in the DEIS.

Recommendations: We recommend these DEIS data tables be updated for the FEIS with any new information identified/developed since the DEIS. In addition, the FEIS should include a **Preferred Alternative Impacts Summary Table** with updated

0184-15

As recommended, the Appendix A, Tribal Consultation, the EIS includes any additional documentation of conversations between DOE and the tribes that occurred after publication of the Draft EIS.

0184-15 0184-16

Once the MN PUC issues the Route Permit, the Applicant will need to work with the appropriate agencies to develop the plans required as permit conditions. An example of a MN PUC Route Permit is provided in Appendix B.

No changes are made to the EIS in response to this comment.

0184-17

Chapters 5 and 6 (Rare and Unique Natural Resources) and Appendix F of the Final EIS are updated with the most current information available (MnDNR NHIS database) to assess presence and potential impacts on rare species.

0184-16

0184-17

information since the DEIS. This summary table should provide total amounts of estimated impacts for each resource for the entire 220-mile long GNTL preferred alternative.

Appendix O
Agricultural Impact Mitigation Plan (AIMP) Example

Recommendation: We recommend the specific Agricultural Impact Mitigation Plan for GNTL be included in the FEIS.

Appendix P
Cultural Resources Report

Recommendation: We recommend that the signed/dated Programmatic Agreement (PA) be included in the FEIS, if available. If not available, we recommend a draft of the PA be included in the FEIS and the final PA included as part of DOE's EIS Record of Decision (ROD) for GNTL.

Appendix Q
USFWS and DOE Section 7 Consultation

Recommendation: We recommend the FEIS update the status of the USFWS-DOE Section 7 consultation. DOE / USFWS communication/correspondence should be included in FEIS Appendix Q since the DEIS.

Appendix R
Biological Assessment - The only information included in DEIS Appendix R is following statement: *"The preparation of the draft Biological Assessment (BA) is underway, however it is not available for this EIS. The draft BA is being prepared in order to determine the impacts of the proposed Project on federally-listed species and to facilitate ESA Section 7 consultation."*

Recommendation: The FEIS should include the final Biological Assessment (BA) and the USFWS Biological Opinion (BO) or most recent documentation updating the status of coordination with the USFWS regarding the GNTL proposal.

Appendix S
Detailed Map Books

Recommendation: We recommend the DEIS maps/figures that pertain to the preferred border crossing location and preferred alternative route be updated for the FEIS, to depict Minnesota Power's proposed locations for GNTL permanent and temporary access roads, laydown areas, fly-in sites, stringing areas, and pole locations.

0184-18

An Agricultural Impact Mitigation Plan (AIMP) specific to this project is not available at this time. The MN PUC permit conditions will require the Applicant to coordinate with the MnDNR and other applicable agencies to develop an AIMP.

No changes are made to the EIS in response to this comment.

0184-18

0184-19

A draft Section 106 Programmatic Agreement (PA) is included in Appendix V of the EIS. DOE is conducting its NEPA analysis in coordination with its Section 106 consultation requirements of the NHPA. Once a final PA for the proposed Project is executed, it will be made public on DOE's EIS website (<http://www.greatnortherneis.org>). The executed PA will be incorporated by reference into DOE's Record of Decision for the proposed Project.

0184-19

0184-20

0184-20

The Biological Assessment in Appendix R provides an update of DOE's Section 7 consultation with USFWS.

0184-21

0184-21

The Biological Assessment is included in Appendix R of the Final EIS.

0184-22

As discussed in Section 2.9.7 of the EIS, once a route is selected the Applicant will identify the locations for all permanent and temporary access roads, laydown areas, stringing areas, fly-in sites, and structure locations. They will work with the federal and state agencies to develop survey plans, conduct fieldwork, and determine the wetland and other resource impacts for the project. This information will be needed in order to complete the federal and state permitting processes. Until a route is selected, the exact locations of these project components cannot be known.

0184-22

No changes are made to the EIS in response to this comment.

**SUMMARY OF RATING DEFINITIONS
AND FOLLOWUP ACTIONS***

ENVIRONMENTAL IMPACT OF THE ACTION

LO—Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC—Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO—Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU—Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1—Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2—Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3—Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

**From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment.*

Laura Imax

1418 Como Avenue, St. Paul, MN 55104

Date: August 6, 2015

William Cole Storm

Environmental Review Manager Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, Minnesota, 55101

bill.storm@state.mn.us

PUC Docket TL-14-21 and DOE number EIS-0499

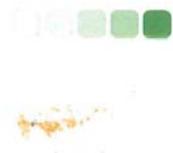
Dear Mr. Storm

I have attached a letter I submitted on the certificate of need for this project that makes an argument that the Environmental Report in that process was inadequate for the reasons stated. I now attach that letter as a comment on this docket. Please simply replace the term "Environmental Report" with "EIS." I maintain that the EIS is inadequate on its face on both the federal and state level for the reasons stated in my earlier letter, comments which were never addressed by the ALJ or the PUC in the certificate of need. Apparently, the ALJ and the PUC are not familiar with basic MERA, MEPA, and NEPA case law that supports my assertion of inadequacy. The scope of route alternatives simply does not cover a range of reasonable alternatives and therefore the EIS is inadequate. I am baffled as to why environmental groups, the Minnesota DNR and the federal EPA wish to move forward allowing this precedent, which will come to haunt them in the future.

Sincerely,

Sincerely once again

L



0185-1

The alternatives analyzed in the EIS represent what DOE determines to be a reasonable range of alternatives based on comments received during scoping and comment periods. Additional routes presented in these comments have been considered and eliminated from detailed analysis because they do not present a resource issue significant enough to warrant a complete alternative.

No changes are made to the EIS in response to this comment.

0185-1

RECEIVED
AUG 10 2015
MAILROOM

Laura Imax

118 Como Avenue
St. Paul, MN 55104
E-Mail: LImax@gmail

January 19, 2105

The Honorable Ann O'Reilly
OAH
P.O. Box 64620
600 North Robert Street,
St. Paul, MN 55164-0620

RECEIVED
2015 JAN 20 AM 7:39
ADMINISTRATIVE
HEARINGS

RE:
Great Northern Transmission Line Certificate of Need and Route Permit
PUC Docket E-015/CN-12-1163
OAH 65-2500-31196 and E-015/TL-14-21

Dear Judge O'Reilly:

I provided earlier (November 24 or so) comments regarding the *inadequacy* of the environmental report for this project--comments which no one seems to have paid any attention to--based on my review of briefs and proposed findings today.

I am an older person, a now rusty environmental activist who grew up in the Roseau area. I write for environmental groups like MCEA that don't seem to be paying any attention, either. The issue you're faced with is simple. Not easy to resolve perhaps, but simple to understand:

This is about trees and wetlands versus farms and homes.

Therefore, I will try again. You will have to deal with it one-way or the other, and I'm thinking you would be better dealing with it earlier rather than later. The issue will almost certainly come up again later, particularly if the Minnesota DNR (and the Corps of Engineers) wakes up at some point.

Minnesota Power in their route permit shows that they evaluated potential routes from Canada to their substation near Grand Rapids in a large study area (good), but then they chose two routes that both go through wooded, pristine natural areas instead of along roads through the farming areas to the west. *According to their application, they did this primarily because they had more opposition from farmers and people along roads than from the trees and birds.* I'm glad they held a lot of open houses to figure that out.

Plus, they state that it would take too long to route through this farming area because the route would create so much more opposition and require dealing with many more different landowners such that they would never meet their contract deadlines. That may be true, but it is largely irrelevant given the legal framework for state decisions summarized below.

As the utility points out, it is true that there are more opportunities to parallel existing transmission lines along their proposed routes that in the farming areas, and their proposed routes are shorter. However, paralleling these existing lines actually reduces impacts very little, since their routes seem to share very little actual right of way with the existing transmission lines, and don't parallel them all that much (30% or so). As a result, their proposed routes require cutting down about 2000 acres of trees and converting these forested wetlands into less valuable wetland.

Apparently, the utility is claiming that this public opposition to the routes in the farming area to the west (which are along roads; also a form of right-of-way sharing) is so strong, and the difficulty and time involved would be so great that not only are these routes bad, but so bad they are not feasible--and therefore, these routes do not meet their underlying "purpose and need." Route permit application in Section 4.11.4, page 4-24. Thus, the utility opens this odd route-related "need" issue for you to resolve in findings in the certificate of need then, I assume.

0185-2

Thank you for your comment. No changes are made to the EIS in response to this comment.

0185-3

No alternatives are proposed by the Applicant in Western Minnesota and nor were any proposed during scoping, therefore no western alternatives are included and/or analyzed in the EIS.

No changes are made to the EIS in response to this comment.

0185-4

Thank you for your comment. No changes are made to the EIS in response to this comment.

0185-2

0185-3

0185-4

Although apparently no person put forward a specific enough route in the primarily farming area to the west during route permit scoping, there were plenty of hints. For example, the Minnesota DNR scoping letter on page 7 :“Alternatives Screening” states that Minn. Stat. 116D.04(6) in effect means that neither the PUC nor the DNR can issue a permit that allows these trees to be cleared if there is a feasible and prudent alternative.

The DNR letter specifically quotes Minn. Stat. 116D.04(6) *“No state action significantly affecting the quality of the environment shall be allowed, nor shall any permit for natural resources management or development be granted, where such action or permit has caused or is likely to cause pollution, impairment, or destruction of the air, water, land or other natural resources located within the state, so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state’s paramount concern for the protection of its air, water, land and other natural resources from pollution, impairment, or destruction. Economic considerations alone shall not justify such conduct.”*

The EPA says something similar in their comments regarding wetlands and federal law.

There is of course a prudent and feasible alternative shown on the attached map. Claiming that such an alternative route along roads in the primarily farming areas *is not* a “feasible and prudent alternative consistent with reasonable requirements, etc.” is preposterous on its face. A quick review of the PUC website reveals that at least four major transmission lines have been permitted through largely farming areas along roadway right-of-way in Minnesota over the last five or so years. The route through the farming areas certainly would meet more public opposition and take more time, but it is certainly and obviously feasible (and I think more prudent) route.

Next, the Minnesota Supreme Court agrees. The old *PEER* case clearly holds that 116D.04 applies to transmission lines, and that farmland is generally compensable. *PEER* says that the point of 116D is to protect natural resources that can’t speak for themselves and to protect that shrinking resource. Here, the utility weighed its options and found trees and birds of less value than farmland along roads. I understand its no fun to deal with angry people, but the law is the law (unless that statute is changed, or the Supreme Court changes its mind.) Until then, the State of Minnesota values protection of natural resources more than compensable damage to private landowners including farms, unless there is some very good reason not to do so. Routing a high-voltage transmission line through natural areas to avoid angry farmers is not a good enough reason to do so under the law. Even if a route through the farming areas wasn’t proposed yet, without closer examination of the issue and an open, reasoned analysis you will end up with a legally flawed process.

The environmental report for this docket does not, I don’t think; even mention this issue or the farmland alternatives rejected by the utility, including the obvious one on the attached map. Therefore, the environmental report is an inadequate document on its face. I am wound up about this not just because of this project but also because of the precedent it would set, and environmental groups who care about natural resources should be concerned, too.

Therefore, I encourage you to make a finding in this docket or the route permit docket that the route shown on the attached map is a reasonable alternative that must be included in the environmental report before for it to be adequate, and a detailed review of this route must be included in the EIS or the ER so this issue can at least be brought to light.

Also, and finally, I would like to request a chance to address the issue in person at the PUC if not addressed in your recommendations.

Sincerely again,

L

0185-5

The alternatives analyzed in the EIS represent what DOE determines to be a reasonable range of alternatives based on comments received during scoping and comment periods. Additional routes presented in these comments have been considered and eliminated from detailed analysis because they do not present a resource issue significant enough to warrant a complete alternative.

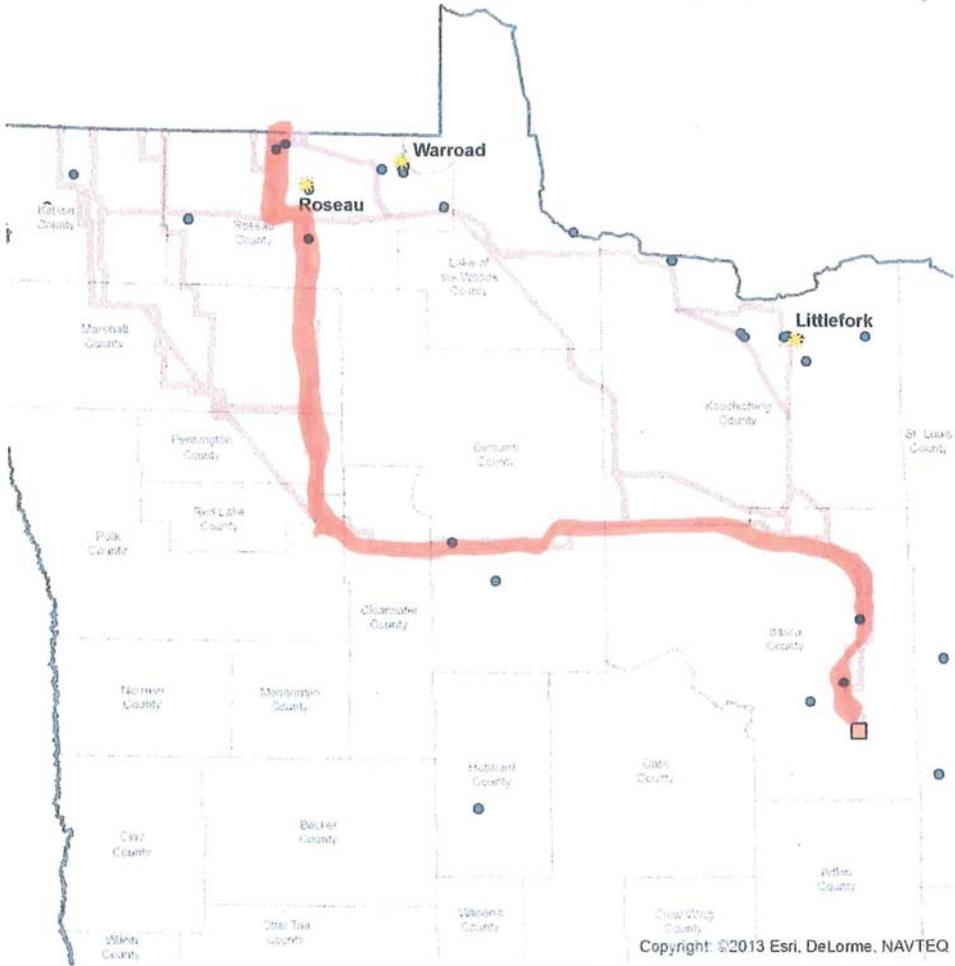
No changes are made to the EIS in response to this comment.

0185-5



Additional Route Segments

Figure 4-13



Copyright ©2013 Esri, DeLorme, NAVTEQ

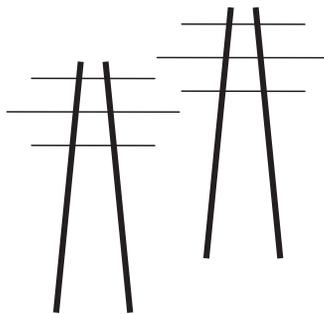
Legend

Open House Location	Comment Point
Blackberry 500 kV Substation	State Boundary
Additional Route Segments	County Boundary
Refined Route Alternative	

Legalelectric, Inc.

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0186-1

Anticipated schedules for all DOE Key EISs are publicly available on DOE's Office of NEPA Policy and Compliance website at: <http://energy.gov/nepa/office-nepa-policy-and-compliance>. The future milestones represent anticipated activity and not commitments. Once a schedule for a ROD is developed for the Great Northern Transmission Line project it will be made available to the public via this website.

No changes are made to the EIS in response to this comment.

August 9, 2015

Dr. Julie Ann Smith
Office of Electricity Delivery and Energy Reliability
U.S. Department of Energy
1000 Independence Avenue S.W., Room 8E-032
Washington, DC 20585

Via email: Juliea.Smith@hq.doe.gov

Bill Storm
Environmental Review Manager
Department of Commerce
85 – 7th Place East, Suite 500
St. Paul, MN 55101-2198

Via email: bill.storm@state.mn.us

RE: Comment regarding Draft Environmental Impact Statement
Not-so-Great Northern Transmission Line
DOE Docket No. EIS-0499; MN PUC Docket No. TL-14-21

Dear Dr. Smith and Mr. Storm:

Thank you for the opportunity to comment on the DEIS in the above-entitled matter. I am filing these Comments as an individual, and not in the course of representation of any party.

PROCEDURAL MATTERS

- **ROD Schedule:** The DOE Key EIS Schedule dated July 15, 2015, when hearings were held in Littlefork and International Falls, Minnesota, notes that the FEIS is due out in October, yet the ROD schedule is “uncertain.”¹
 - Has this changed?
 - When is ROD scheduled?
 - Why is this “uncertain” when Plains & Eastern Clean Line, with FEIS due out a month later than Great Northern Transmission Line, shows ROD in January?
- **NEPA review:** NEPA review is one of the topics taken on by the Council for Environmental Quality. [NEPA](#) (selected sections more relevant to transmission):

0186-1

¹ See [KeyEISSchedule_July2015.pdf](#).

0186-2

In accordance with 40 CFR §1506.5(c), a disclosure statement to avoid conflict of interest was executed by Ms. Azar and is available in Appendix T of the EIS. No changes have been made to the EIS in response to this comment.

- [Steps to Modernize and Reinitalize NEPA](#)
 - [Guidance for Programmatic NEPA Reviews](#)
 - [Guidance for Mitigation and Monitoring](#)
 - [NEPA Handbooks](#)
 - [NEPA Pilot Program](#)
- [Retrospective Regulatory Review Plan](#)
- **Consultant – Lauren Azar, Azar Law, LLC:** Lauren Azar, as “NEPA Advisor, is a primary contractor for this DEIS. DEIS, §8.2 EIS Preparation Team, p. 673, Table 8-2 p. 674. Upon information and belief, Azar executed a conflict of interest statement attesting that they did not have a conflict of interest in this matter. Id. In 1999, Ms. Azar represented utilities, and also American Transmission Company, as it became the first transmission-only company in the Midwest. The focus of her work was to **advocate for the transmission company and transmission projects**. Ms. Azar was appointed to the Wisconsin Public Service Commission in 2007, and approved many transmission projects in Wisconsin. She served until May, 2011, when she resigned to join the Department of Energy, initially as senior adviser to U.S. Energy Secretary Steven Chu. In October, 2011, Ms. Azar was chosen to co-lead the Rapid Response Team for Transmission (RRTT) to oversee transmission projects nationally, establish schedules for permitting, and monitor and promote swift permitting of the projects. Azar is again in private practice. Her career has been one of promotion and permitting transmission and other utility infrastructure projects. In her words:

I bring to this panel three perspectives: state, federal and the private sector. From 2007 to 2011, I was a Commissioner at the PSC of Wisconsin. While a state commissioner, I chaired both the state and RTO processes for cost-allocation over MISO's MVPs. I also co-founded and was the first President of the Eastern Interconnection States Planning Council (EISPC). Through that endeavor, we represented most of the states and Canadian provinces east of the Rockies in the interconnection-wide transmission planning.

From 2011 to 2013, I was senior advisor to U.S. DOE Secretary Chu focusing on, among other things, transmission infrastructure. While at DOE, I co-lead the RRTT and was the DOE's representative to the President's steering committee on streamlining federal permitting.

I have returned to the private sector, which is where I started my 21-year career. I am currently representing utilities, including transmission companies, both incumbent and merchants. Not only am I working on permitting new transmission infrastructure, but I am also assisting utilities in how to address the challenges created by new emerging technologies and low natural gas prices. I am also co-leading a non-profit initiative aimed at required changes in our regulatory frameworks.

Comments of Azar to FERC.²

0186-2

² www.ferc.gov/CalendarFiles/20150327132712-Azar,%2520Azar%2520Law.pdf+&cd=1&hl=en&ct=clnk&gl=us

0186-2 cont'd

0186-2
Continued

0186-3

The EIS analyzes potential impacts to land use and land ownership for each alternative. DOE and DOC-EERA determined that the DEIS covered a range of reasonable alternatives and none of the alternatives presented warranted expanding that range. Non-transmission alternatives were considered but eliminated from detailed analysis because they are outside the scope of the purpose of and need for DOE's federal action, which is to decide whether to issue a Presidential permit. Non-transmission alternatives that are out of scope for this EIS were handled under the state's certificate of need process.

- EISPC was a DOE funded program to facilitate transmission planning and expansion – the presumption was that transmission infrastructure should be built. See **Transmission Planning for the Future & More** L Mansueti (May 18, 2012).³

- **Azar's promotional focus:** From a March 2015 statement, where she referred to this Great Northern project as a great example of transmission development, presumes a need for "significant infrastructure buildout," and did not disclose her involvement with this Great Northern Transmission Line project:

For example, DOE is currently preparing a joint EIS with the State of Minnesota and is piloting a pre-application process that is expected to result in dramatically shorter permitting times. DOE and Minnesota are on track to publish the Final EIS for the Great Northern Transmission Line – a 220-mile 500 kV line – within 16 months of the issuance of DOE's Notice of Intent. This pilot project is not only proving that NEPA and infrastructure development can co-exist, it demonstrates that electric transmission can be used as a compliance tool for § 111(d).

Comments of Azar to FERC.⁴ Unless Azar is revealing something not publicly declared or disclosed, this GNTL EIS and transmission line have zero relation to use "as a compliance tool for § 111(d)."

- **Great Northern Transmission Line and §111(d).** As an aside to the above, based on Azar's comments, the EIS should clearly state if and how this project would or could be directly used as a compliance tool for §111(d), and identify coal plants or other burning technology shuttered as a direct result of this project.
- **Azar's Promotional Focus:**

Fourth, as part of the RRTT, agencies' "front offices" convened weekly conference calls with its project managers for transmission projects, which sent a strong signal to field staff about the need to streamline. FERC "front office" staff could participate in these calls.

Id., p. 5.

- **Alternatives considered:** The alternatives considered by the DOE was not sufficiently robust in range or depth.

0186-3

³ www.ncsl.org/documents/Energy/LMansueti052012.pdf+&cd=1&hl=en&ct=clnk&gl=us

⁴ www.ferc.gov/CalendarFiles/20150327132712-Azar,%2520Azar%2520Law.pdf+&cd=1&hl=en&ct=clnk&gl=us

- **No Action Alternative:** The request for action is a Presidential Permit The “No Action Alternative” in this EIS should logically focus on the DOE not taking the action requested, which is, simply, not granting the Presidential Permit request.
- **No Action Alternative:** The “No Action Alternative” can make no presumptions about whether the project would be built or not, although that could be presented as one option under the “No Action Alternative.”
- **No Action Alternative:** The treatment of the “no action alternative” stated several conclusory reasons why the authors believed the “no action alternative” should be rejected. These conclusory statements require support and explanation.
- **No Action Alternative:** The “No Action Alternative” analysis consists of just six paragraphs and less than one page of narrative. This is inadequate on its face.
- **No Action Alternative:** The “No Action Alternative” was rejected based on three conclusory presumptions and a flawed interpretation of Minnesota law.
 - The first reason the “no build alternative” is rejected is that “not constructing the proposed Project would inhibit the Applicant’s ability to connect Manitoba Hydro energy to Minnesota Power consumers and force the Applicant to obtain other energy and capacity purchases to meet the region’s long term energy needs.
 - There are no citations provided for the assertions in this paragraph.
 - There is no substantiation of the assumption that if the DOE did not take action the project would not go forward, nor is there discussion of the role of the DOE and impact of not taking the action requested.
 - There is no discussion of the nominal nature of the PPA, at 250 MW, nor its relation or comparison to the capacity of the project that explains or supports the statements in this 3rd paragraph on p. 45.
 - The EIS should contain discussion of the 250 MW options available to Minnesota Power and whether this project is a cost effective means of addressing a 250 MW need.
- The Second reason the “no build alternative” is rejected is a claim that to not build the project “would leave the existing 500 kV transmission tie line from Manitoba to Forbes as the second largest contingency in the entire Midcontinent Independent System Operator (MISO) footprint.” So what...
 - There are no citations provided for the assertions in this paragraph.

0186-4

0186-4

The No Action Alternative is discussed in full in Chapter 3 of the EIS. Chapter 3 is revised with "Under the No Action Alternative, DOE would not issue a Presidential permit and the proposed Project would not be built.". The No Action Alternative is consistent with DOE's Purpose and Need for agency action and proposed Federal action. DOE's Federal Action is to determine whether to permit the international border crossing that is a part of the proposed Project. DOE does not assess the entire realm of potential alternatives to a proposed transmission line and international border crossing, rather DOE's responsibility is to consider the alternative(s) put forth by an Applicant for a Presidential permit. DOE does not have a role in reviewing an applicant utility's resource planning process.

- NERC standards, adopted by FERC, require that the system be reliable in the event of contingencies.
- This is not a reliability project as defined by NERC, FERC, or even MISO.
- This project is not required for system reliability, whether defined as system security or system adequacy.
- “Therefore, not building the proposed Project would result in less-than-optimal transmission reliability” is a false statement. Transmission reliability in the project area is sufficient under NERC standards.
- The statement that “Therefore, not building the proposed Project would result in less-than-optimal transmission reliability” should be deleted.
- This paragraph should be deleted, it is mischaracterizing system reliability.
- The third reason given for rejection of the “No Action Alternative” is the most bizarre. It states that to not build the project “would negatively affect future North Dakota wind generation options because there would not be enough transmission capacity, and wind farms would continue to be required to shut down their turbines when the wind energy produced exceeds the transmission capacity.”
 - There are no citations provided for the assertions in this paragraph. The EIS must provide citations for such a statement.
 - For at least a decade, wind generation from Buffalo Ridge has done a “frolic and detour” from Buffalo Ridge north through the Dorsey substation. Attachment, NM SPG presentation 9/28/2005. The EIS must address the presence of wind energy in the area and the impact of this existing wind generation on the GNTL project, and vice versa, the impact of the GNTL project on wind generation outlet.
 - Nothing in the electrical system and/or contracts prohibits transmission of fossil generated energy – in fact, FERC rules prohibit discrimination among generation.

The final paragraph on p. 45 misinterprets Minnesota statute regarding “need” and consideration of need in routing permit.

- The EIS, p. 45, states that “Under the Minnesota Power Plant Siting Act (PPSA), the determination of need, including size, type, timing and other considerations are statutorily prohibited” and the foot note references Minn. Stat. §216E.02, Subd. 2, which states:

Minn. Stat. 216E.02, Subd. 2. Jurisdiction.

The commission is hereby given the authority to provide for site and route selection for large electric power facilities. The commission shall issue permits for large electric power facilities in a timely fashion and in a manner consistent with the overall determination of need for the project under section [216B.243](#) or [216B.2425](#). **Questions of need, including size, type, and timing; alternative system configurations; and voltage must not be included in the scope of environmental review conducted under this chapter.**

Minn. Stat. §216E.02, Subd. 2 (emphasis added).

- The DOE’s environmental review is NOT environmental review conducted under this chapter. It is NEPA environmental review, parallel tracks, but something very different from PPSA Environmental Review.
- The state has no jurisdiction to limit the scope of the DOE’s NEPA review.
- That paragraph goes on to say that “... and “need” is not to be evaluated in the Environmental Impact Statement (EIS)., and the footnote references Minn. Stat. §216E.03, Subd. 5, which states:

Minn. Stat. §216E.03, Subd. 5. Environmental review.

The commissioner of the Department of Commerce shall prepare for the commission an environmental impact statement on each proposed large electric generating plant or high-voltage transmission line for which a complete application has been submitted. **The commissioner shall not consider whether or not the project is needed.** No other state environmental review documents shall be required. The commissioner shall study and evaluate any site or route proposed by an applicant and any other site or route the commission deems necessary that was proposed in a manner consistent with rules concerning the form, content, and timeliness of proposals for alternate sites or routes.

Minn. Stat. §216E.03, Subd. 5 (emphasis added). The DOE’s environmental review is NOT consideration by the Commissioner.

- This is a limitation on the commissioner of the Department of Commerce.
- The state has no jurisdiction to limit the scope of the DOE’s NEPA review.
- In the footnotes accompanying the text of the last paragraph on p. 45 regarding the Power Plant Siting Act, the footnotes should state the text referenced.
- In the text in the last paragraph of p. 45, the text should be rewritten to reflect the meaning and limitations conveyed in the statute.

0186-5

0186-5

Thank you for your comment. DOE's decision-making authority, Purpose and Need for agency action, proposed Federal action and Presidential permit program authority are discussed in Section 1.2 of the EIS. The issue of need for the proposed transmission line in the state of Minnesota has been determined by the MN PUC in the associated certificate of need process for the proposed Project (MN PUC e-Docket 12-1163).

No changes are made to the EIS in response to this comment.

- NEPA review that does not consider need for the project is insufficient and inadequate under NEPA.

SUBSTANTIVE ISSUES

Below are substantive issues regarding the DEIS in no particular order:

Obvious Errors Easily Corrected

- The DEIS shows many wells in the Taconite area (and perhaps others). These don't seem to be wells, and perhaps are drilling sites for mineral exploration? This was brought to the attention of Barr Engineering representatives, and should be corrected.
- Homes, particularly lake cabins, are represented as commercial and/or non-residential structure. In my experience with transmission EIS labeling, this is often wrong, and the EIS should review all "commercial" and "non-residential structure" claims for accuracy.

Need

- **Need:** Need for the project is raised in Section 2.2.2 Northeast Minnesota and Regional Energy Demand. The EIS should address the need claim of 883 MW compared with the cost and capacity of this project.
- **Need:** The EIS should consider whether the benefits of this project, primarily the ability of the Applicant to meet its contractual obligations to purchase power, is sufficient to justify the costs and impacts.
- **Need:** The DEIS, p. 19, Section 2.2.2 states that "Both MISO and the Applicant believe that a new 500 kV transmission line – which can carry a total of up to 883 MW of electric power – is needed to meet long-term regional needs, especially as industrial load in Minnesota's Iron Range continues to increase.
 - **Multiple** mines on the range have closed since this application was provided. The statements should be removed:
 - "is needed to meet long-term regional needs;" and
 - "especially as industrial load in Minnesota's Iron Range continues to increase."
 - The FEIS should address historical demand, current demand, and updated projections.
 - MISO has not addressed need for the project, and this project was only added to the MTEP report because of a financing agreement.
 - MISO is not a regulator and has no regulatory authority in a need determination.

0186-6

The EIS presents several public data sources, such as the County Well Index (CWI) data layer. This data sources contains different categories of wells. Many of the CWI wells present in the Taconite area are classified as exploratory drill holes (mining).

0186-7

A couple of commenters expressed concern about their cabins not being represented as residences in the Draft EIS. The Final EIS is updated to indicate that those cabins are residences and not commercial or non-residential structures.

0186-6

0186-7

0186-8

The proposed Project is designed to be able to transmit enough capacity to meet the Applicant's 383 MW requirements as well as an additional 500 MW - up to a total of 883 MW - in order to accommodate the Applicant's agreements with Manitoba Hydro and other projected requirements in the MISO region. The capacity was approved by the MN PUC in the certificate of need process, with the determination provided on June 30, 2015 to the Applicant. The MVA rating is a transmission line capacity estimate that is used for planning and other purposes but it is not relevant to a Presidential permit or route permit decision.

0186-8

No changes are made to the EIS in response to this comment.

- MISO reviewed this project in the Northern Area Study which was to extend over the UP into Michigan, and not terminate at Blackberry. See GNTL Application.

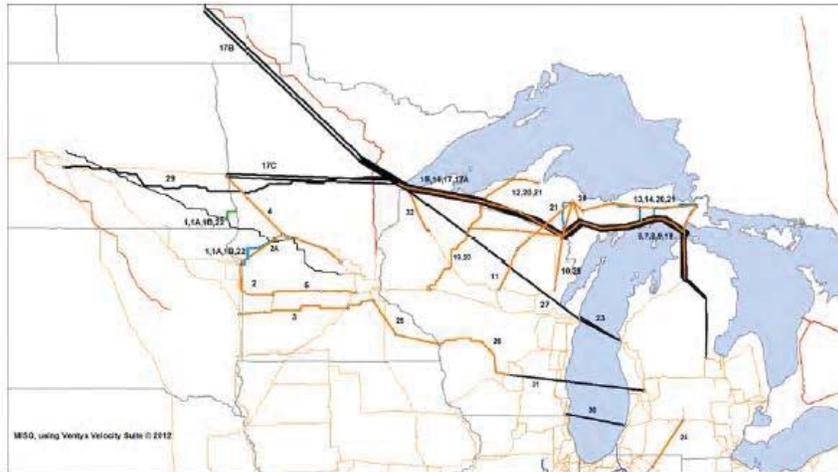


Figure E-2: Northern Area Study Transmission Options

- A statement that this project has anything to do with regional need is false as the line as proposed in the application terminates in Blackberry, Minnesota, and any reference to regional need should be removed.
- The project is listed in MISO MTEP Appendix A as project 3831, and that includes extension to the Arrowhead substation. The EIS should explain this discrepancy between the Application and the MISO Appendix A listed project 3831. Attached MISO Appendix A 3831 line items.
- The 883MW number used repeatedly in the DEIS should not be used as it is a paper number only, representing a 250 MW PPA, a 133 MW transfer of energy agreement that is not electrically related to this line, only to the parties, and 500 MW of planned, but not yet contracted, Manitoba Hydro sales.
- The 883 MW number used repeatedly in the DEIS should be used only with the explanatory words “883MW as requested for authorization by the Presidential Permit” or similar description of the origin and limitations of the Presidential Permit.
- The MTEP Appendix A list this project as a 1732 MVA project, not 883MW, and the FEIS should reflect this 1732 MVA rather than the 883 MW.
- The DEIS states this would help meet long-term reliability needs, but it is not needed – the system as it is must comply with NERC/FERC reliability issues or it

cannot be built – the system as it is IS in compliance with NERC/FERC reliability rules. This is NOT a reliability project.

Bees

- **Bees:** On the way to the hearing in International Falls from the Big Bog campground, I saw at least 12 bee colonies alongside the road, plainly visible, most hives of the Wilmer Honey Farm. I'd guess that there were also hives that were not directly adjacent to the roadway. Bees are dying off everywhere. A search of the DEIS does not reveal any instances of “bee” or “bee keeping” or “honey” in the narrative, nor is there any analysis of impacts of transmission on bee populations. Transmission lines have an impact on bees, for example, “[e]xposure of bees in conductive (e.g., wet) tunnels produces bee disturbance, increased mortality, abnormal propolization, and possible impairment of colony growth.”⁵
- **Impact of electric fields on bees:** Dr. Peter Valberg, paid mouthpiece for utilities, states that electric fields have no impact on bees, yet recommends Faraday cages for bees under transmission lines to avoid adverse effects of electric fields:

At elevated ELF electric field levels, adverse effects can be avoided by either keeping surfaces dry or by shielding the hives from the ELF electric field with an open-mesh conductive screen, *i.e.*, a screen having a mesh size large enough not to hinder the flight of bees to and from the hive. Moreover, honeybee colonies not located directly underneath a high transmission power-line are not expected to be impacted, because the electric-field strength drops off rapidly as one moves laterally away from the right-of-way (ROW) location directly below the maximum sag point of the conductors.

Summary of Potential Effects of 345-kV Power-Line Electric and Magnetic Fields (EMFs) on Honeybee Hives and Honeybee Behavior, p. 4.⁶

- **Impact of magnetic fields on bees:** Dr. Valberg also notes potential impacts on bees of magnetic fields, and again recommends simple faraday cage to minimize impacts:

The sensitivity of bees to changes in steady magnetic fields appears to be at about a level that is one percent of the earth's field, and honeybees may use a memorized “map” of the geomagnetic field to assist in foraging activities (Walker and Bitterman, 1989; Hsu *et al.*, 2007). The magnetic component of power-line ELF-EMF could potentially exert some torque on tiny ferromagnetic particles contained within honeybees or single-molecule magnetic moments (*e.g.* “free-radical” molecules). Although magnetite particles in living organisms are plausible geomagnetic field sensors (Adair 1994; Kirschvink *et al.* 1992, 2001), functional biogenic ferromagnetic material has been established only in a limited number of organisms (for example, magnetotactic bacteria), although suspected in a variety of species (*e.g.*, honeybees). In these organisms, the magnetic interaction is believed to provide sensory guidance, and is not likely to lead to physiological malfunction or disease.

Summary of Potential Effects of 345-kV Power-Line Electric and Magnetic Fields (EMFs) on Honeybee Hives and Honeybee Behavior, p. 5.

⁵ See *e.g.*, Mechanism of biological effects observed in honey bees (*Apis mellifera*, L.) hived under extra-high-voltage transmission lines: implications derived from bee exposure to simulated intense electric fields and shocks (www.ncbi.nlm.nih.gov/pubmed/3178903).

⁶ Online at www.nocapx2020.info/wp-content/uploads/2010/02/attachment5.pdf

0186-8
Continued

0186-9

Section 5.3.2.1 of the EIS now includes a discussion of potential impact to bees from the proposed Project.

0186-9 As discussed in Section 1.3.1.4 of the EIS, once a route is selected and a permit is issued, the Applicant would contact landowners to gather information about their property and their concerns and discuss how the ROW would best proceed across the property.

- **Reduction of Greenhouse Gas Emissions:** Implied that this project would reduce GHG emissions by enabling use of less fossil fuel, but there weren't even any rough numbers to substantiate that. The EIS must provide specifics and citations for these claims.

Cost/Benefit Analysis

- **Cost/benefit analysis must be more specific and cite to support in the record:** In light of Michigan v. EPA decided earlier this month, any agency doing analysis that includes benefit claims, and where a cost/benefit analysis is part of the analysis, the cost and benefit claims must be sufficiently specific. These "benefit" claims are not benefits.

Capacity

- **Capacity of the project as designed:** This is a 500 kV triple bundled transmission line, the largest configuration in the state. MISO lists the rating of this line as 1732 MVA. See Attached (selected) MISO Appendix A. The range of capacity should be reported.
- **Capacity of a triple-bundled 500 kV transmission line:** It is not clear that at 1732 MVA the MISO rating addresses the triple-bundled configuration of the project. The EIS should verify and state the capacity of the line as designed, and identify normal and emergency rating for single, double and triple bundled configurations.
- **Capacity of a triple-bundled 500 kV transmission line:** The capacity of a triple-bundled 500 kV transmission line is not accurately represented in this proceeding. For example, in the Susquehanna-Roseland transmission proceeding before the New Jersey Board of Public Utilities (BPU), the project proposed, and permitted, was initially a quad-bundled 500 kV transmission line, later reduced to a triple-bundled transmission line. From the Stop the Lines brief in that docket, the thermal limit of that 500kV line, the amperage and capacity for that line if there were no other limiting factors is 1838 amps per wire, in the quad-bundled configuration, a total of 7,532 amps, and in the tri-bundled configuration, 5,414 amps and 4,795MVA, essentially 4,795 MW. Attachment, Susquehanna-Roseland Transcript (selected), Testimony of Couch, Tr. p. 318; Testimony of King, Tr. p. 1254-1255.
- **Quantification of planned use of capacity:** It is unclear what the rating of the line is, which sets the capacity limits of the project. Various numbers appear in the DEIS (see e.g., § S.3 883 MW; § 2.2.2 383 MW + 500 MW = 883 MW; § 2.2.3 250 MW PPA + 133 MW Optimization Agreement"). The EIS should specifically note the normal and emergency rating of the line, the Presidential Permit MWs, and the expected capacity of the line. Impacts, including transmission system impacts, should be reviewed for all these MW levels, EMF calculations be performed for all these levels, and cost/benefit analysis for the various MW levels.
- **Capacity of project:** DEIS "capacity" is not consistent with MISO MTEP, which shows a rating of 1732 MVA, far less than potential of a tri-bundled 500 kV line, but far more than the PPA levels or that requested for the Presidential permit.

0186-10

0186-10

The Applicant's EnergyForward plan (discussed in Section 2.2) is designed to reduce greenhouse gas and criteria pollutant emissions through the reduction in the use of coal and the increase in the use of renewable energy. The Applicant has stated that the proposed Project is part of that plan, for that purpose. The addition of 250 megawatts of capacity from renewable sources will reduce the average emissions per megawatt-hour generated in the region. The exact value by which emissions would be reduced from this 250 MW of renewable energy would depend on many variables, from growth in demand to the addition or closure of other new sources to the implementation of state and federal greenhouse gas emission restrictions. Therefore, it was determined that a qualitative discussion was adequate for this analysis in Section 5.2.1.3.

0186-11

No changes are made to the EIS in response to this comment.

0186-12

No changes are made to the EIS in response to this comment.

0186-11

The EIS does not provide a cost/benefit analysis. The estimated jobs and economic benefits, both direct and indirect, are specified in the Socioeconomics discussion (Section 5.2.1.8) under subheadings related to Employment and Taxes and Revenues. Benefits in this context are defined as jobs generated locally and taxes and revenues that would accrue to the local and state jurisdictions during construction and operation. No changes are made to the EIS in response to this comment.

0186-12

DOE and DOC-EERA determined that the DEIS covered a range of reasonable alternatives and none of the alternatives presented warranted expanding that range. Non-transmission alternatives were considered but eliminated from detailed analysis because they are outside the scope of the purpose of and need for DOE's federal action, which is to decide whether to issue a Presidential permit. Non-transmission alternatives that are out of scope for this EIS were handled under the state's certificate of need process.

No changes are made to the EIS in response to this comment.

0186-12 cont'd

- **Capacity of project:** If the DOE is defining the capacity of project as the Presidential Permit level of MW, without respect to the potential capacity of the project as expressed in normal and emergency ratings, the DOE should 1) state the normal and emergency ratings in MVA; and then 2) state expressly that the DOE is defining the capacity of project as the Presidential Permit level of MW and identify that level of MW.

Public Interest

- **Public Interest:** The EIS should set forth the criteria that serves as the basis for a public interest determination.
- **Public Interest:** The EIS should address whether a project with a predominantly private purpose of importing and selling power, far beyond the 250 MW PPA, can be in the public interest.
- **Public Interest:** The EIS should address the scope of Section 1222 and whether it is in the scope of Section 1222 for the DOE to participate in a private interest project.
- **Public Interest:** The EIS should address the purpose of a Presidential Permit for 883 MW in light of the 250 MW PPA from Manitoba Hydro to Minnesota Power, the 133 MW agreement sending energy in the other direction, and analyze whether building this large transmission line for that small amount of energy is in the public interest.
- **Public Interest:** The EIS should address whether a project with a predominantly private purpose of importing and selling power, far beyond the 250 MW PPA, can be in the public interest.

Alternatives Analysis

- **Alternatives:** The only alternatives considered, other than the non-substantive consideration of “no action,” were ones that required granting a Presidential Permit. A wider range of alternatives must be considered.
- **Alternatives:** Any alternative would have to focus on failure to grant a Presidential Permit, to mirror the request for approval of a Presidential Permit.
- **Alternatives:** Alternatives considered were not sufficient – only the “preferred alternative” of granting of the permit, four alternative border crossings, 22 route segment alternatives, and nine alignment modifications were considered. These are not alternatives to the project, but are a number of different ways to move the project forward. This is inadequate on its face.
- **Alternatives:** There were no system alternatives considered, such as cogeneration at a large customer location. The EIS should include system alternatives.

0186-12
Continued

0186-13

Section 1.2.1.1 of the EIS discusses what factors and elements DOE considers in determining consistency with the public interest in accordance with DOE's Presidential permit implementing regulations at 10 CFR Part 205.

0186-13

Section 1.2 discusses DOE's Presidential permit authority and program. As discussed in the EIS, DOE is responding to an application for a Presidential permit that would allow a transmission line project to cross the international border between the U.S. and Canada. DOE and DOC-EERA determined that the DEIS covered a range of reasonable alternatives and none of the alternatives presented warranted expanding that range. Non-transmission alternatives were considered but eliminated from detailed analysis because they are outside the scope of the purpose of and need for DOE's federal action, which is to decide whether to issue a Presidential permit. Non-transmission alternatives that are out of scope for this EIS were handled under the state's certificate of nNeed process.

No changes are made to the EIS in response to this comment.

0186-14

The Mesaba Project has an existing MN PUC site permit transmission line route permit and pipeline route permit. This project is unrelated to the proposed Project and does not address DOE's purpose and need.

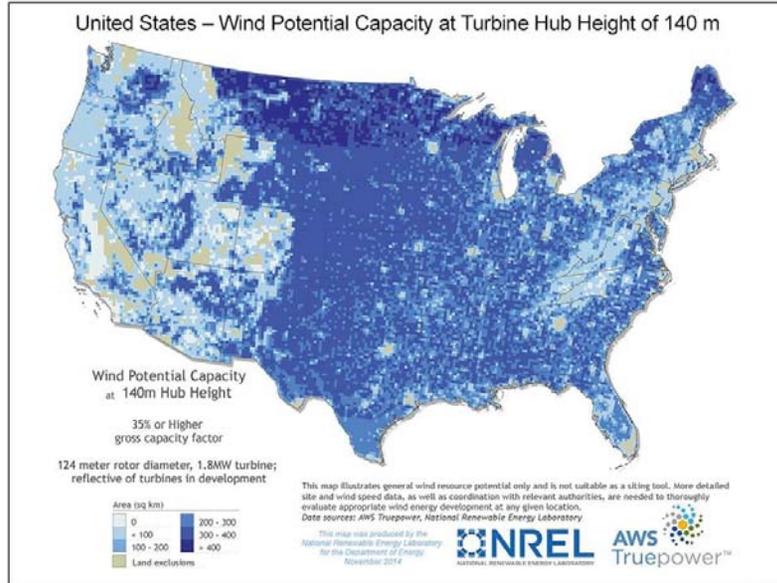
0186-14

Please refer to Section S.7 which explains that NEPA does not require an analysis of environmental impacts that occur within another sovereign nation that result from actions approved by that sovereign nation. For that reason, potential environmental impacts in Canada are not address in this EIS.

No changes are made to the EIS in response to this comment.

- **Alternatives:** There were no non-transmission alternatives considered. The EIS should include non-transmission alternatives.
- **Alternatives:** There were no financial or contractual alternatives considered, such as Power Purchase Agreements from other more local sources, distributed generation, or purchasing the power on the open market. The EIS should include financial and contractual alternatives to this financial/contractual project.
- **Alternatives:** The only alternatives were various border crossings, and route segment and alignment alternatives, all transmission alternatives to build and operate the project.
- **Alternatives:** The alternatives should include consideration of a Presidential Permit for the full normal and emergency rating of the transmission line.
- **Alternatives:** The alternatives should include consideration of selling energy and capacity, beyond the PPA 250 MW, up to the full normal and emergency rating of the transmission line on the energy market.
- **Alternatives:** Because the transmission project is designed with greater normal and emergency rating than will be used, the alternatives should consider building a smaller capacity line, including lower voltage, different conductor and transformers, that would limit the capacity of the transmission line to 1) the PPA amount, and 2) the Presidential Permit request amount.
- **Alternatives:** As a reasonable alternative, The EIS should consider amendment of the Mesaba Project siting permit.
- **Alternatives:** The EIS should evaluate use of the Mesaba Project site permit, which would inject up to 600 MW at the Blackberry substation. (this is in no way an endorsement for Mesaba Project or generation under a PPA with Excelsior Energy).
- **Alternatives:** As a reasonable alternative, the EIS should consider use of a PPA for Mesaba Project generation to meet their projected need for power (this is in no way an endorsement for Mesaba Project or generation under a PPA with Excelsior Energy).
- **Alternatives:** As a reasonable alternative, the EIS should consider use of the Mesaba Project site Hoyt Lakes site for a generation site:
 - Hoyt Lakes is closer to projected load.
 - Mesaba permit could likely be amended without much difficulty.
 - Hoyt Lakes use of Mesaba Permit would not require transmission.
 - Hoyt Lakes site for generation would create jobs on Range.
- **Alternatives:** Energy efficiency and conservation could easily meet their projected need for 250 MW.

- **Alternatives:** Minnesota Power can generate its own renewable energy. NREL's current wind resource maps show increased potential in the Minnesota Power service territory.⁷



- **Alternatives:** These suggestions of use of Mesaba site permit is in no way an endorsement for Mesaba Project or generation under a PPA with Excelsior Energy.
- **Alternatives:** The only alternatives considered were those of the DOE-EERA scoping document. This is not a broad enough range of alternatives to comply with NEPA.⁸
- **Alternatives:** The DEIS notes that “[t]he purpose and need for DOE action is to decide whether to or not to grant the Applicant a Presidential permit.” DEIS, p. S-3. As a “connected action” the DEIS analyzes “the proposed construction, operation, maintenance, and connection of the portion of the transmission line within the United States.” Because the transmission line facilitates both construction of a new hydro dam and transmission from that dam to the U.S./Canada border, these are also connected actions and their impacts should be analyzed in the EIS.
- **Alternatives:** In section S.2.1 and 1.2.2 the DEIS states that the “DOE’s Purpose and Need for Agency Action” includes to “connect” – as above, due to the stated purpose, the DEIS should consider the full extent of the connected actions.

⁷ Enabling Windpower Nationwide, NREL: <http://energy.gov/eere/wind/wind-resource-assessment-and-characterization>

⁸ 40 CFR 1502.14.

All 22 Mesaba Energy Project references that presume it will be built should be removed from the DEIS

- The Mesaba Project is NOT moving forward. Statements that it is moving forward, that it is expected to be built, whether express or implied, should be deleted.
- The Mesaba Project Generation Interconnection Request, MISO G-519, has been withdrawn. See MISO Active Queue.
- The Mesaba Project EIS has not been and is not planned to be completed. For years release of the ROD was “uncertain” and some time ago, it disappeared from DOE “Key EIS Schedule” releases. Attachment, August 15, 2011 Key EIS Schedule and July 15, 2015 Key EIS Schedule.

Inherent inefficiency of transmission

- Transmission lines are more unstable the longer they are. This project is 220 miles, and requires series compensation,⁹ which is necessary to assure stability of the line.
- This line is in need of a separate “structure which will house the 500 kV series capacitor banks necessary for reliable operation and performance of the proposed transmission line.” The EIS should address the impact of a project on the grid where performance and reliable operation is so compromised that it requires a separate series compensation site.
- Noise is typically expected for series compensation equipment.¹⁰ The EIS should specify both the range of noise levels expected by the equipment at various locations and specify in the narrative and cite the Minnesota noise standards.
- The EIS should specify whether the Minnesota noise standards cover the range and character of noises expected at series compensation, regeneration, substation and line noise (i.e., MPCA’s noise standards do not cover infra-sound, or most impulsive sounds), and whether B weighted or other weighted modeling is necessary.

Carbon Dioxide and Carbon Sink

- **Carbon Sink:** The DEIS raises “loss of carbon sink” due to clearing and removal of forested areas in the ROW as an issue. DEIS, p. 1.10. The EIS should address what will occur after these trees are removed, i.e., whether left to rot, burned, etc., and carbon impact of that treatment.
- **Mitigation of Carbon Sink:** The DEIS should address various means of mitigation of loss of carbon sink through clearing RoW, and the cost of mitigation.

⁹ DEIS, p. CSA-1 Abstract., and noted 129 additional times in DEIS.

¹⁰ DEIS, p. S-15, §S.8.1.

0186-15
0186-15 The Mesaba Project has not been formally withdrawn and it has an existing MN PUC site permit, transmission line route permit and a pipeline route permit.

No changes are made to the EIS in response to this comment.

0186-16
0186-16 An analysis of the impact of a series compensation station to system reliability is outside the scope of the EIS.

No changes are made to the EIS on this issue.

0186-16
0186-16 Noise levels for the 500 kV series compensation station cannot be determined for the proposed Project as the location and equipment necessary for the 500 kV series compensation station are dependent on the length of the transmission line and final location. As stated in Section 5.2.1.2 of the EIS, regardless of the equipment and location of the 500 kV series compensation station, noise levels will be below that of the proposed Iron Range 500 kV Substation. The EIS analysis shows that operation of the Iron Range 500 kV Substation will be below Minnesota noise standards, therefore so will the 500 kV series compensation station.

0186-17
0186-17 Minnesota noise standards do not include standards for infrasound (low-frequency noise) but do include impulsive sounds for certain businesses and industries such as shooting ranges (Minnesota rule 7030 - Noise Pollution Control). A-weighted sound levels are typically used for assessing community noise impacts, as they mimic the sensitivity of the human ear and are the most applicable measurement to capture the noise emissions from the proposed Project.

0186-18
0186-18 No changes are made to the EIS in response to this comment.

0186-18
0186-18 The carbon sink values conservatively assume that all carbon is released by decomposition or burning.

The total carbon sink within 1,500 feet of the anticipated alignment is used as a reasonably scaled reference to demonstrate that only

a small percentage of the carbon sink is being removed from the region. Therefore, no mitigation is recommended.

No changes are made to the EIS in response to this comment.

- **Carbon Impacts:** The DEIS should evaluate impacts of carbon emissions due to clearing trees for the dam at the source of this project, and emissions if they are left in the water or if burned.
- **Carbon Impacts:** The DEIS gives a hat tip to historical generation via coal on p. 20, but does not address whether coal generation will be reduced as a result of this project. If the EIS links this transmission project to decrease of coal generation by Minnesota Power, the EIS must document specifics and timeline of decreased coal generation. Increase of non-coal generation does not necessarily equal decrease of coal generation – there is no direct link.

North Dakota Wind Energy Renewable Optimization Opportunity

- **Renewable Optimization:** Renewable Optimization is not physically related to this project. The EIS should include a map of the transmission system in the area.
- **Renewable Optimization:** The EIS should show expected power flows for the North Dakota wind, whether it would flow over Minnesota Power’s DC line from Fargo, or whether it would use the same route to Manitoba as Buffalo Ridge wind in its “Loop Flow” problem where Buffalo Ridge wind frolics and detours through the Dorsey substation on its way to Forbes substation and further south. Attached §9.10, p. 5, NMSPG Meeting Minutes, 9/28/2005.¹¹

Property Values

- Conclusions on DEIS p. 113 are not reasonable:
 - “Proximity to a transmission line does not always cause property values to go down.” This is misleading, and should be removed. The EIS should be objective and consistent.
 - Impact on property values should address compensation for land condemned for transmission line.
 - Impact on property values should address compensation for decreased value of remaining land in parcel where land is condemned for transmission line.
 - Impact on property values should address compensation for decreased value of land in proximity to transmission line.
 - If property values go down, potential reduction is in range of 1 to 14%. This is misleading, a wide range and should be narrowed down. A cited study on same

¹¹ See also post about Buffalo Ridge to Manitoba Loop Flow: <http://legalectric.org/weblog/194/>

0186-19

0186-19

As explained in the EIS, an environmental review of potential impacts from the portion of the proposed Project in Manitoba (the dam) will be developed and submitted as part of Canada's authorization process. NEPA does not require an analysis of environmental impacts that occur within another sovereign nation that result from actions approved by that sovereign nation.

Although the comment is correct that there is not necessarily a direct, verifiable link between increased hydropower due to the proposed Project and a reduction in coal use in Minnesota, as Section 5.2.1.3 generally states, the proposed Project could allow the reduction of coal-fired electricity in Minnesota.

No changes are made to the EIS in response to this comment.

0186-20

0186-20

The MN PUC Certificate of Need docket for this project, which is available at <http://mn.gov/commerce/energyfacilities/Docket.html?Id=33608#edocketFiles>, contains extensive testimony regarding the Renewable Optimization agreement and its relationship to this project as well as maps of the transmission system in the area. The same docket contains an extensive explanation of how the proposed Project would reduce the "Loop Flow" problem referred to in the comment.

0186-21

The power flow issue raised in the comment will be considered as part of the DOE reliability determination, which is part of the Presidential permit process. However, the DOE reliability decision is separate from DOE’s NEPA responsibilities. Since these power flow issues are not relevant to the DOE Presidential permit or the MN PUC route permit, no changes are made to the EIS in response to this comment.

0186-21

The statements pertaining to property values in Section 5.2.1.4 are supported by the documentation provided in Appendix J, Property Values Supplement. The range of property value changes cited in the EIS (e.g. 0-20% decrease on ag lands; 0-14% on properties in general; etc.) reflect the variation of effects that are recorded from actual sales transactions and from individuals' perceptions.

Compensation for individually condemned properties will be valued on a case-by-case basis during final route alignment after the overall route corridor has been approved. At this stage, estimating payments on condemned lands is not possible. Minnesota's Power

Plant Siting Act "Buy the Farm" Provision gives property owners the option of requiring the utility to condemn a fee interest in land contiguous to a proposed high voltage transmission line easement. See Section 2.9.2 for more information. The Applicant will work with individual land owners to determine the appropriate compensation.

No changes are made to the EIS in response to this comment.

pages says 0-20% for ag land based on disruption of farm operation. The EIS should be objective and consistent.

Electric Fields and Magnetic Fields

- The section on electric and magnetic fields should calculate the full range of potential levels based on the line specifications. The line specifications should be disclosed.
- The tables for electric fields do not state the current used for the calculations.
- The tables for magnetic fields do not state the current used for the calculations.
- The tables for magnetic fields should also include a column for "Distance from Centerline at which mG level is 2 mG" and disclose that distance.

Forestry

- Impacts on forestry and state and federally sanctioned forestry programs should be addressed in EIS.
- Identification of and impacts on land in forestry programs such as Tree Farm Association or Sustainable Forest initiatives must be disclosed in EIS.

Thank you for your consideration of these Comments. Please let me know if you have any questions or require anything further.

Very truly yours,



Carol A. Overland
Attorney at Law

Enclosures

cc: David Moeller, Minnesota Power dmoeller@allete.com
Eric Swanson, Winthrop & Weinstein eswanson@winthrop.com

0186-21 0186-21 cont'd
Continued

0186-22

0186-22 Section 5.2.2.1 and Appendix I of the EIS are revised to contain information regarding the proposed line specifications and distance from centerline used to model EMF.

0186-23

Potential impacts on forestry, such as state and federal programs, Tree Farm Association, and sustainable forest initiatives would be comparable to the potential forestry impacts discussed in the EIS. Current forestry practices and potential impacts on forestry as result of the proposed Project are discussed in Section 5.3.2, "Land-Based Economies," and 5.3.2.2, "Forestry."

0186-23

No changes are made to the EIS in response to this comment.

**Written Comments of Lauren Azar
Attorney and Advisor, Azar Law LLC
Former Public Service Commissioner of Wisconsin
Former Senior Advisor to the Secretary of U.S. DOE**

FERC Docket No. AD15-4-000

Technical Conference on Environmental Regulations and Electric
Reliability, Wholesale Electricity Markets
and Energy Infrastructure

St. Louis, Missouri, March 31, 2015

Thank you for the opportunity to speak on the infrastructure needs to
comply with the Clean Power Plan (CPP)

Regional Planning for the Necessary Infrastructure:

While the final § 111(d) rule is not yet released, we know that states
will be well positioned to comply if they bolster energy efficiency and
increase the generation of low- and no-carbon electricity. Not
surprisingly, several studies have shown that regional approaches will
be the most cost-effective method of compliance.

As is apparent from the draft rule, some states are closer to
compliance than other states. The rule's differential impact on states
must be addressed if states are to pursue regional compliance.
States have successfully navigated regional approaches in the past,
even when the states were not similarly situated. The Mid-continental
Independent System Operator's (MISO) Multi-Value Projects (MVPs)

FERC Docket No. AD15-4-000
March 31, 2015 Technical Conference

1

are a perfect example.

The states in the upper Midwest were faced with renewable portfolio standards or goals (RPS) and realized that a regional approach to compliance would be most cost-effective. Those states identified geographic areas where they wanted to develop renewable generation and asked MISO to develop a transmission plan around those areas. The remaining states in MISO replicated this process.

In the end, MISO developed a number of MVPs that allowed all of the states within the MISO footprint to comply with their respective RPSs. The states and MISO stakeholders then developed a cost-allocation proposal that shared the costs of the MVPs.

The MISO MVP process succeeded because of the following three factors:

- (1) Legal mandates or goals – the states were required to comply with their own various RPSs;
- (2) MISO developed a portfolio of transmission projects that allowed all of the states to benefit. Even though some states benefited more than others, all of the states were able to comply with their legal mandates; and
- (3) The transmission owners coalesced around the final product, both the transmission plan and cost allocation, because their state commissioners were not only supportive of the effort, but leading it.

The similarities between complying with § 111(d) and the RPSs are striking. The MISO states have already demonstrated the ability to comply with legal mandates through regional cooperation. It can be done again.

FERC's Role in Interregional Planning

The United States has a plethora of low- and no-carbon fuels to generate electricity. But those fuels are not evenly distributed throughout the states. To fully utilize all of our low- and no-carbon fuels, the RTOs must conduct meaningful interregional planning.

As we discovered during the Eastern Interconnection Planning effort, the planning authorities and RTOs use different metrics and different planning assumptions. Consequently, it is difficult to identify where interregional transmission projects would be most beneficial.

FERC can solve this problem by requiring adjacent planning authorities and RTOs to use the same metrics and planning assumptions when conducting interregional planning. Only by comparing apples-to-apples, will we be able to identify infrastructure needed at the seams, which will result in the most cost-effective compliance of § 111(d).

Building Infrastructure Quickly Enough to Aid Compliance

The United States needs new infrastructure for many reasons: to remain globally competitive; to address aging infrastructure; to meet public policy goals; and to respond to changes in the generation fleet prompted by emerging technologies, low natural gas prices and struggling nuclear plants. Both the electric industries and natural gas industries are already responding to this call to action. The nation's transmission and natural gas industries have been in build cycles for years. To comply with § 111(d), these build cycles must and can continue.

While federal and state permitting has improved during the current build cycle, we can do better. While at the DOE, I worked with nine federal agencies, including FERC, on the Rapid Response Team for Transmission (RRTT). The Secretaries of Interior, Agriculture, and Energy along with the Chairs of FERC and Council on Environmental Quality (collectively the Transmission Cabinet) held quarterly meetings on the federal permitting process. Streamlining efforts continue to this day.

For example, DOE is currently preparing a joint EIS with the State of Minnesota and is piloting a pre-application process that is expected to result in dramatically shorter permitting times. DOE and Minnesota are on track to publish the Final EIS for the Great Northern Transmission Line – a 220-mile 500 kV line – within 16 months of the issuance of DOE's Notice of Intent. This pilot project is not only proving that NEPA and infrastructure development can co-exist, it demonstrates that electric transmission can be used as a compliance tool for § 111(d).

Federal and state agencies are not the only ones working on shorter development timelines. The private sector is as well. For example, a class one railway is currently working on a project to install a high capacity HVDC line underground on its railroad right-of-way (ROW). The developer does not anticipate needing eminent domain since it already owns the ROW. Of course, already owning the ROW, not needing eminent domain and having lines underground will help to speed the federal and state approval processes. Projects like this could certainly be used as a compliance tool for § 111(d).

In sum, while the permitting time for transmission remains a challenge, at least one federal agency and one state are proving that it can be done quickly. The private sector is also developing creative solutions to simplify and shorten the permitting process. Though both of these efforts are encouraging, more must be done to ensure transmission is permitted in a timely manner.

FERC's Role in Transmission Permitting:

FERC can play a role in streamlining the federal permitting. First, the Chair of FERC could convene quarterly meetings with the Transmission Cabinet to discuss the progress in evaluating applications for transmission lines that are required for compliance with the CPP ("Compliance Projects").

Second the Transmission Cabinet could announce an "all hands on deck" approach to Compliance Projects. The Principals could ensure that pertinent field staff understands the importance of prompt evaluation of these applications. (DOE is demonstrating that the evaluation can be completed within a two-year period.) The call for "all hands on deck" should come from the Principals and should be repeated often.

Agency field staff is currently implementing rules and guidances that were created before the need for significant infrastructure build-out. Staff is making decisions today that are based on how things were done yesterday. But today differs from yesterday. Accordingly, the management of federal agencies, both career and political, must ensure that current policies are infused into the staff-level decisions. Equally importantly, agency management must create feedback loops to obtain confidence that field staff is implementing their duties in light of current policies.

Fourth, as part of the RRTT, agencies' "front offices" convened weekly conference calls with its project managers for transmission projects, which sent a strong signal to field staff about the need to streamline. FERC "front office" staff could participate in these calls.

Fifth, FERC could develop an informal appeal process for applicants of Compliance Projects who believe the vetting of their applications

are stalled or not being handled according to current policies. The appeals would be done within the confines of the Transmission Cabinet.

Sixth, during the Transmission Cabinet's quarterly meetings, FERC could ensure that Principals receive an accurate status report on how their agency staff is performing on the Compliance Projects. FERC, as an independent agency, could play an important role in providing this accurate assessment.

Where there is a Will, there is a Way

The federal government has an important role in assisting the states to comply with § 111(d), including FERC. Federal permitting of transmission need not be an impediment to § 111(d) compliance; indeed, with sufficient dedication, federal agencies can facilitate compliance.

Today, the states have all of the tools that they need to comply with § 111(d). My hope is that states invest significant resources to create State Implementation Plans (SIP) that adopt regional approaches. The current mantra in some corners of "just say no", will likely result in those states having insufficient time to develop a cost-effective SIP, i.e. those states are painting themselves into the proverbial corner. Instead, states can use the MISO MVP model to develop a plan where all states benefit.

Where there is a will, there is a way.

My background:

I bring to this panel three perspectives: state, federal and the private sector. From 2007 to 2011, I was a Commissioner at the PSC of Wisconsin. While a state commissioner, I chaired both the state and RTO processes for cost-allocation over MISO's MVPs. I also co-founded and was the first President of the Eastern Interconnection States Planning Council (EISPC). Through that endeavor, we represented most of the states and Canadian provinces east of the Rockies in the interconnection-wide transmission planning.

From 2011 to 2013, I was senior advisor to U.S. DOE Secretary Chu focusing on, among other things, transmission infrastructure. While at DOE, I co-led the RRTT and was the DOE's representative to the President's steering committee on streamlining federal permitting.

I have returned to the private sector, which is where I started my 21-year career. I am currently representing utilities, including transmission companies, both incumbent and merchants. Not only am I working on permitting new transmission infrastructure, but I am also assisting utilities in how to address the challenges created by new emerging technologies and low natural gas prices. I am also co-leading a non-profit initiative aimed at required changes in our regulatory frameworks.



Smart grid is all fine, but just get transmission built, group tells DOE

By Kathy Larsen | May 31, 2011 05:58 PM [Comments \(0\)](#)

A transmission-interest group lamented the other day that the Department of Energy didn't specifically put upgrading and expanding the high-voltage transmission grid in the Strategic Plan it released earlier this month.

True, expanding the grid is not in there. "Modernizing" the grid is, and unsurprisingly, DOE focuses on new technology to make what amounts to a "smarter grid," to integrate renewables better and get to a more "actively controlled distribution network" (must be longhand for "smart meters").

But to the group known as Wires, building more transmission is essential, and DOE's championing of "policies that remove barriers to grid expansion and upgrades" is critical. DOE's Strategic Plan may not say so, but maybe Energy Secretary Steven Chu's new hire, Wisconsin utility regulator Lauren Azar, will focus on that as well as on the technology and innovation.

Azar has made a name for herself in the transmission planning and policy arena. As president of the Organization of MISO States, she dealt with thorny fights among transmission owners and customer groups about where transmission should go and who should pay for it (not that these battles are necessarily resolved.) MISO is the Midwest Independent Transmission System Operator.

She was president of the Eastern Interconnection States' Planning Council, companion group to the Eastern Interconnection Planning Collaborative. She was engaged there in what could be the transmission planning challenge of the century: herding local, regional and commercial interests from everywhere roughly east of the Rockies to try getting some kind of coordination.

Before Azar was at the PSC, she did electricity law and, among other things, worked on creation of American Transmission Co., which put together various systems in Wisconsin to form the country's first stand-alone transmission company.

Announcing her appointment as senior adviser to Chu, the PSC said Azar would "work with industry, states and other federal agencies to facilitate the development of our nation's electrical infrastructure." Initial work would focus on "the transmission grid, transmission-related technologies (such as energy storage) and on the federal power marketing administrations."

Now, getting back to the Wires group, which calls itself "voice of the electric transmission industry" and whose full name used to be Working Group for Investment in Reliable and Economic Electric Systems. In a letter to Chu, President Jolly Hayden of NexEra Energy Resources says of the Strategic Plan that because doubling renewables deployment by next year is a DOE goal, "the absence of any mention of upgrading and expanding the high-voltage transmission system is inexplicable."

The industry and financiers are ready to put themselves into building transmission, Hayden says, and a Brattle Group study done earlier this month "confirms the tremendous potential that transmission manufacturing and construction hold for job creation and economic stimulus." DOE shouldn't take those benefits for granted, Wires says.

"Many barriers and challenges to future transmission improvements remain," the group says, and DOE must lead policy development to get rid of transmission-building barriers.

Transmission siting is a state issue, and Congress hasn't succeeded in making that any different. Transmission cost sharing is basically a federal issue (the Federal Energy Regulatory Commission) but given the power industry's structure — more state and local authorities than you can shake a stick at — DOE will have to get creative to get far on this one.

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<http://www.eenews.net/stories/1059992057>

DOE: Chu's grid guru came in 'like gangbusters,' left quietly

Hannah Northey, E&E reporter

Greenwire: Thursday, December 19, 2013

In 2011, then-Energy Secretary Steven Chu brought in an ambitious Wisconsin state utility commissioner to advance the Obama administration effort to site and build critical power lines and transmission technologies.

Lauren Azar was seen as the person who could help Chu's Department of Energy navigate a maze of local opposition, permitting delays and lengthy reviews to get transmission projects going.

But it's unclear whether Azar's two-year run that ended in September will bring about clear game-changing transmission breakthroughs.



Former Department of Energy senior adviser Lauren Azar. Photo courtesy of DOE.

That's not to say she didn't try. Saying she came in "like gangbusters," Azar focused on overhauling government-owned chunks of the power grid that outraged lawmakers, utility groups and four politically wired entities known as power marketing administrations, or PMAs.

Azar's time at DOE was marked by a big blowup over a [memo](#) that Chu sent last year to the PMAs, ordering them to leverage partnerships, rate-making power and financing to spur upgrades to their collective 33,700 miles of transmission and boost reliability and access for renewable energy sources.

While little known to the public at large, PMAs are a big deal. Their transmission overlaps power lines across almost half the country.

PMA customers that enjoy the country's cheapest electricity said they were blind-sided. Republicans flagging the cost of energy as a campaign issue attacked the memo as a "top-down" approach that favored renewables and threatened to disrupt the PMAs' statutory authority. Eventually, 166 House and Senate members from both parties expressed concern, and the House Natural Resources Committee, which oversees the PMAs, launched an investigation.

Fingers pointed to Azar. The American Public Power Association blamed the Chu adviser for failing to collaborate with industry in her pursuit of a pro-renewable energy agenda.

"The perception was that had she collaborated and consulted with folks more at the outset in developing the agenda she wanted to pursue, and then worked with customers to prioritize and implement those things, that would have been much more effective," said Joe Nipper, the trade group's senior vice president of government affairs.

The memo hit a nerve with members of Congress protecting regional PMA customers. Azar, one source said, was the latest in a line of DOE senior officials who have tried and failed to make similar reforms.

Azar, 52, who has moved back to her hometown of Madison, Wis., and launched a law firm, Azar Law LLC, maintains that her DOE stint was a success.

Given the short amount of time to make big changes at DOE -- Azar was, after all, picked by Chu, who himself resigned last February -- she said she mapped a timeline for tapping into existing transmission siting authorities and helping critical projects get started.

"I'm much more about where the rubber meets the road than high-level policy debates," Azar said.

She rejected the notion the controversial memo was all her doing or representative of a top-down approach. Both DOE and PMA officials, she said, helped implement the order. Chu asked the PMAs to take a leadership role, she added.

"Folks who were critical of the memo were pulling up very specific sentences or words ... which I understand if you didn't like the memo, that's exactly what you do to attack it," Azar said. "But if you do look at the overall thrust of the memo, it was quite simply, 'Let's ensure we have a robust, resilient, modern grid.'"

Others who fought strayed too close to the PMAs and faced similar problems.

Jimmy Glotfelty, founder of Clean Line Energy Partners and a former senior electricity adviser for President George W. Bush, said Azar should be remembered for trying to build infrastructure and integrate renewables in a thoughtful and cooperative manner.

"The customers of PMAs are pretty protective, and if you ask a lot of people who have been in her shoes -- including myself -- it's not uncommon to get into debates with customers of PMAs," he said. "They're tough negotiators."

'Visible transmission advocate'

Chu's selection of Azar was largely seen as a sign of the Obama administration's intense interest in expanding the grid to support renewables and tackle climate change, sources said.

"The DOE should always have a visible transmission advocate, and she served that role," said Rob Gramlich, the American Wind Energy Association's senior vice president of public policy.

Whether the department will take the same approach under Chu's successor, MIT nuclear physicist Ernest Moniz, remains unclear. Following Azar's departure, Skila Harris, who served as the Tennessee Valley Authority's first female director and as a special assistant to former Vice President Al Gore, began serving as senior adviser for the PMAs ([E&E Daily](#), Sept. 11).

Expanding transmission is seen as a difficult task considering the projects can intersect environmentally sensitive areas, require years of review and often face stiff opposition from landowners who don't want hulking infrastructure in their backyards or sightlines.

Transmission siting is also where federal and state interests often clash.

Azar was picked in no small part because of her extensive state-level experience.

Before joining DOE, she was a member of the Public Service Commission of Wisconsin, which is responsible for overseeing electricity, natural gas, telecommunications and water industries. Former Gov. Jim Doyle (D) appointed Azar to serve on the commission in March 2007 for a six-year term.

A law school graduate of the University of Wisconsin, Madison, Azar specialized in electric and water utility issues before joining the state agency. She also helped create the country's first stand-alone transmission company.

Azar also served as president of the Organization of Midwest Independent Transmission System Operator States, a nonprofit organization of 13 states and a Canadian province overseen by the Midwest grid operator.

She was also the first president and co-founder of the Eastern Interconnection States' Planning Council, where she co-led efforts to organize states east of the Rockies in interconnectionwide planning.

Azar brought that same spirit to DOE. She helped bring together the "federal family" in 2011 -- nine agencies key to streamlining federal permitting of major new power lines that could have taken up to 15 years to garner approval (*Greenwire*, Oct. 5, 2011). DOE already had existing authority to do so under 216(h) of the Energy Policy Act of 2005, language that allows the agency to coordinate federal and environmental reviews.

"DOE, until I got there, implemented [the rule] in somewhat of a tepid manner," she said. "I came in like gangbusters as I always do and not only helped to lead the rapid respond team for transmission but helped DOE draft some rules for 216(h), negotiate with the nine agencies."

PMA memo

As for the memo, Azar characterized her work as a "huge success" that complemented Chu's recognition of the PMAs' importance.

"As the Energy secretary, you're the CEO of the largest transmission utility in the United States," Azar said. "Secretary Chu, one of his primary priorities was to make sure we had a safe, reliable, resilient transmission grid. He took that quite seriously, and he asked the PMAs to take a leadership role in doing that."

She rejects assertions from lawmakers and industry groups that the memo was a Washington directive.

"I know part of the controversy was that this was a 'top-down approach,'" Azar said. "On the contrary, if you ask the [WAPA] staff, they'll tell you the recommendations came from them."

The endeavor started with the 15-state Western Area Power Administration, or WAPA.

Chu set out his goals in the memo and asked the PMAs to work with customers to lay out a plan. A joint team of WAPA and DOE officials -- after numerous meetings, workshops, webinars, telephone conferences and written comments -- crafted recommendations that Chu later adopted, she said.

"Indeed, I was told that the opportunity for feedback here far exceeded what WAPA normally uses for its normal initiatives," she said.

Azar noted the effort led to proposed changes to streamline WAPA's authority to borrow up to \$3.25 million from the U.S. Treasury to build critical transmission. As laid out in the memo, she also championed Texas-based Clean Line Energy's application to partner with DOE through its never-before-used authority under Section 1222 of the Energy Policy Act, which would allow a PMA with federal authority to site the line and overcome state opposition.

But sources said it's unclear whether other provisions in the memo will be implemented outside WAPA -- or even inside WAPA.

WAPA spokesman Randy Wilkerson said not all initiatives laid out in the original memo made it to the drawing board.

In the original memo, for example, Chu said WAPA had decided to take part in an "energy imbalance market," a tool that allows grid operators to balance load over a larger footprint while integrating wind and solar in real time.

But Wilkerson noted that the memo may have been misleading and WAPA is still considering such a move, one that's drawn concerns about cost from customers receiving historically cheap power. "I think that some people got the impression that ... we were doing more than we were at the time," he said.

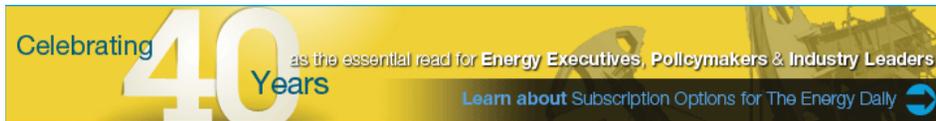
WAPA also isn't implementing the memo's call for new rates to support the deployment of electric vehicles because such retail issues aren't handled by WAPA, Wilkerson noted.

Other sources said the kerfuffle fizzled as quickly as it began.

"[WAPA] is looking at it as an issue that we're moving on from," Wilkerson said.

http://www.theenergydaily.com/events/azar_bio/

Energy Daily – Lauren Azar Biography



Ms. Lauren Azar
Commissioner
Wisconsin Public Service Commission

Governor Jim Doyle appointed Lauren Azar Commissioner of the Public Service Commission (PSCW) in March 2007 for a term that expires in March 2013. Aside from her duties as a Wisconsin Commissioner, Azar is currently the President of the Organization of MISO states (OMS). The OMS is a non-profit organization of representatives from each state that is included in the Midwest Independent System Operator (Midwest ISO). As president of the OMS, Commissioner Azar is leading a regional planning and cost allocation effort for developing electric transmission over the Midwest ISO region, which includes 13 states and one Canadian province. Commissioner Azar also sits on the Electricity Committee and the Nuclear Issues – Waste Disposal Subcommittee of the National Association of Regulatory Utility Commissioners (NARUC). At the state level, Commissioner Azar led an initial investigation into the development of wind generation on Lakes Michigan and Superior resulting in an extensive report, which may be found at: <http://psc.wi.gov/globalWarming/05E1144/index-WindonWater.htm>.

Prior to her appointment to the PSCW, Commissioner Azar worked as an attorney and practiced extensively in the area of electric and water utilities, representing both ratepayers and utilities. As a representative for ratepayers, Commissioner Azar negotiated power purchase agreements and resolved disputes with utilities. While representing utilities, Commissioner Azar helped to create the nation's first stand-alone transmission company and helped to site a 210-mile extra-high voltage line in Wisconsin and Minnesota. In addition to public utility law, among others, she also practiced environmental law focusing on water law and on contaminated properties.

Commissioner Azar has been recognized by Madison Magazine as a leading lawyer in environmental law, and was also named as one of the Best Lawyers in America for 2007 in the area of energy law. Commissioner Azar has authored several articles for the National Business Institute. She co-edited and co-authored the Wisconsin Environmental Law Handbook, Fourth Edition, July 2007.

Commissioner Azar received her Bachelor of Arts Degree from Rutgers College and a Master of Arts in Philosophy from Northwestern University. She also has a Master of Science in Water Resources Management and a law degree from the University of Wisconsin-Madison.



Transmission Planning for the Future & *More*

NCSL Task Force on Energy Supply

May 18, 2012

Denver, CO

Larry Mansueti

Director, State & Regional Assistance

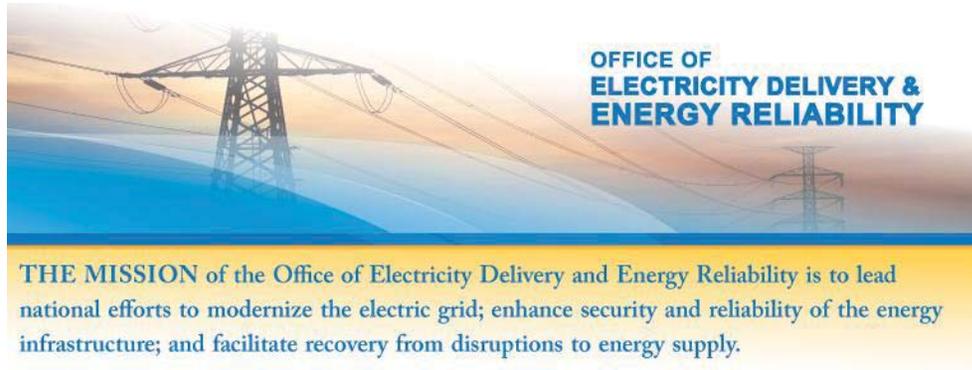
Office of Electricity Delivery and Energy Reliability

U.S. Department of Energy

Presentation Overview

- I. Overview of DOE Office of Electricity
- II. Interconnection-Wide Planning Efforts
- III. DOE Transmission Congestion Study
- IV. Federal Transmission Permitting Coordination
- V. *And More*

Office of Electricity Delivery and Energy Reliability



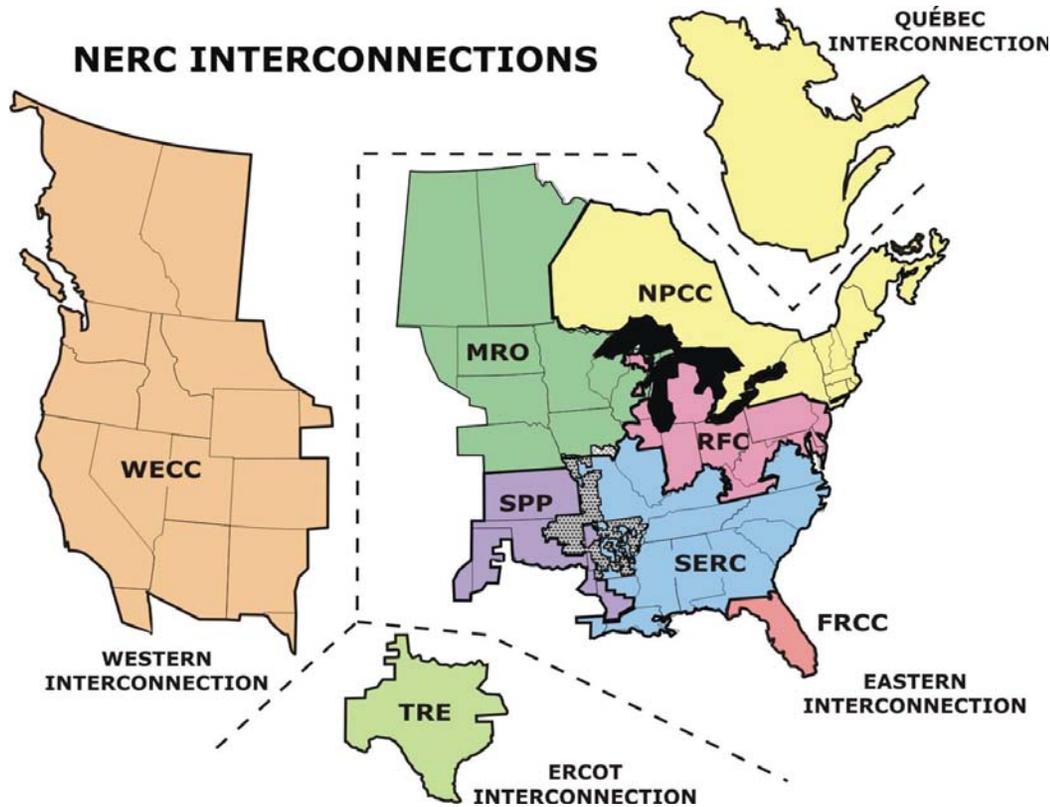
- Three Divisions
 - Permitting, Siting and Analysis
 - Infrastructure Security and Energy Restoration
 - Research and Development

Permitting, Siting and Analysis Division

- Interconnection-Wide Transmission & Planning (& Related Resource Planning)
- National Transmission Congestion Study
- Cross-Border Transmission Line Permits and Electricity Exports Authorizations
- Required Coordination of Federal Transmission Permits & Authorizations
- State and Regional Policy Assistance



Three Electricity Interconnections Serve the U.S.



Interconnection-Wide Transmission Planning

- DOE called for open, transparent interconnection-level planning as early as 2006 (in its first *National Electric Transmission Congestion Study*)
- DOE has supported such work in the West for over 10 years
- The westerners and ERCOT had experience and relevant institutions to build on in responding to the initiative DOE launched in 2009. By comparison, the East faced a much greater challenge in responding to DOE.
- Broader than just “transmission planning”



Interconnection-Wide Transmission Planning

- Grants awarded under Recovery Act to planning entities in Eastern and Western Interconnections, and ERCOT
- Relevant organizations already existed in the West and ERCOT. No such organizations existed in the East, and had to be created.
- Major purpose was to aid the establishment of institutional capabilities to analyze long-term utility system expansion options at a large geographic scale.* Using alternative scenarios. Plus related “resource planning”-type work outside of transmission
- **The Real Benefit: new relationships & dialogues that did not exist before*



Total Funding: \$80M (Recovery Act)

- Eastern Interconnection Planning Collaborative - EIPC(industry experts) \$16 M
- Eastern Interconnection States Planning Council – EISPC (state officials) \$14 M
- Western Electricity Coordinating Council – WECC (industry experts) \$14.5 M
- Western Governors Association - WGA (state officials) \$12 M
- ERCOT A (industry experts) \$2.5 M
- ERCOT B (state officials) \$1.0 M
- National Labs (supporting all above) \$20 M



Eastern Interconnection

– Accomplishments to Date

- Formation of the two eastern organizations – industry & states (not assured would happen)
- EIPC's Phase I report delivered 12/16/11 – details eight 20-year macroeconomic futures (72 sensitivities)
- EIPC's Phase II analysis launched – will develop 3 “bookend” 20-year transmission expansion scenarios (ie. BAU, medium, high buildouts)
- EISPC state participants have provided key leadership in EIPC work
- EISPC has initiated an eastern Clean Energy Zone study



Eastern Interconnection

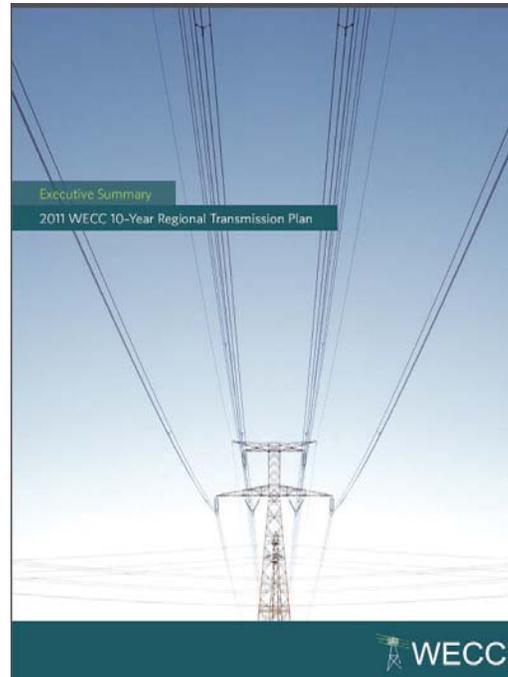
– Addt'l Supporting Work

- Future outlook of coal & other traditional resources over the next 25-30 years
- Review of nuclear resources
- Economic ramifications of resource adequacy requirements & an updated assessment of the “one-day-in-ten-year Loss of Load Probability” criterion that underlies current generation reserve margin requirements;
- An overview of state laws, regulations and rules and orders relevant to identification of energy zones in the Eastern Interconnection;
- Extensive review of co-optimizing methodology and techniques for the planning of both generation, in particular resources that are remote from load, and transmission
- Desire to look at electricity – natural gas interdependencies



Western Interconnection – Accomplishments to Date

- WECC delivered 10-year Regional Transmission Expansion Plan on 9/30/11 – plan focuses on new lines and upgrades needed to meet state RPS requirements
- 20-year plan now being developed
- Development of new planning techniques and tools, including inclusion of environmental data and concerns in planning process
- Multiple insights on adequacy of transmission investments over next 10 yrs; lots more



Western Interconnection – Accomplishments to Date

- Input to WECC planning to ensure planning reflects state policies
 - Ex: Reduced WECC 2020 demand projections by 2,000 MW
- Sponsored several utility resource planners forum – “what are they planning to buy and build”
- Moving the west to better integrate growing variable generation (i.e wind and solar)
- State Wildlife Decision Support Tools
 - -- Ex: Southern Great Plains Crucial Habitat Assessment Tool



Western Interconnection – Analyses Gave Major Insight

“WECC’s first 10-year plan indicated that no new major transmission is needed by 2020 to meet demand and state policy objectives (e.g., Renewable Portfolio Standards) beyond the “foundational” projects already under development are [sic] energized by 2020, as expected.”

-- WA UTC Comm. Phil Jones, Oct. 12,
2011 Congressional Testimony

Coordination of Federal Transmission Permitting

- *Federal law requires:* Section 216(h) of the Federal Power Act, created by EPACT 2005, designated DOE as the lead agency to coordinate transmission lines requiring multiple Federal permits
- MOUs signed by 9 Federal Agencies to execute section 216(h)
- State RPS's in West driving transmission buildout



Rapid Response Team for Transmission



the WHITE HOUSE PRESIDENT BARACK OBAMA

☆☆☆☆ THE WHITE HOUSE WASHINGTON ☆☆☆☆

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INITIATIVES

- Federal Sustainability
- America's Great Outdoors
- Interagency Ocean Policy Task Force
- Steps to Modernize and Reinvalidate NEPA
- Retrospective Regulatory Review Plan
- Review of MMS NEPA

Interagency Rapid Response Team for Transmission

The Obama Administration is focused on building the infrastructure needed to support a clean energy economy because the countries that lead in clean energy will be the countries that lead the 21st century global economy. Electric transmission projects are one specific area where the Administration is acting to catalyze the transition to a clean energy economy. Building greater transmission infrastructure will facilitate, among other things, increased reliability, the greater integration of renewable sources of electricity into the grid; will accommodate a growing number of electric vehicles on America's roads; and will reduce the need for new power plants.

Background:

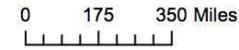
- Announced June 2011
- Builds off Energy Policy Act of 2005 requirements for better Federal coordination on transmission permitting
- Co-lead by CEQ and Depts of Energy & Interior

Rapid Response Team Pilot Projects

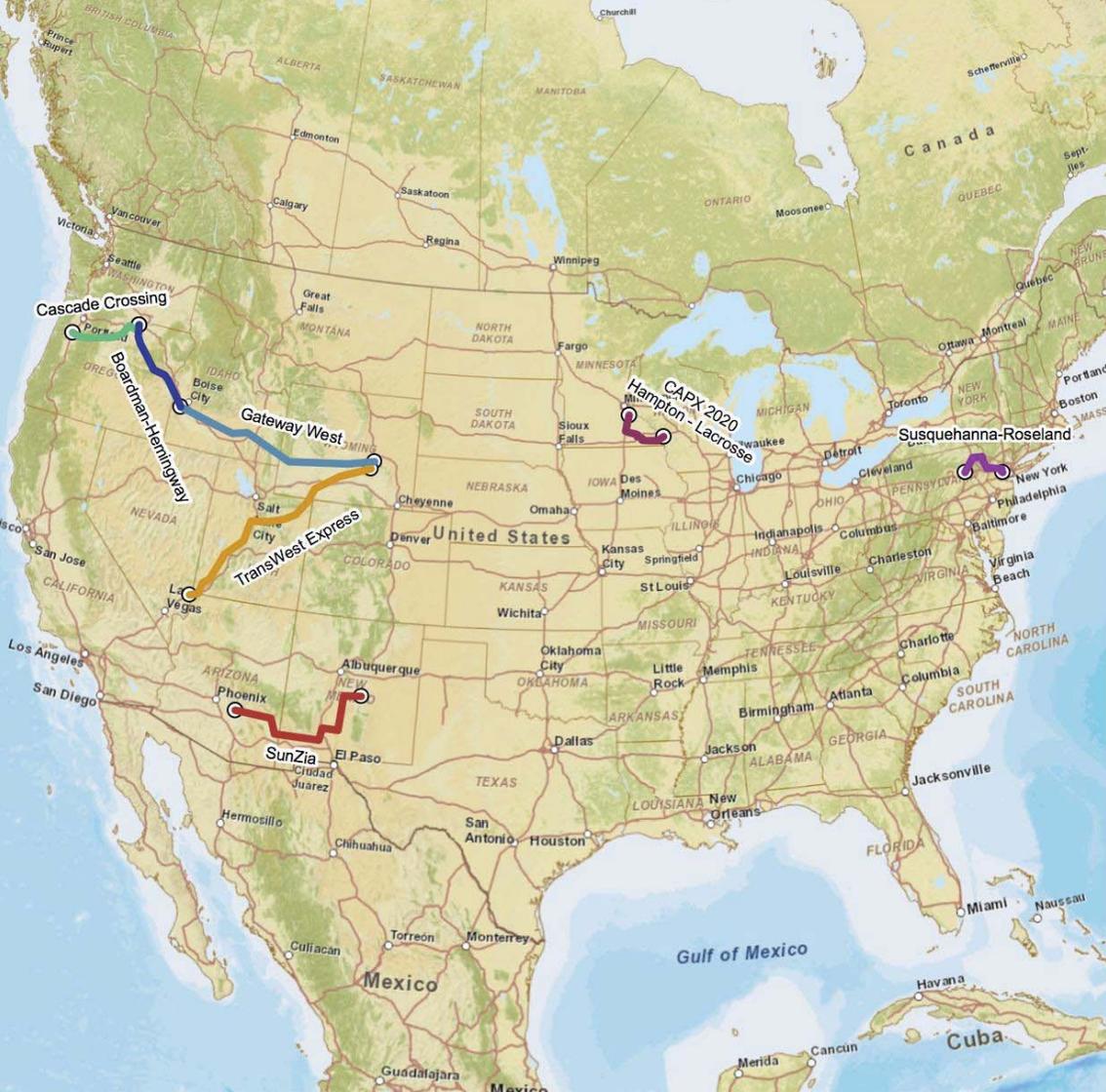
Transmission Lines

Project Name

- Boardman-Hemingway
- CAPX 2020 Hampton-Lacrosse
- Cascade Crossing
- Gateway West
- SunZia
- Susquehanna-Roseland
- TransWest Express



Last updated 9/20/2011



RRTT Site Visits

Tease Out Process Reforms

- RRTT has to date conducted a series of site visits for five of the seven RRTT pilot projects
- Site visit participants included Federal, state, and local agencies; Tribal representatives; project proponents and contractors
- During the site visits, participants identified project-specific challenges and potential solutions that could improve the agencies' processes



The *And More*

- The game changer that shale gas is for the electric industry and the U.S.
 - Low prices, domestic jobs boom, foreign policy implications
- DOE's announcement of first-ever methane hydrate extraction
- DOE's Announcement of small modular nuclear support
- Watching reliability as EPA rules are rolled out (30-40 GW out of 310 GW coal retirement announcements so far)
- What is the post-2020 future?



Draft Meeting Minutes
Joint Meeting of
Northern MAPP (NM-SPG) Sub Regional Planning Group
And
Missouri Basin (MB-SPG) Sub Regional Planning Group
Missouri River Energy Services Office
Sioux Falls, S.D.
9:00 a.m., September 28, 2005

1. Introductions

<u>COMPANY</u>	<u>ATTENDEE Name</u>	<u>COMPANY</u>	<u>ATTENDEE NAME</u>
BEPC	Del Galagher (phone)	SD PUC	Martin Bettman
DPC	Jerry Iverson (phone)	OTP	Jason Weiers
GRE	Mike Steckelberg	OTP	Michael Kawlewski
MHEB	Hilmi Turanli	WAPA	Ed Weber
MISO	Todd ?? (phone)	WAPA	Gayle Nansel
MISO	Yaming Zhu (phone)	Xcel	Angela Maiko
MN PUC	Ken Wolf	Xcel	Bill Raihala
Excelsior	Steve Sherner (phone)	Xcel	Dean Schiro
MP	Mike Klopp	Xcel	Jason Standing
MRES	Brian Zavesky	Sharbakka Eng	Glen Sharbakka (phone)
MRES	John Weber	WAPA	Daniel Olson
MRES	Richard Dahl		
MP	Mike Klopp		

2. Assign Minute Taker: Hilmi T. volunteered to take the minutes.

3. Review Minutes

3.1 August 2, 2005 NM-SPG meeting minutes: Mike K. questioned the statement where it says "NW Exploratory Study was superseded by Cap X 20/20 Study" in the minutes. This will be discussed further in today's meeting. The minutes were approved.

3.2 August 3, 2005 MB-SPG meeting minutes: No Comments; Approved without opposition.

4. Review agenda

5. General NM/MB SPG Business

6. Transmission Planning:

6.1 Follow-up work on 2003 report-PUC order: Mike S. gave an update; Certificate of Need for the Mille Lacs project will be completed in first quarter of 2006.

MP is coordinating the Certificate of Need (CON). October 30 is the deadline for other updates.

Minnesota 2005 Biennial Transmission Planning Report: The report is being put together by Lindquist & Vennum Company. A draft will be issued by October 1, 2005. The complete report will be submitted by November 1, 2005. Ed W. suggested that SPG's should receive a draft copy of the report before submission so that others have a change to review and comment.

Mike S. stated that zone meetings have been ineffective and changes are being sought in the public participation process.

7. MAPP 10-Year Plan Update

- 7.1 TPSC 10 Year Report Updates (Forms 1-3): MISO is creating the database to help with the model building and study efforts. Dave Duebner (MISO) is leading the project and is populating the database with MTEP 06 information. The goal is to use this as the main list of planned and proposed projects. Dave has included this year a list of equipment already in service.

Del G. has sent the MB SPG portion of the MAPP 10 year plan update to the members for review. It will be sent to the TPSC in a week or two. Ed W. will contact MDU to check if they any projects that should be listed. Projects by MISO member companies will automatically be incorporated to Forms 1-3 by Dave D. Steve Sherner questioned if Mesaba project items have been listed in Forms 1-3. Mike S. will check into this. Mike will also e-mail the Forms 1-3 in Excel form rather than PDF. This year only the text part of 10 year plan updates or any recent changes to the 2004 plan would have to be submitted.

The TPSC will finalize the update to the 2004 10-year plan at their October 26, 2005 meeting and forward it to RTC before their December 1, 2005 meeting.

8. Transmission Project Updates:

- 8.1 Mille Lacs area transmission: The project was identified in MTEP 03 for voltage support and load serving. GRE will file a CON application by the first quarter of the 2006.
- 8.2 Lakefield—Wilmarth 345 kV series compensation: Angela M. reported that project is on schedule. The series compensation station will be about mid way on the line near Fieldon Township, with in-service in 2007.
- 8.3 SW Minnesota Wind: Angela M. reported that all of projects are on track.
- 8.4 Pequot Lakes – Badoura 115 kV line: Mike K. has presented the highlights of this project and also distributed a public information newsletter. This project

will upgrade the load served (growth 2.8%) in the area by construction of a 115 kV line.

- 8.5 Tower - Babbitt 115 kV line: Mike K. presented the highlights of this project and also distributed a public information newsletter. This project will upgrade the load served (growth 2.3%) in the area by construction of three sections of 115 kV lines. This project and the Pequot Lakes—Badoura project will both be in the Minnesota state plan to be submitted this year. Approval is sought by June 2006 with construction in 2007 and 2008.
 - 8.6 Arrowhead – Weston 345 kV line: Mike K. reported that Minnesota portion of the line is built. Construction has started in the Wisconsin. The issues with all the counties have been resolved. A 800 MVA PST (phase-shifting-transformer) has been ordered from VA Tech (Siemens) to be delivered in fall of 2006 and to be moved to the site by winter 2006/07.
 - 8.7 Watertown – Brookings 115 kV loop: Ed W. reported that there is significant load growth in the Brookings and Flandreau areas. Some of the crossarms and poles on the lines in this loop are in need of repairs. Western has considered rebuilding the entire line at 230 kV but, for now, they are replacing the damaged poles with 115 kV poles.
 - 8.8 Chisago – Apple River 115/161 kV line: Angela M. reported that the certificate of need is to be submitted soon, possibly by the end of 2005.
 - 8.9 North West Public Service: Ed W. reported that there is considerable load growth in the Mitchell area. One possibility is to tap into Ft. Thompson – Sioux Falls 230 kV lines. There is also potential wind development in this area only with an interconnection request so far.
 - 8.10 Jackson Area Transmission: Brian Z. reported that the plan was for Jackson to be served from the new Xcel 161 kV line between Fox Lake and Lakefield Junction. This line would be owned by Xcel with both terminals owned by Alliant. Hence the Jackson load would switch to Xcel control area and Xcel pricing zone, but line would be operated by Alliant. However the change in control areas will require a transmission service request to be filed under MISO rules. In a letter sent to MISO, MRES made a formal request to address this issue urgently. SPG's resolve that MISO finalize this issue so that Jackson load could be served from 161 kV supply.
9. Transmission Studies
- 9.1 Iowa-Southern Minnesota Exploratory Study: Yaming Z. reported the results will be incorporated to the MTEP 06 report, plus it will be published as a separate report. A Lakefield Junction – Winnebago 345 kV line is one of the options being studied.

- 9.2 Northwest MAPP Exploratory: Mike S. reported that Glen Sharbakka gave a presentation to Upper Great Plains Group ?? (UGPTC). Walt Grivna also presented the results from this study to the same group. There are two proposed transmission routes. The first one is a Belfield—Fargo—St. Cloud 345 kV line and the second alternative is Belfield—Granite Falls—Twin Cities 345 kV line.

The study team has concluded its efforts. The alternatives and economic studies will now be incorporated into the CapX2020 effort. Big Stone II development has also been incorporated into the CapX2020 study due to its location.

- 9.3 Coordinated Generator Studies (Group 4): There is no update on this study.
- 9.4 Buffalo City/Lake Pulaski: Low voltage at Buffalo (Minnesota) (20 MW load) has prompted the need for this study. Angela M. reported that there are two alternatives being considered: A new Buffalo—Dickinson line 115 kV line, initially operated at 69 kV, and a Buffalo—Lake Pulaski 115 kV line.
- 9.5 Worthington Load Serving Study: Study work is continuing.
- 9.6 Big Stone II generation: Jason W. gave an update. The interconnection and delivery studies have been on-going. Stability studies have just been completed. A certificate of need document is being drafted for the Big Canby – Granite falls (Hazel) 345 kV line which is the common component for two proposed alternatives. The interconnections facility study would be conducted next.
- 9.7 CapX2020 load serving: Mike K. gave a presentation on the study. His presentation, the Cap X2020 report and other relevant information are all posted at CapX2020 website. Within the next 15 years 8000 MW of new generation to is needed to supply 6300 MW of new load growth. The CapX area is primarily in Minnesota and partially in Dakotas, northern Iowa and western Wisconsin. Transmission development to connect these generation resources to load centers are divided into scenarios; each scenario depending on a particular generation pattern. The total cost of transmission facilities by year 2020 amount to about \$2.3 billion. A first group of facilities, call Group 1 facilities, are planned to be completed by the year 2012 and are estimated to cost \$600 million. A memorandum of understanding is being prepared in between eight Transmission Development Partners to facilitate the financing and construction of the CapX2020 projects. MISO's tariffs for cost recovery for transmission services would be a back up plan. Ken W. stated that routing and siting, which used to be the responsibility of EQB, is now being transferred to MnPUC as part of June 2005 legislation.
- 9.8 Mesaba Generation: Steve S. reported that the last update on this project was given on May 5, 2005 meeting. The ad-hoc committee for the studies consists of AEP, MP, GRE, XEL and MH. For the first unit (MISO project no G477)

rated 530 MW located at Hoyt Lake (near LTD Taconite) the designated point of interconnection is Forbes 230 kV bus. The plant was designated as network resource. Last March, screening and stability results were completed. This project assumes that Arrowhead – Weston project is in place. Some 230 kV breakers at the Forbes bus would need to be replaced. The Phase II study, which is the system impact study, started on May 11, 2005 by PTI. It uses summer peak load flow cases. One 115 kV MP line is overloaded (including in the base case as well). MP is completing the short circuit studies. There were some problems with the 2005 stability model, as a result stability studies were delayed, but they are now under way. The results will be reviewed at an October 7, 2005 meeting.

For Unit 2, rated up to 600 MW (Project no G519), an alternate location north of the taconite plant was proposed. The in-service date is one year later at 2011. The point of interconnection is the Blackberry 230 kV bus. It is assumed that the Boswell – Wilson 230 kV (in-service 2010) will be built by this date, but the Maple River – Benton 345 kV line will not likely be completed (in-service 2012). This unit will require conversion of existing Blackberry – Benton and Blackberry – Arrowhead from 230 kV to 345 kV and construction of a new Blackberry – Riverton 230 kV line.

9.9 Buffalo Ridge Incremental Generator Outlet: *(This item was incorporated in the next agenda item)*

9.10 SW Minn-Twin Cities EHV Development: Mike S. reported that a study review meeting was held with Rick G. (Excel Engineering) yesterday (9/27/05) at the MRES offices. The base case plan proposes a 345 kV line from White (near Brookings) to Lyon County (near Marshall) to Franklin (near Redwood Falls) to Helena to Hampton (southeast TC metro). An alternate to this would be a 345 kV line from Hazel (near Granite Falls) to Blue Lake (southwest Metro). Both options assume a 345 kV line between Big Stone - Canby – Hazel – Lyon Co.

Construction of these west-east 345 KV corridors does not eliminate the loop flow north through Manitoba, however it does reduce the loop flow amounts from 8-10% to 3.6-4.0%. The analysis also included a double-circuit cost/benefit estimate.

Another study team meeting is scheduled for October 10, 2005, at the OTP offices in Fergus Falls.

9.11 C-BED Transmission Study for Distributed Generation: Jason W reported that a conference call was held with himself and George Crocker, Mike Michaud., and Mike K. It is proposed to develop transmission infrastructure for up to 2500 MW of distributed generation in Minnesota.

9.12 West Central Minnesota: GRE is completing a load serving study for near Willmar area with projects that have an in-service date of 2009.

9.13 MECA Load Serving Study: Jeremy S. of BEPC sent a draft report to MB and NM SPGs without the attachments. The study used 2004 MAPP series models for 2014 model. The base case has a number of impacted facilities. Comments should be sent to Jeremy S. A presentation of this study will be made at the next SPG meeting.

9.14 Rugby Wind Farm Study: Jason W. has sent the report to MISO. Steady state results appear to be acceptable, 500 kV line loop flow appears to be existing. However for dynamic performance a 5 Mvar capacitor bank needs to be added at Paynesville. Deliverability study will be completed by MISO. MISO assumes 20 % wind availability and system peak conditions, hence simultaneous transfer levels are not tested at their maximum levels.

10. Other

10.1 Next Meeting will be held on November 30, 2005, in Elk River at the GRE office starting at 9:00 am¹.

Respectfully submitted
by H.M. Turanli, Manitoba Hydro.

¹ This meeting is now scheduled to take place at the MAPP/MISO St. Paul offices.

Appendices AB: Project Facility Table 12/02/2014

Target Appendix	App AB	Region	Geographic Location by TO Member System	PrjID	Facility ID	Expected ISD	From Sub	To Sub	Ckt	Max kV	Min kV	Facility Rating	Facility Description	State	Miles Upg.	Miles New	Plan Status	Estimated Cost	Cost Shared	Postage Stamp	MISO Facility
A in MTEP14	B-A	West	MP, MH	3831	7200	6/1/2020	Dorsey	US/MB Border	1	500		1732	Dorsey-US/Manitoba Border 500 kV Line	MH		160			N	N	Y
A in MTEP14	B-A	West	MP, MH	3831	7201	6/1/2020	US/MB Border	Iron Range	1	500		1732	US/Manitoba Border-Iron Range 500 kV Line	MN		220		\$573,207,005.00	N	N	Y
A in MTEP14	B-A	West	MP, MH	3831	7202	6/1/2020	Iron Range			500	230	1200	New Iron Range 500/230 kV Substation adjacent to existing Blackberry 230/115 kV Substation	MN		0	Planned	\$46,023,004.00	N	N	Y
A in MTEP14	B-A	West	MP, MH	3831	7622	6/1/2020	Warroad River			500		1732	New midpoint series compensation station on Dorsey - Iron Range 500 kV Line	MN		0	Planned	\$52,433,712.00	N	N	Y
A in MTEP14	B-A	West	MP, MH	3831	20289	6/1/2020	Iron Range	various			230		Modifications to and reroutes of existing 230 kV and 115 kV lines at Iron Range Substation site	MN		2	Planned	\$3,891,711.00	N	N	Y
A in MTEP14	B-A	West	MP, MH	3831	20290	6/1/2020	Blackberry				230		Two 230 kV panel replacements at Blackberry to facilitate interconnection of Iron Range 500/230 kV Substation	MN		0	Planned	\$275,000.00	N	N	Y
A in MTEP14	B-A	West	MP, MH	3831	20292	6/1/2020	Arrowhead				230		One 230 kV panel replacement at Arrowhead to facilitate interconnection of Iron Range 500/230 kV Substation	MN		0	Planned	\$137,500.00	N	N	Y
A in MTEP14	B-A	West	MP, MH	3831	20291	6/1/2020	Forbes				230		One 230 kV panel replacement at Forbes to facilitate interconnection of Iron Range 500/230 kV Substation	MN		0	Planned	\$137,500.00	N	N	Y
A in MTEP14	B-A	West	MP, MH	3831	20293	6/1/2020	Hilltop				230		One 230 kV panel replacement at Hilltop to facilitate interconnection of Iron Range 500/230 kV Substation	MN		0	Planned	\$137,500.00	N	N	Y

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13 COMMISSIONER FIORDALISO: All right, let's
14 continue.

15 MS. TAMASIC: May I make a statement on
16 the record?

17 COMMISSIONER FIORDALISO: Yes.

18 MS. TAMASIC: It is difficult enough for
19 us intervenors representing these very interested
20 parties here to deal with the myriads of discovery.

21 I just want to put on the record what I
22 said, what we all said, in our motion: This
23 petition is not ready for prime time, this petition
24 should be suspended until it is complete.

25 The notion that we are coming in with
0318

1 drawings six weeks from now, where is the public
2 interest and public notice on that?. It is so
3 unfair.

4 COMMISSIONER FIORDALISO: Well taken.

5 Let's proceed at this point.

6 CROSS-EXAMINATION BY

7 MS. OVERLAND:

8 Q Mr. Crouch, there were some changes that I
9 would like to talk to you about. First there was a
10 change to the quad bundled 500 kV line. Can you
11 explain what that change is?

12 MR. CROUCH: We reduced bundle size from
13 quad-bundle to tri-bundle.

14 Q Why was that?

15 MR. CROUCH: We were pushing the
16 manufacturing limits of monopoles so it took those
17 out of consideration, and there was a very large
18 interest from the public about the use of monopoles
19 for aesthetic reasons, and in order to consider
20 those we took a look at whether or not we could
21 reduce the bundle size so that it would be less
22 impact on the structure and we could consider using
23 monopoles; that's why we did that.

24 Q How would that affect opacity?

25 MR. CROUCH: Since the quad bundle was
0319

1 not primarily being designed for opacity, it really
2 is not a change in the opacity of the line.

3 The line is designed to carry the same
4 amount it would have carried if it had four, it is
5 not an opacity issue.

6 Q What about the MVA issue?

7 MR. CROUCH: No, it's the same, the
8 amperage of the line actually feeds the A portion of
9 the MVA.

10 Q Megavolt amperes?

11 A Yes.

12 Q Since we're on that line, why don't you
13 explain what a megavolt ampere is?

14 MR. CROUCH: There are different ways to
15 categorize power, so two things that make up the
16 power happen to be voltage and amperage.

17 When you talk about overall power of the
18 circuit, what is it capable of carrying, you
19 essentially multiply the voltage times the amperage
20 and come up with the MVA rating.

21 Q And you are saying this is mostly a change
22 based on amperage, correct? I mean the change is --
23 let me--that the design of the line was based on

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24 amperage so that a change would not have an impact
25 on that; is that correct?

0320

1 MR. CROUCH: Not necessarily.
2 One of the considerations in designing the
3 line would be to carry a certain amount of power, in
4 this particular case I believe it was 3,005 MVA.

5 Q That would be the entire package of
6 conductors that would carry 3,005 MVA?

7 A Correct.

8 Q And for the 280 line, what would that MVA
9 be for that?

10 MR. JACOBBER: I think you meant 230.

11 Q I'm sorry, 230, thank you.

12 MR. JACOBBER: The single conductor I
13 believe is designed to carry 730, approximately 734
14 MVA.

15 Q And as I understand, that would be
16 reconducted and then bundled, but you are changing
17 that.

18 MR. CROUCH: We are simply replacing the
19 existing 230 kV in kind, except in a different
20 configuration.

21 Q What are you replacing it with?

22 MR. CROUCH: The same, with a 1590 ACSR
23 single conductor.

24 Q Are you familiar with ACSRs?

25 MR. CROUCH: Yes.

0321

1 Q What is it?

2 A It's a different type of conductor, it's an
3 aluminum conductor steel supported as opposed to
4 ACSR which is an aluminum conductor steel
5 reinforced.

6 Q Why do you use ACSR instead of ACSS?

7 A In certain cases it has to do with braided
8 breaking strength, and we do use in certain instance
9 ACSS.

10 Q Is there a capacity different between ACSR
11 and ACSS?

12 A Depending on how you construct the line, yes,
13 the ACSS conductor can operate at a higher
14 temperature.

15 Q When you say depending on how you
16 construct the line, does that mean things like
17 transformers on either end, or what do you mean by
18 that?

19 MR. CROUCH: Just speaking about the
20 line, it would depend on how you sag and tension the
21 line.

22 Q What about the transformers?

23 MR. CROUCH: They are circuit components,
24 so that affects the circuit rating as opposed to the
25 line rating.

0322

1 Q And what was the circuit rating of the old
2 configuration and the circuit rating of the new
3 configuration?

4 MR. CROUCH: They are still the same.

5 Q Now, you were talking about impacting the,
6 just a minute, pushing the manufacturing limits of
7 monopoles.

8 What do you mean by that?

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9 MR. CROUCH: Well, once we had gotten into
10 the detailed design, the Phase II design, you then
11 have an opportunity to go to pole manufacturers with
12 the engineering data.

13 Once we did that, some manufacturers had
14 indicated that they would not be able to manufacture
15 a single monopole and some questioned whether they
16 would be able to do it.

17 At that point we decided to consider
18 changing the conductor.

19 Q Was it a weight issue, a tension issue?

20 MR. CROUCH: It happens to be the size of
21 the pole and it has to do with tension primarily.

22 Q So essentially the pole could not handle
23 having that much on it?

24 MR. CROUCH: We were pushing the limits
25 of manufacturing, we weren't quite sure whether they

0323
1 could make them or not.

2 As I indicated, some said they could, some
3 said that they could not.

4 Q So is it correct that if you have that
5 3,005 MVA and four, and then you reduce it to 3,005
6 MVA on three, doesn't that change then the amps for
7 those particular conductors?

8 MR. CROUCH: Each individual conductor
9 would carry a little bit more amperage in the
10 tri-bundled configuration as opposed to the quad
11 bundled configuration.

12 Q Doesn't that also change all your EMF
13 modeling?

14 MR. CROUCH: Not necessarily. It does
15 affect somewhat the audible noise, but we would
16 still be able to meet all of the requirements at
17 the edge of the right-of-way.

18 Q What I am considering is, what Amp rating
19 was used for the modeling and how that changes for
20 the EMF modeling, because what it would do
21 logically -- Is it correct that what it would do
22 logically is raise the amperage of that three lines
23 as opposed to four, so it would raise it by --

24 MR. CROUCH: I prefer to let Kyle speak to
25 your concern in the EMF.

0324
1 Q What is different in the construction
2 aspect of it which is when you have four and you
3 reduce it to three, what kind of percentage does it
4 raise that three by?

5 MR. CROUCH: As far as raise by?

6 Q Okay.

7 You have got Amps, you have 3,005 spread
8 across four, so then what does it take then, take a
9 quarter of that and spread it between the three.

10 MR. CROUCH: It would take three, if it's
11 in the tri-bundle it is essentially a third of the
12 3,005.

13 In the quad bundle it would have been a
14 fourth of 3,005.

15 Q 3,005 and that's MVA, so what Amps do you
16 have for that 3,005; is there a direct correlation
17 between the Amps and MVA?

18 MR. CROUCH: Yes.

19 Q Okay.

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20 So then if you have the 3,005 MVA how
 21 many Amps is that?
 22 MR. CROUCH: Just off the top of my head,
 23 for a tri-bundle it's a little over a thousand.
 24 Q And that's for conductors?
 25 MR. CROUCH: Yes.

0325

1 Q So you have a little over a thousand, in
 2 the quad bundle would it be around a thousand?

3 MR. CROUCH: No, it would be 3,005
 4 divided by four, a little over seven hundred.

5 Q So then you are saying with the three it
 6 would be around a thousand, ballpark?

7 MR. CROUCH: Yes, that's correct.

8 Q Who would be the witness that would have
 9 the specifics on that?

10 MR. CROUCH: Which specifics?

11 Q To go from ballpark figures to specifics.

12 MR. CROUCH: Which specifics are you
 13 speaking of?

14 Q MVA and Amp?

15 MR. CROUCH: I can actually come up with
 16 that. Specifically speaking, the design of the line
 17 is 3,005 MVA, so for the conductor itself it is a
 18 little over a thousand MVA.

19 And then on the quad bundle it would have
 20 been 3,005 divided by four.

21 So that's the specific answer.

22 Q We can do the math, but we have on the
 23 record what the formula is.

24 MR. CROUCH: Yes.

25 Q You are saying that has an impact on the
 0326 conductor noise?

2 MR. CROUCH: Primarily the quad bundled
 3 configuration was to address audible noise
 4 requirements at the edge of the right-of-way.

5 Q I may have to think about this.
 6 (Pause.)

7 Q That would have an impact, too, though,
 8 on substation design?

9 MR. CROUCH: Not necessarily, because
 10 it's the same amount of power that you are carrying
 11 in the line.

12 Q But would it mean that there are fewer
 13 transformers?

14 MR. CROUCH: No, you are still requiring
 15 the same amount of power to flow so you are not
 16 reducing the amount of current by reducing the
 17 conductor.

18 In this case because the conductors that
 19 we were putting up were to address audible noise it
 20 would still be able to meet audible noise with a
 21 tri-bundle.

22 Q When you have bundles, doesn't one bundle
 23 go to a transformer and another bundle go to a
 24 different, you know, phase --

25 MR. CROUCH: Yes.

0327

1 Q And they are divided up?

2 MR. CROUCH: Yes.

3 Q So doesn't that mean there is three, not
 4 four, no?

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5 MR. JACOBBER: If I can answer that
6 question, no, it does not.
7 Basically you have three phases, and in
8 each phase you either have four conductors or three
9 conductors, but the transformers still, you would
10 still have three transformers for that transformer
11 bank either way.
12 Q They are set up by phase rather than by
13 bundle?
14 MR. JACOBBER: Yes.
15 Q Does that mean then that you have -- then
16 if the MVA would be the same, the transformers would
17 be the same; is that correct?
18 MR. JACOBBER: That's correct.
19 Q Thank you.
20 MS. OVERLAND: And given this is a new
21 change, is this a change that we could also take
22 some time to look at and address again when we deal
23 with the changes of substations.
24 MR. RICHTER: No objection from PSE&G.
25 COMMISSIONER FIORDALISO: Yes.
0328
1 MS. OVERLAND: Because this is an
2 important, this is a big change.
3 Q Mr. Jacobber, you say you are licensed in
4 seven states?
5 MR. JACOBBER: Yes.
6 Q That's all electrical?
7 MR. JACOBBER: Yes.
8 Q Now, I want to clarify, because I am from
9 the Midwest, we call them substations but you call
10 them switching stations, and can you address the
11 distinction between them, if there is one?
12 MR. JACOBBER: Basically a switching
13 station and substitution in the matter of this case
14 can be used interchangeably.
15 Basically as the definition goes, it's a
16 location where lines come in to interconnect with
17 the system, so we can say that they are used
18 interchangeably as to this subject.
19 Q In your direct--just one moment--in your
20 direct on page 7 you are describing the equipment,
21 and although the locations may change of the East
22 Hanover switching station, will the equipment
23 change, or will that still be the same?
24 MR. JACOBBER: Where is that?
25 Q Page 6 starting at line 16, where you are
0329
1 describing the equipment in the East Hanover
2 switching station, will that still be the same?
3 MR. JACOBBER: Can I read through it?
4 Q Sure.
5 (Pause.)
6 MR. JACOBBER: The movement of the proposed
7 alternative that's feasible on the Roseland site
8 would still maintain a GIS switchyard, that is
9 presently would utilize in this case nine breakers
10 and a breaker and-a-half substation rather than six
11 breakers that would be installed in a GIS building
12 very similar to the East Hanover.
13 Q Nine instead of six, why?
14 MR. JACOBBER: The new, the alternative,
15 the feasible alternative, would include similar to
Page 14

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 11 MS. MOSKOWITZ: Right. He was at least
 12 going to attempt to answer.
 13 COMMISSIONER FIORDALISO: He was going to
 14 attempt to answer the question you had.
 15 MS. OVERLAND: It had something to do with a
 16 number.
 17 COMMISSIONER FIORDALISO: Thank you very
 18 much. I told you I was getting stoonad because I did
 19 try to remember that and I didn't.
 20 If you could repeat the question so --
 21 Do you remember it?
 22 MR. KHADR: Yes, I remember it.
 23 COMMISSIONER FIORDALISO: You remember it.
 24 Maybe you could ask the question and then
 25 give us the answer.

1249
 1 Unless you know the question.
 2 MS. OVERLAND: Well, that would help me
 3 interpret the answer if he give the question too but
 4 maybe rather --
 5 COMMISSIONER FIORDALISO: It's sounds like a
 6 Laurel and Hardy routine.
 7 MS. OVERLAND: How about if I restate it?
 8 COMMISSIONER FIORDALISO: Please.
 9 CROSS-EXAMINATION OF MR. KHADR BY MS. OVERLAND:
 10 Q. I want to be clear what number it is that I'm
 11 looking for, because, as I understand it, in the
 12 configuration now with the four down to three conductors
 13 on the 500 kV side, the limiting factor is in
 14 substation, be it GIS, switched gears, transformers, it
 15 is not the line.

16 So what I wanted to know is what the ultimate
 17 rating for the line is if all things are good and
 18 glorious and best of all worlds?
 19 A. The circuit rating is limited by its connect
 20 switch. And 2007, 2008, and 2009 we had modelled the
 21 line rating as 2,650 MVA, normal and 340 MVA emergency
 22 for our --

23 Q. Is that three --
 24 A. I'm sorry. 3,040 MVA emergency, four-hour
 25 emergency rating. As you know, PJM study is a 15-year

1250
 1 analysis. That rating has gone through the 15 years and
 2 it did not show that we going to need anymore than that
 3 rating for the full 15 years.

4 If you look at the existing 500 kV circuits that
 5 we have, they are all dual conductor per phase, and a
 6 rating of I believe 3,005 and 300 -- 3,400 MVA for
 7 emergency.

8 PJM -- and we don't see any need for higher
 9 rating on a conductor than what we -- than what I just
 10 mentioned right now. The reason we are doing -- going
 11 with tri and before with quadruple is to limit the noise
 12 level at the edge of the right-of-way, not for higher
 13 capacity on the line, higher capability on the line.

14 We need to recognize that we cannot force flow on
 15 that line alone. If things change, not only the flow
 16 going to go on that line but also going to go on the
 17 parallel 230 kV circuits that line, as well as the
 18 parallel 500 kV circuits which all have much lower
 19 rating than this line would.

20 Q. I want a number.
 21 A. All I'm saying is that we studied it for 15

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22 years. We don't need any additional capability on that
23 line. That line we design it for triple conductors per
24 phase for noise levels.

25 Q. But that does not answer the question of what if
1251

1 all things were great and good and you did not need to
2 worry about substation limitations, noise limitations,
3 what the capacity would be --

4 A. It's much more --

5 Q. If may I finish, please?

6 -- if I had the conductors -- the conductor
7 manufacturer's spec sheet, what would that say?

8 A. It's much more than just the transformers on the
9 line or the disconnect switches on the station.

10 Q. Correct.

11 A. It's all the parallel lines that we have, it's
12 the 500 kV. When you use that line -- number one, okay,
13 based on Kirchoff's law (phonetic) -- it's a network
14 analysis -- network analysis which shows that that line
15 would have flow similar to the other 500 kV lines within
16 the same thing -- same limitations. You cannot push
17 huge amount of flow on that line for the simple reason
18 that if you lose that line that flow is going to go back
19 on the 230 kV panel circuits and cause severe overloads.

20 Q. There is an RTEP with a network of backbone lines
21 which is only the beginning of the regional expansion
22 plan. And what I want to know again is the number or if
23 you will provide a spec sheet for the conductors for
24 that line because I want -- with all changes coming up,
25 a lot of things will change. The noise restriction may
1252

1 not change, but substations can change and your planning
2 for expansion. There's new lines being build all over.
3 And when the new RTEP comes out, there will be more.
4 And when the next RTEP comes out, there will be more,
5 and so all of this will build up the 500 kV network.

6 So I want to know the number, if all those
7 limitations were removed, what the total potential
8 capacity for that line would be according to the
9 manufacturer, that number.

10 COMMISSIONER FIORDALISO: Maybe I can cut
11 through the chase here. Does a number exist?

12 MR. KHADR: I do not have that number.

13 COMMISSIONER FIORDALISO: Are we able to
14 calculate that number? Is that possible?

15 I don't know. I'm asking you. I just want
16 to get to a point where we continue here so we can get
17 to leakage so we can get done here.

18 MS. MOSKOWITZ: So you are --

19 COMMISSIONER FIORDALISO: Is there a number
20 or is that number able to be calculated that you're
21 aware of?

22 MR. KHADR: I do not do the calculation for
23 the line ratings. I'm not sure what's really involved
24 in calculating that number. I would presume that that
25 number could be calculated.

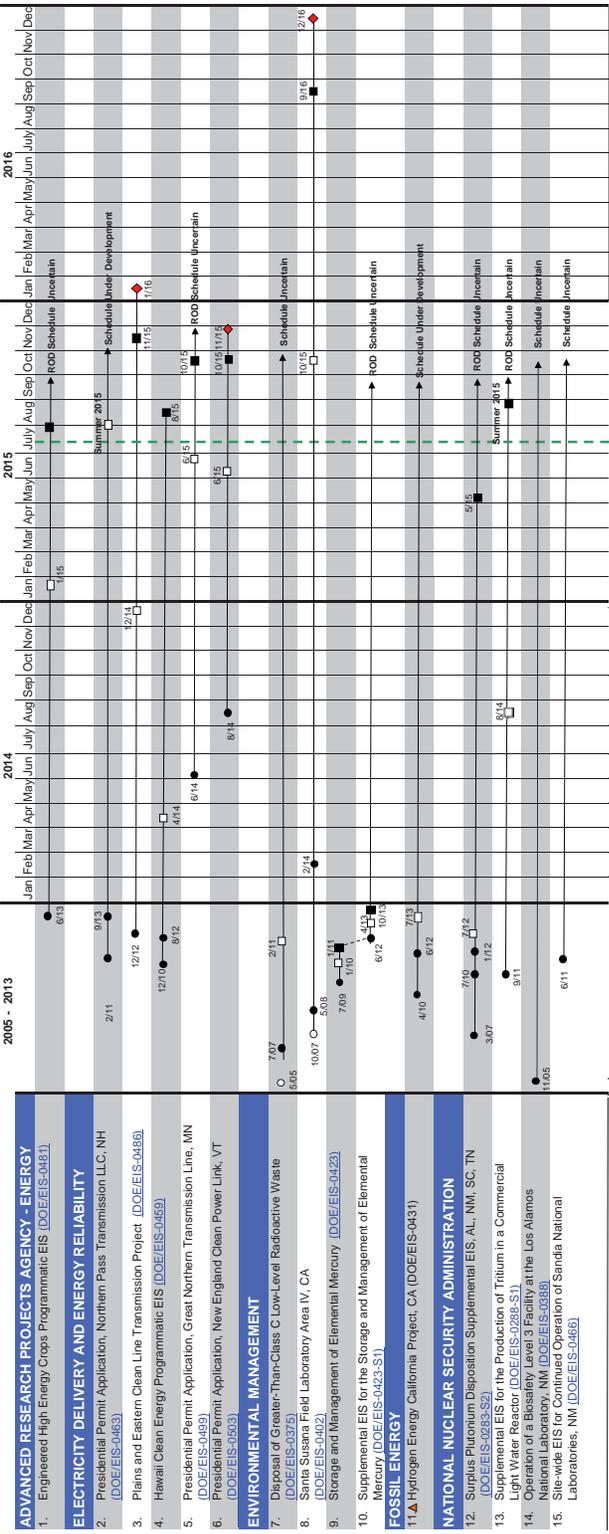
1253
1 COMMISSIONER FIORDALISO: Ms. Moskowitz, I'm
2 sorry, I didn't mean to cut you off, but I'm just trying
3 to move this along.

4 MS. MOSKOWITZ: I know. And I'm trying to
5 as well.

6 I'm being told that Mr. King knows the

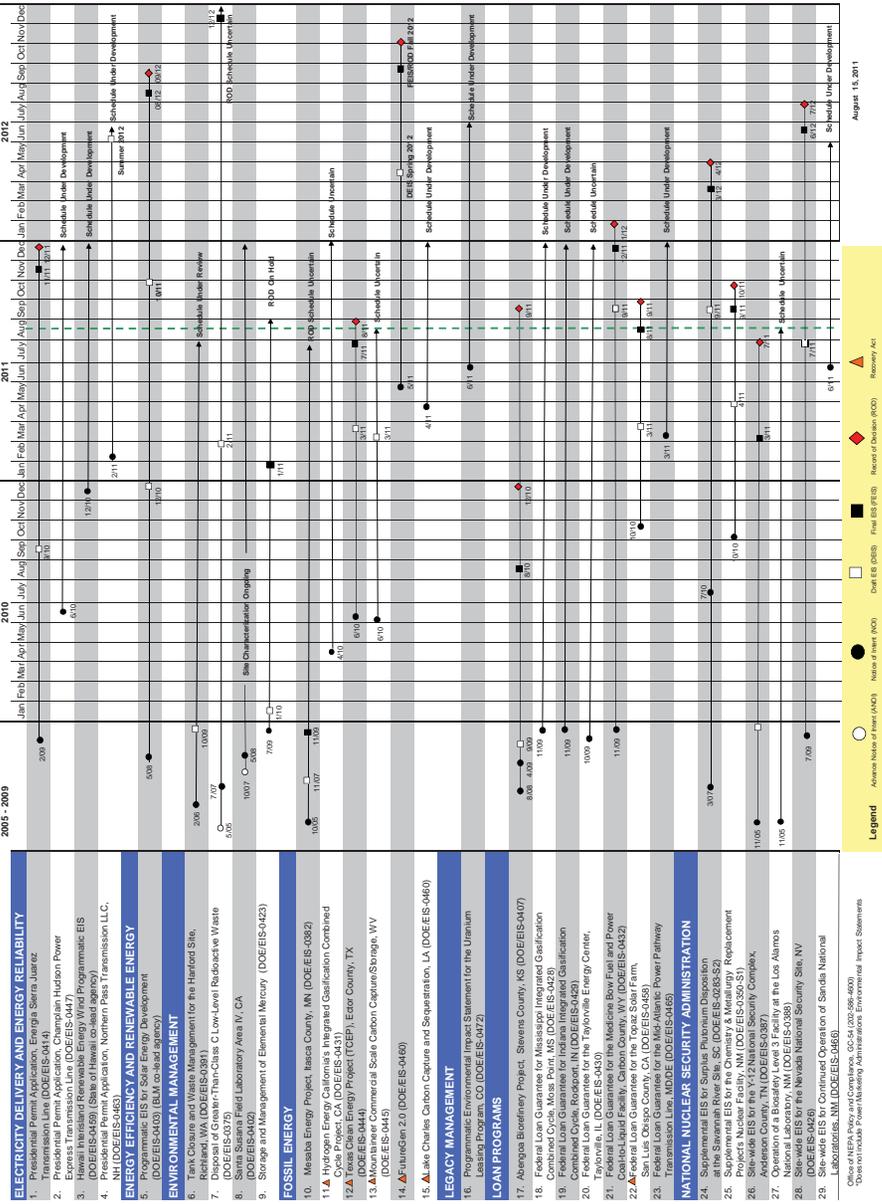
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7 number. I know we're sort of going from witness to
8 witness here, but if we can have your indulgence,
9 perhaps he can --
10 COMMISSIONER FIORDALISO: Mr. King, come up
11 to the microphone.
12 MS. OVERLAND: Wasn't he just the witness
13 who didn't know just a minute ago.
14 MR. KING: I was this morning.
15 MS. MOSKOWITZ: No. No.
16 COMMISSIONER FIORDALISO: I don't think
17 that's correct.
18 You're still under oath, sir.
19 If you could just give us a number that
20 Ms. Overland is looking for.
21 CROSS-EXAMINATION OF MR. KING BY MS. OVERLAND:
22 MR. KING: Can I just take a second to
23 calculate?
24 MS. OVERLAND: Yes.
25 MR. KING: The current that I think you're
1254 interested in is the amount of current you can push
2 through a particular conductor before it exceeds a
3 certain temperature.
4 MS. OVERLAND: It's own rating all by itself
5 in a vacuum all by itself.
6 MR. KING: All by itself. And the limiting
7 component is whatever you say the maximum temperature
8 is. That's the only thing would --
9 MS. OVERLAND: Correct. Thermal limits.
10 MR. KING: Thermal limit of a conductor. If
11 you chose the number to be 140 degrees celsius for a
12 1590 ACSR Falcon conductor, the number -- the amount of
13 current you'd have to push through based on the PJM
14 summer normal rating conditions with no wires and a high
15 temperature, variably no wind and a high temperature
16 would be 1,838 amps per wire. So if we had four of
17 those it would be 7,352 amps and would go down to
18 three, three times that 1,800 would be 5,514 amps.
19 MS. OVERLAND: 5,514 amps.
20 MR. KING: That would be the current
21 required to raise the conductor temperature to 140
22 degrees based on the PJM summer --
23 MS. OVERLAND: Rating conditions.
24 MR. KING: -- conditions.
25 MS. OVERLAND: And then do you have an MVA
1255 number for each of those.
2 MR. KING: If I can calculate it for you.
3 MS. OVERLAND: And then I will shut up on
4 this topic.
5 COMMISSIONER FIORDALISO: And you have very
6 few leakage questions. Correct?
7 I'm sorry?
8 MS. OVERLAND: Not many. A couple.
9 COMMISSIONER FIORDALISO: A couple is good.
10 I'll take it.
11 MS. OVERLAND: This was only one.
12 MR. KING: If I did my square roots
13 correctly, 5,514 amps per phase would correspond to
14 4,795 MVA at 500 kV, if I did my square roots correctly.
15 MS. OVERLAND: Okay. And -- okay. That
16 will do it. I am happy.
17 COMMISSIONER FIORDALISO: Ms. Overland, if

SCHEDULES OF KEY ENVIRONMENTAL IMPACT STATEMENTS*



Office of NEPA Policy and Compliance, GC-541 (02-886-600)
 *Chart represents anticipated activity and is not a commitment for documentation or date.
 Does not include Power Marketing Administrations Environmental Impact Statements.

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