

Ek, Scott (COMM)

From: Lori Behrens [loribeh@hotmail.com]
Sent: Tuesday, June 01, 2010 1:31 PM
To: Ek, Scott (COMM)
Subject: PUC DOCKET TL-10-86 HVTL AND SUBSTATION

Dear Scott-

I fell a pang of sadness as I start down our driveway with "Mic" our pet lab on our daily walk. Between the two of us it is hard to know who enjoys it more. We a have a small hobby farm on CSAH 18 that means the world to us. To think the farm and fields could shrink and be destroyed as Great River Energy comes in with their high voltage energy lines is devastating.

Please we are asking you to reconsider the route for these power lines. There is a area that has already been cleared to the mantrap substation down county road 40. Also this route is 1/2 mile shorter. When we drive on highway 34 and look at the lines that have been put up it makes the area looked like it has been completely raped and destroyed. I have been researching the area townships and the zoning permits have dramatically decreased, in fact many townships there have been "0".

Preserving our land is our utmost focus as it impacts not only our health & well being but our way of life. Scott I am pleading with you PLEASE HELP US!

Thanks for all you have done. My prayers-

Lori Behrens R.N.

The New Busy is not the too busy. Combine all your e-mail accounts with Hotmail. [Get busy.](#)

Ek, Scott (COMM)

From: MARK BEHRENS [markbe16@msn.com]
Sent: Monday, May 31, 2010 9:52 AM
To: Ek, Scott (COMM)
Subject: PUC Docket TL-10-86
Importance: High

May 31, 2010

Scott Ek
Energy Facility Permitting
Minnesota Office of Energy Security
85 7th Place East
Suite 500
St. Paul, MN 55101-2198

Dear Scott,

I am writing regarding the PUC Docket TL-10-86 HVTL and Substation project. I am asking for your support and plea as a citizen, landowner on County Rd 18, concern for the lake country, and also someone who loves the the beauty of the wildlife and the scenic beauty of Minnesota. I am strongly against the current route for the HVTL along County Rd 18 because of the damage that it will do properties, beauty of the scenic route, lake quality and wildlife.

First of all, we are concerned about the real need. We have called all the townships along this route and have been told that the building permits are down, and also haven't really been proved yet that the need is there by Great River Energy. Even when discussing the need with Itasca Mantrap board members they are not even aware of a need for this project.

Secondly, I would strongly propose a northern route from the Mantrap Substation to Emmaville, MN along County 4 where the major part of the clearing has already been completed and then West of Emmaville to US Hwy 71. This land is mostly free of residential properties and is made up of State and County land. This route would have less impact on residential properties, lakes, fish and wildlife.

As a community, we are seeking to preserve and maintain the land and beauty of the lakes area where tourism is a way of life. If these routes cannot be changed, then we urge the PUC and OES to insist that the lines be buried as they are all around the offices of the Itasca - Mantrap Electrical CO-OP. It is interesting when you drive past their offices that there are no unsightly poles and transmission lines overhead. Yet, they continually want to run these transmission lines across our properties, over beautiful rivers and along our scenic byways. There is no justice to this practice or sensitivity to the members that keep that CO-OP alive. They are abusing the law of eminent domain and completely ruining the land and area that we live which we will all regret in the future.

Please hear our plea and concerns and don't let this happen. It is our hope and prayer that these concerns will reach sensitive people that are truly concerned about the State of Minnesota and the beautiful recourses that we are all fighting to maintain and preserve.

Thank you for your time and efforts.

Mark A. Behrens
OPTIC FUEL CLEANERS, INC.
mark@OpticFuelCleaners.com
www.OpticFuelCleaners.com
866-924-3835 Office
612-309-3858 Cell
530-267-4040 Fax

Ek, Scott (COMM)

From: Kathiele@aol.com
Sent: Saturday, May 22, 2010 2:30 PM
To: Ek, Scott (COMM)
Subject: Great River Energy's 115 kV transmission line

Dear Mr. Ek:

We are in favor of locating Great River Energy's 115 kV transmission line along the northern alternative route located west of Emmaville from CSAH 4 to Highway 71. If the substation were to also be located at this vicinity, it would be a preferred site for future growth needs.

This northern route is made up of primarily county and state land, affecting as few private properties as possible while preserving the aesthetics of our lake sensitive region and tourism industry.

Thank you for your consideration. Please add us to your project mailing list.

Al and Kathie Eckloff
13141 County Road 40
Park Rapids, MN 56470

email: KathieLE@aol.com

Gordon Ruhnke
Attn: Julie Burton
15397 County 18
Park Rapids, MN 56470

May 31, 2010

Office of Energy Security
Scott Ek, State Permit Manager
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

Re: Docket TL-10-86

Dear Mr. Ek:

I am the daughter of Gordon Ruhnke who lives at a "pinchpoint" on County 18, the proposed route by Great River Energy to construct a 115 kV transmission line. My father is quite ill at this time, and we recently lost Mom in November. My father's home and garage are located within 150 feet of the center line. We are against any action that would allow Great River Energy (GRE) to construct a transmission line on County 18. There would be tremendous loss for my father if the line were to run in front of his home. His only buffer on County 18 are the trees he and Mom planted together about 50 years ago.

This region is a highly visual sensitive area. Distribution lines are already buried on County 18. If there is a need for "reliable" power, then put the line on state and county land as it stretches from Highway 71 to CSAH 4. If there is a need to travel down CSAH 4, there is already a corridor and distribution lines in place to accommodate I ask the state to also place the substation further north in alignment GRE's plans to expand west.

I have concern that Great River needs to build a nearly outdated mode poles and lines in an age when burying the lines is a desirable option. The need for 115kV of power is not immediate nor have they made the case that it will be needed in 10 to 40 years

The northern route is made up of primarily county and state land, affecting as few private properties as possible while preserving the aesthetics of our lake sensitive region and tourism industry.

Thank you for your consideration.


Julie Burton

Ek, Scott (COMM)

From: KIRSTEN EDEVOLD [KEDEVOLD@parkrapids.k12.mn.us]
Sent: Tuesday, June 01, 2010 8:49 AM
To: Ek, Scott (COMM)
Subject: Docket TL-10-86

Kirsten Edevold
24546 Hazelwood Dr.
Park Rapids, MN 56470

June 1, 2010

Office of Energy Security
Scott Ek, State Permit Manager
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

Re: Docket TL-10-86

Dear Mr. Ek:

As a property owner on County 40 and Potato Lake, I am against any action that would allow Great River Energy to construct a transmission line on Counties 40 and 18. In addition, every effort should be made to keep transmission lines and a substation off of Highway 71 where possible.

This region is a highly visual sensitive area. Distribution lines are already buried on Counties 40 and 18. Potato Lake and its surrounding lake chain system is a draw for our tourism industry. Highway 71 defines who we are as a vacation destination. We just purchased a lake lot on 40 that is right across from Blue Lake, I'm trying to visualize power lines going through and believe it would wipe out any cover from the road we have. The wildlife and wetlands in this area is incredible. To see the kind of destruction this could have would be heartbreaking. Our lake areas should be protected. I understand there is an area further north where there is state and county land that could be used affecting as few private properties as possible. I believe we should be thinking ahead, overhead lines are old technology.

Thank you for your consideration.

Kirsten Edevold
Property Owner



1010 WEST ST. GERMAIN STREET
SUITE 500
ST. CLOUD, MN 56301-3406
MAIN: (320) 252-4414
FAX: (320) 252-4482

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DIRECT DIAL: 320.202.5327
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EDWARD.LAUBACH@GPMLAW.COM

VIA E-MAIL AND U.S. MAIL

May 26, 2010

MR SCOTT EK
ENERGY FACILITY PERMITTING
MINNESOTA OFFICE OF ENERGY SECURITY
85 7TH PLACE EAST, SUITE 500
ST PAUL MN 55101-2198

MINNESOTA PUBLIC UTILITIES
COMMISSION
121 – 7TH PLACE E - SUITE 350
ST PAUL MN 55101-2147

Re: DOCKET NO. TL-10-86
Our File No.: 134446

Dear Mr. Ek and Commission:

This letter follows the public informational meeting of May 18, 2010, in Park Rapids, Minnesota, regarding the above project. Please accept this letter as a supplement to the testimony and other evidence submitted in this matter in opposition to Great River Energy's ("GRE") application to construct a 115kV high transmission line ("HVTL") and related 115kV substation.

At the public informational meeting there was testimony regarding the issues of "Certificate of Need" and "Need." A GRE representative, apparently for the first time, disclosed that GRE's determination that the proposed project was needed was based on 2002 statistics assembled by Itasca Mantrap Coop. Further, the route permit application and subsequent documents from GRE, as well as testimony from GRE, stated that the need for the 115kV HVTL was alternatively 5 years, 15-20 years or 30-40 years into the future. While representatives of both GRE and Itasca Mantrap Coop were present, they offered no further testimony or other evidence to support the need for the project.

To the contrary, individuals who testified at the hearing in opposition to the project questioned why such a project would be built now when the need may be as far into the future as stated above. Why do such significant damage to the area and its natural resources now when the need may be far off into the future, if at all. Others testified about the possibility/ probability of new technologies being developed in the next 40 years which may significantly alter or eliminate the need for the HVTL transmission line.

Pursuant to Minnesota Statute § 216B.243, applicants are required to obtain a Certificate of Need prior to the construction of any large energy facility in the State of Minnesota. See, Minn. Stat. § 216B.243, subd. 2. Because a Certificate of Need is required for large energy facilities, the

Commission is directed to not consider need in the environmental review of large energy facilities. See, Minn. Stat. §216E.03 subd. 5.

Great River Energy's application for the Potato Lake substation and HVTL is for a 115kV high volt transmission line. The line is proposed to be 7.25 miles long. As such, the proposed project does not qualify as a large energy facility. See, Minn. Stat. § 216B.2421, subd. 2; Minn. Stat. § 216E.04, subd. 2. Thus, the statutory Certificate of Need is not required. Through its cite to the above referenced statute, the Commission's April 16 order recognized that the statutory Certificate of Need was not required. However, and as stated below, other statutes and Minnesota Rules require the Office of Energy Security and the Commission to consider whether the proposed project is needed.

In its application, GRE chose to follow the alternative permitting procedures provided for in Minn. Stat. § 216E.04, subd. 2(3). Pursuant to that section, the proposed project is required to undergo environmental review. Section 216E incorporates the considerations enumerated in Minn. Stat. § 216E.03, subd. 7. See, Minn. Stat. § 216E.04, subd. 8. Further, no route designation shall be made in violation of the route selection standards and criteria established in that section and in rules adopted by the Commission. See, Minn. Stat. § 216E.04, subd. 9.

The considerations to be applied to this project are set forth in Minn. Stat. § 216E.03, subd. 7 which states:

“Considerations in designating sites and routes. (a) The commission's site and route permit determinations must be guided by the state's goals to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the State's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure.

(b) To facilitate the study, research, evaluation, and designation of sites and routes, the commission shall be guided by, but not limited to, the following considerations:

(1) evaluation of research and investigations relating to the effects on land, water and air resources of large electric power generating plants and high-voltage transmission lines and the effects of water and air discharges and electric and magnetic fields resulting from such facilities on public health and welfare, vegetation, animals, materials and aesthetic values, including baseline studies, predictive modeling, and evaluation of new or improved methods for minimizing adverse impacts of water and air discharges and other matters pertaining to the effects of power plants on the water and air environment;

(2) environmental evaluation of sites and routes proposed for future development and expansion and their relationship to the land, water, air and human resources of the state;

(3) evaluation of the effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental effects;

(4) evaluation of the potential for beneficial uses of waste energy from proposed large electric power generating plants;

(5) analysis of the direct and indirect economic impact of proposed sites and routes including, but not limited to, productive agricultural land lost or impaired;

(6) evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site and route be accepted;

(7) evaluation of alternatives to the applicant's proposed site or route proposed pursuant to subdivisions 1 and 2;

(8) evaluation of potential routes that would use or parallel existing railroad and highway rights-of-way;

(9) evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;

(10) evaluation of the future needs for additional high-voltage transmission lines in the same general area as any proposed route, and the advisability of ordering the construction of structures capable of expansion in transmission capacity through multiple circuiting or design modifications;

(11) evaluation of irreversible and irretrievable commitments of resources should the proposed site or route be approved; and

(12) when appropriate, consideration of problems raised by other state and federal agencies and local entities.

(c) If the commission's rules are substantially similar to existing regulations of a federal agency to which the utility in the state is subject, the federal regulations must be applied by the commission.

(d) No site or route shall be designated which violates state agency rules.

As stated above, while these considerations are set forth at Minn. Stat. §216E.03, they are specifically incorporated into the alternative review procedures. See, Minn. Stat. § 216E.04, Subd. (8).

MR SCOTT EK
MINNESOTA PUBLIC UTILITIES COMMISSION
May 26, 2010
Page 4

Based on these considerations it is clear that the scope of review must include a review of the need for the project. For example, in making its route permit decisions, the Commission is to be guided by the State's goals to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the State's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure. It is clear that the State's goals as stated above cannot be met without reviewing the need for this project. How else is the State goal to conserve resources, minimize environmental impacts, etc. to be met other than by measuring the need for a project which will use up resources and damage the environment.

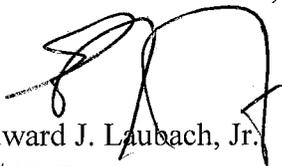
The considerations go on to direct the Commission to analyze, "The direct and indirect economic impact of proposed routes." Again, the only way to analyze the economic impact is by measuring the impact against the need.

The considerations direct the Commission to evaluate "the effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental affects." Without analyzing the need, the Commission cannot reasonably determine the time frame in which the proposed project would be necessary. Without knowing the time frame, the Commission cannot effectively evaluate what transmission technologies and systems may be available in the future. And, as is stated above, both GRE and Itasca Mantrap Coop admit that there may not be any need for 30-40 years.

Based on the above it is clear that the OES and Commission are required to consider the need for the proposed project in the Environmental Assessment and decisions concerning issuance of a route permit. It is equally clear that there is no evidence of need for the proposed project in the near or even long term. The applicant has admitted as much. To issue a permit under these circumstances would fly in the face of the State's goals and the Commissions obligations.

Sincerely,

GRAY, PLANT, MOOTY,
MOOTY & BENNETT, P.A.



Edward J. Laubach, Jr.
Attorney

EJL/smm

Jo Hafner, Part Owner/Manager
Boulder Beach Resort
15424 County 18
Park Rapids, MN 56470

May 23, 2010

Office of Energy Security
Scott Ek, State Permit Manager
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

Re: Docket TL-10-86

Dear Mr. Ek:

Boulder Beach Resort has been owned and operated by members of my family for 47 years. My parents ran this resort as a mom and pop industry, and my family continues that tradition, creating an "up north" retreat for families and vacationers who come here to get away from their busy lives and enjoy a woodsy lake setting. My children work here, and my grandchildren are growing up on the shores of Potato Lake during the summer months. Four generations are represented when we offer our hospitality to guests and returning customers. We have nearly half a century of experience in the resort industry.

Now Great River tells us they plan to take a 150-foot easement, clear trees within 500 feet of Potato Lake and run a 115kV transmission line through County 18. How do you begin to put a value on the kind of impact that will place on Boulder Beach? They are asking us to take on a heavy burden in an already struggling economy.

There is no doubt that if Great River Energy were to succeed in their request, the visual assault would be devastating to the vacation experience we offer our guests. We cater to young families, and for them to see power lines hovering near their cabins would make any potential parent think twice about booking a week with us. Ours isn't the only business to face losses now and into the future if this transmission line were to come through County 18. A quarter of a mile down the road, our guests visit Logging Camp restaurant as a place to dine. Additionally, another resort is located further down the route and would be directly impacted. Park Rapids relies on tourism as an industry. Potato Lake is a recreational lake in the heart of vacationland. This is no place for transmission towers. Our guests come here to get away from all of that.

If there is truly a need, I, along with my neighbors, am in favor of locating Great River Energy's 115 kV transmission line along a northern alternative route located north of the Potato, Eagle, and Blue Lakes. This route would run from Highway 71 straight east to CSAH 4 near Emmaville. If needed, it could then connect with the Mantrap Substation and still meet the needs of Great River's customers. A substation located in the vicinity of the Highway 71 northern route line would be a preferred site for Great River's future growth needs.

This route connecting Highway 71 and CSAH 4 is made up of primarily county and state land, affecting as few private properties as possible while preserving the aesthetics of

our lake sensitive region and tourism industry.

Thank you for your consideration.

Jo Hafner

Ek, Scott (COMM)

From: Jan [jcholtdc@arvig.net]
Sent: Tuesday, June 01, 2010 10:09 AM
To: Ek, Scott (COMM)
Subject: Docket TL-10-86 - Potato River High Transmission Line

Scott,

First I wish to thank you for holding the Task Force Meetings and the Public Hearing on the above project, I learned a lot about this area, my neighbors, and Great River Energy.

After all of the information exchanged I am still wondering why there is such a 'pressing need' for this High Transmission Line that GRE is trying to rush through the process and build it in under 10 mile segments so they do not have to prove 'the need'. I would think that building it in short segments would lead to a poorly planned circular network connecting the system with odd loops (I believe I heard that it appears to be GRE's ultimate goal). Who is the watch dog agency that can and will monitor this type of activity and put a stop to 'skirting the law'.

I do not want this area to become an environmental disaster (as many areas in Minnesota and elsewhere in the US have become) due in part to lack of judgment and poor planning - it will take many, many years to correct (if it can be corrected) if anything done in this environmentally sensitive area is not done with care, proper planning, and attention to detail.

Clear cutting a 300 to 500 foot swath of trees to build a transmission line is not a good idea (trees are one of the answers to combat global warning), placing the lines across a fly way for Trumpeter Swans, American Eagles, Egrets, many species of hawks is not a good idea, taking away a landowners right to a buildable lot is not a good idea, placing landowners, their families, and guests that close to the stray emf's is not a good idea.

I think it odd - at the first meeting held by GRE we were told that the line was going through and we had no say in the matter. We were never told about the process and our right to have our thoughts and feeling heard. The members of the Todd Township Board were basically told (about a month earlier than the landowners) that GRE had 'decided' where they wanted the line and GRE was going to take our land and build the line and we could not stop them. Not a way to win supporters for the project.

Early on GRE said the area under the lines could not have any trees on it as they needed access to the lines at all times, I was told that they would come through and mow the area every couple of years (as many of us said they could not use chemicals on our properties). At the Public Hearing I heard one of the GRE people say that trees or bushes not over 15 feet high would be allowed so which is it and why the change? I do not trust GRE not to use chemicals on my property to keep the trees from re-growing.

I do remember one comment at the Public Hearing that was using the clear cutting as a 'positive' - using the area as a forest fire break to protect the forest between County 40 and the east-west section of 71. Is there a place in that area that a line as a fire break could be installed or is it all marsh and wetlands?

After the Public Hearing I heard someone suggest that the High Transmission Line be run west along the 34 corridor using the existing easements to Snellman and then it could go straight up to Piney Point without having to dodge lakes and wetlands - has

6/1/2010

that been looked at as an alternative?

There are wide cleared corridors on both 71 and County 4 - why is the line not planned to go up one of those corridors? Or have it go up both corridors to create a loop providing power to more areas - I am sure those areas north of us that have lakes are or will be growing and will need the power (within the next 20 to 40 years).

I am OPPOSED to the High Transmission Line as it now stands - IF it can be proven that there really is a NEED for it and that this is the only possible route then I want it to be buried along the stretches that the current distribution line is buried. I realize putting the underground will mean the removal of some trees but at least we would not have to look at the visual pollution of the poles and lines - the visual pollution is very pronounced along 34 east of Park Rapids where GRE recently finished installing some lines - not the sight one wants to see when they are being welcomed to the northwoods.

I moved here after I retired to live in a beautiful wilderness - not one cut up by high transmission lines and other forms of visual blight/pollution. I hope you can help us keep this visual blight/pollution from destroying our northwoods and help us protect our precious environment and the wildlife we share it with.

Jan Holt
14911 County 18
Park Rapids, MN



Your Touchstone Energy® Cooperative
The power of human connections



June 1, 2010

Mr. Scott Ek
Office of Energy Security
Energy Facility Permitting
85 7th Place East, Suite 500
St. Paul, Minnesota 55101-2198

Dear Mr. Ek:

Itasca-Mantrap Coop Electrical Assn. (I-M) recognizes the concerns expressed by some residents regarding the need for the proposed Potato Lake Substation and its location. This letter is intended to respond to those concerns.

In a nutshell, the Potato Lake substation is necessary to meet increased electrical energy demand created by a more than 6 percent annual member load growth over the past decade. This unprecedented growth, due to both new and existing I-M members, has stressed the existing electric distribution system serving the areas along Potato Lake, Portage Lake, Eagle Lake, Fish Hook Lake, and Island Lake to the point where a new substation is required.

I-M's top priorities are to provide reliable, economic and safe electricity to our cooperative members. Part of that responsibility includes planning, building and maintaining our distribution lines and substation equipment.

I-M utilizes an independent engineering consultant to develop both short (2 year), and long (30 year) range construction work plans. The results of both these plans combine to alert us to current and future problems with system loading, reliability, and low voltage issues on our system. In addition, these plans provide detailed engineering analysis with recommendations of when and where new distribution lines or substations will be needed to meet our Members power requirements, along with the financial impacts.

The I-M 2002 Long Range Plan, prepared by MEI Engineering, Inc., identified the future need for a new substation, called Eagle Lake (re-named as Potato Lake), sometime around the year 2020. But because we also do a short range Construction Work Plan every two years, it was identified in 2006 that our members' actual load requirements had already reached the 2020 load projections.

So as a result, our 2007-2008 two year construction work plan first identified the critical need for the Potato Lake substation project, and also determined that the Potato Lake substation needed to be located north of Park Rapids, very near the intersection of State Highway 71 and Hubbard County Road 40. Ongoing communication and planning for this substation location has occurred during the last four years with Great River Energy, our transmission system provider. Specifically, the selected Potato Lake substation site, strategically located by Itasca-Mantrap, addresses the following areas of immediate concern:

First, it will reduce the normal loading on three of our other adjacent substations. When we continually overload large and expensive substation transformers it shortens their life, and every year we have an increasing chance of failure, resulting long multi-hour power outages for many members. If a failure were to occur, these large substation transformers are very expensive, and take several months to build and re-install. We are a “winter peaking electric cooperative system”, which means these excessive loads occur on the Itasca-Mantrap system in the winter months of December, January, and February during the coldest nights. Exhibit I1 illustrates the peak load growth on I-M’s Mantrap substation, and the overload condition that currently exists on the transformer.

Second, it will solve power quality and reliability issues. Since the proposed Potato Lake substation site has been selected near present and future load centers as determined by recent peak load readings, and recommended by both short and long range planning studies, this selected location mitigates voltage drop problems at member homes; mitigates equipment loading problems on distribution equipment and adjacent substation equipment; improves reliability by reducing miles of line exposure on existing distribution lines; and minimizes the number of customers potentially impacted by substation and feeder outages. The attached exhibits M1 and M2, illustrate the customer density and customer energy usage in the areas to be served by the proposed Itasca-Mantrap Potato Lake substation site.

Third, it will give us much needed back-up capabilities when we need to transfer load from one of our other adjacent substations or feeders during emergencies and scheduled maintenance. This is very important to the I-M members, particularly in the winter months when being without electricity, ultimately heat, for extended periods of time is not an option.

In addition, the location of the new substation is optimally located from an economic point of view, because it intercepts existing distribution lines, and will not require significant construction of new distribution lines. Compared to other alternative site locations, the selected site is the least cost alternative for I-M members.

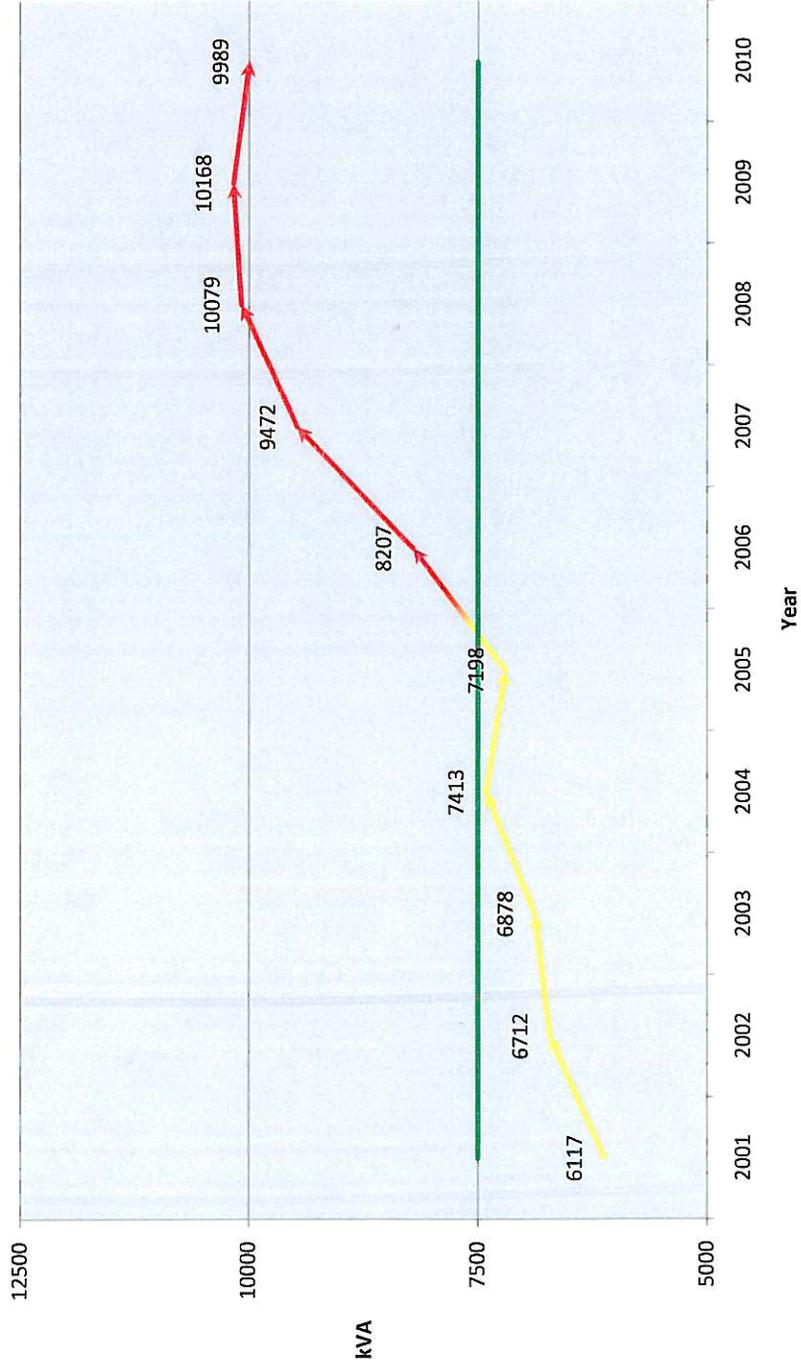
The alternative substation site locations proposed by the Advisory Task Force (ATF) would place the substation approximately 4.3 miles away from the bulk of the customer load that the proposed Potato Lake substation is intended to serve. As a result, the ATF alternative sites are unreasonable as they would fail to address the reliability and power quality concerns that the new Potato Lake substation site is intended to address. In effect, the alternative sites proposed by the ATF would defeat the intended purpose of the substation.

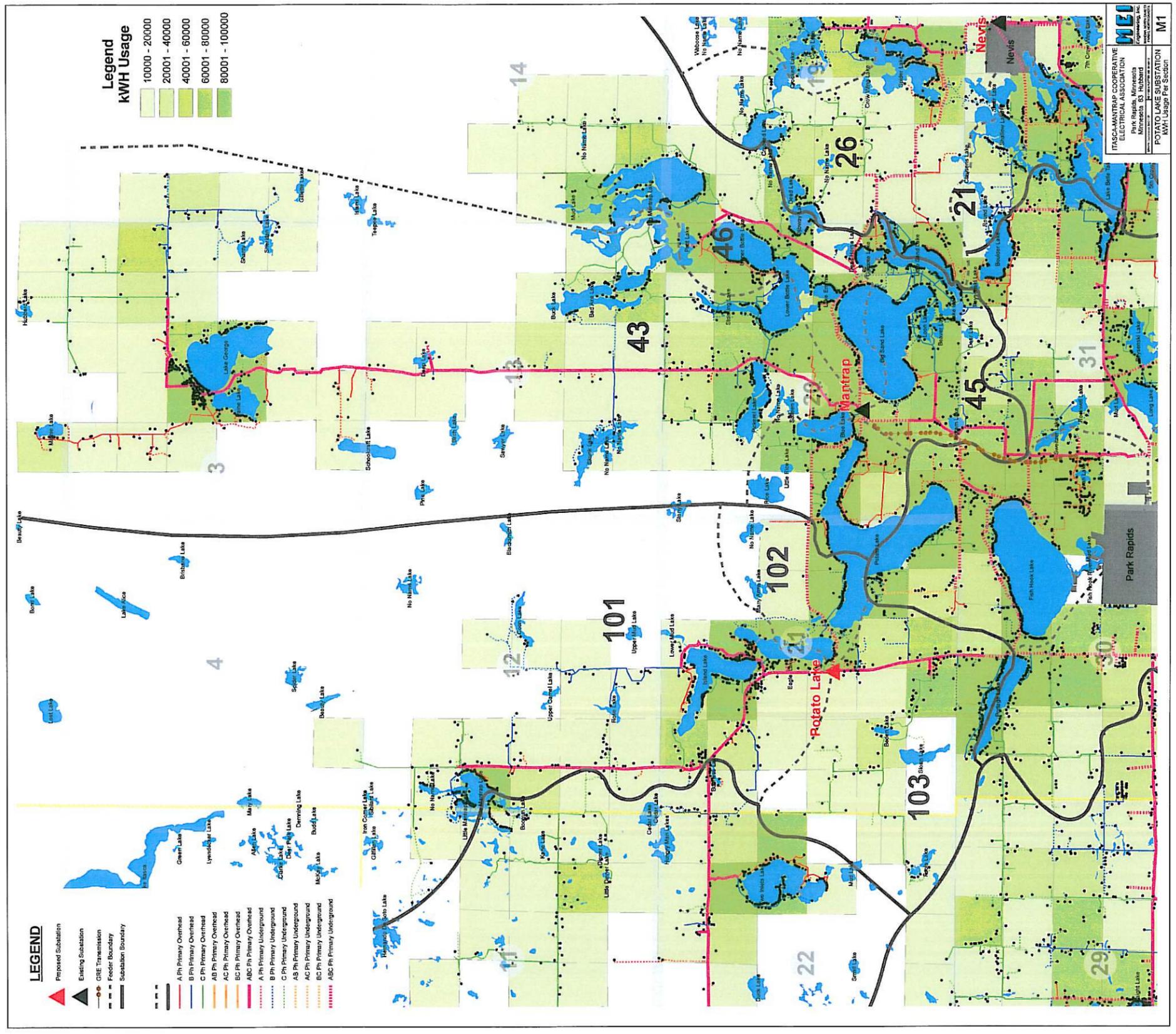
Cooperatively,



Tony Nelson
Engineering Manager
Itasca-Mantrap CEA

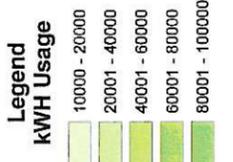
Mantrap Substation Peak Loading History





LEGEND

- ▲ Replaced Substation
- ▲ Existing Substation
- GRE Transmission
- - - Feeder Boundary
- Substation Boundary
- A Ph Primary Overhead
- B Ph Primary Overhead
- C Ph Primary Overhead
- AB Ph Primary Overhead
- AC Ph Primary Overhead
- BC Ph Primary Overhead
- ABC Ph Primary Overhead
- A Ph Primary Underground
- B Ph Primary Underground
- C Ph Primary Underground
- AB Ph Primary Underground
- AC Ph Primary Underground
- BC Ph Primary Underground
- ABC Ph Primary Underground

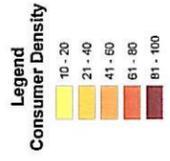
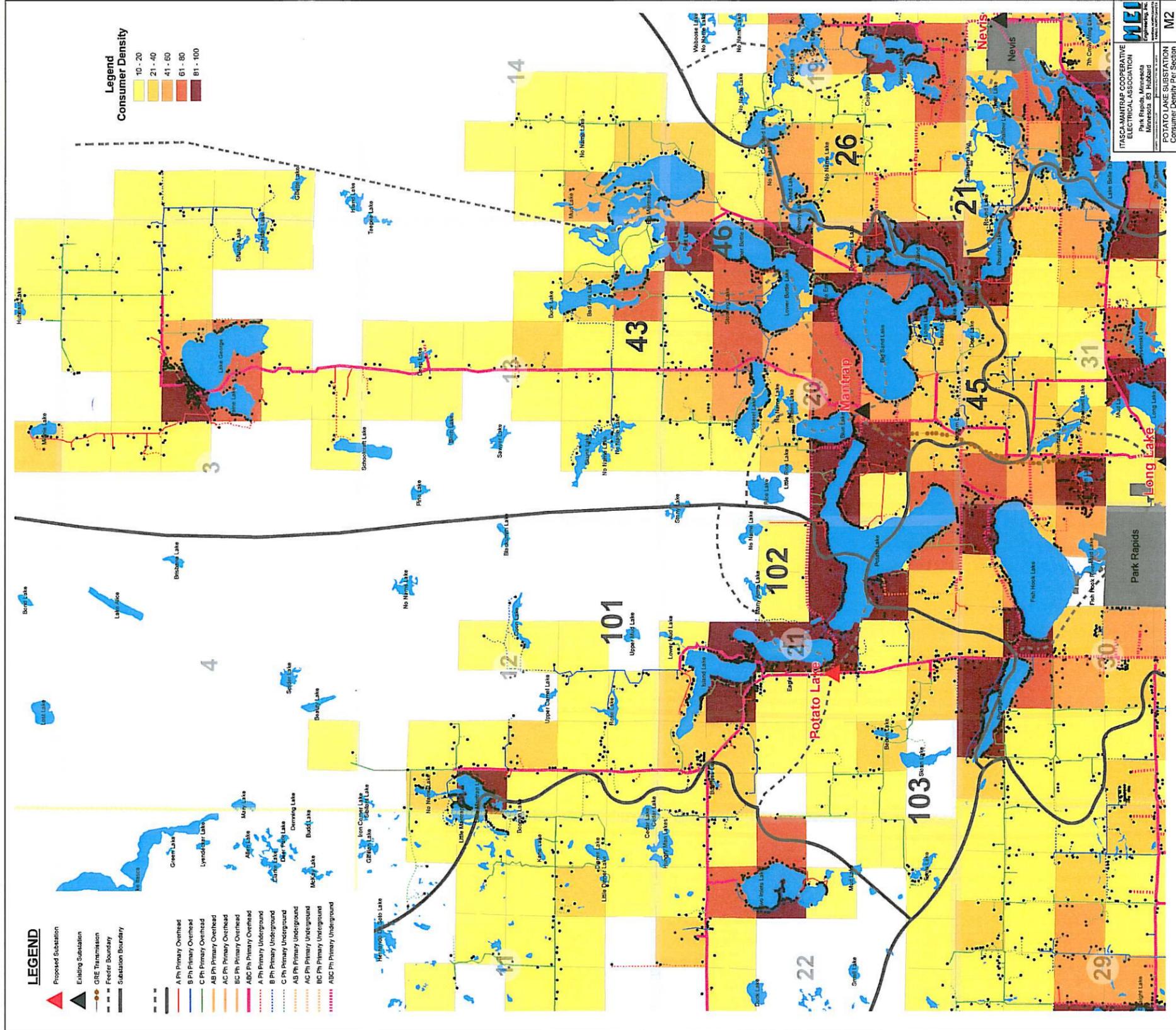


MEI
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**ITASCAMATRAP COOPERATIVE
 ELECTRICAL ASSOCIATION**
 Park Rapids, Minnesota
 Minnesota 56455
 Phone: 218-835-3333
 Fax: 218-835-3334
 www.itascamatraps.org

POTATOLAKE SUBSTATION
 kWh Usage Per Section

M1



- LEGEND**
- ▲ Proposed Substation
 - ▲ Existing Substation
 - GRE Transmission
 - Feeder Boundary
 - Substation Boundary
 - A Ph Primary Overhead
 - B Ph Primary Overhead
 - C Ph Primary Overhead
 - AB Ph Primary Overhead
 - AC Ph Primary Overhead
 - BC Ph Primary Overhead
 - ABC Ph Primary Overhead
 - A Ph Primary Underground
 - B Ph Primary Underground
 - C Ph Primary Underground
 - AB Ph Primary Underground
 - AC Ph Primary Underground
 - BC Ph Primary Underground
 - ABC Ph Primary Underground

ITASCA-MANTAP COOPERATIVE
ELECTRICAL ASSOCIATION
Park Rapids, Minnesota
Minnesota 55763

MEI
Engineering, Inc.
Minnesota 55763

POTATO LAKE SUBSTATION
Consumer Density Per Section

M2