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STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS

FOR THE PUBLIC UTILITIES COMMISSION

In the Matter of the Application by Xcel Energy for a Route Permit for the Hampton-Rochester-La Crosse 345-kV Transmission Line Project

FINAL POST-HEARING BRIEF OF ORONOCO TOWNSHIP

Intervenor Oronoco Township respectfully submits this Final Post-Hearing Brief in support of its argument that the 3A-Crossover Route, previously referred to by Oronoco Township as the "Oronoco Preferred Route," which is included in Exhibit 90, the top half of Exhibit 97, and the Final Environmental Impact Statement ("FEIS"), should be selected as the final route for Applicant Xcel Energy's ("Applicant") CapX2020 Hampton–Rochester–La Crosse 345-kV Transmission Line Project ("Project").

INTRODUCTION

The Court and the Public Utilities Commission ("Commission") are required to consider the factors in Minnesota Rule 7850.4100 when determining where to place the final route for the Project. These factors do not weigh in favor of selection of the Modified Preferred 345 kV Route ("Modified Preferred Route"). As explained more fully below, the 3A-Crossover Route and the Alternate 345 kV Route ("Alternate Route") have fewer impacts than the Modified Preferred Route on human settlement, public health and safety, land-based economies, the environment, and archaeological, historic, and rare and unique natural resources. Additionally, the 3A-Crossover Route more closely adheres to Minnesota's policy of nonproliferation than the other two routes and likely costs the least amount of money to construct. The Court and the Commission should place the final route as far away from people as possible and seek to avoid

or minimize negative impacts to humans and the environment. Accordingly, either the Alternate Route or the 3A-Crossover Route should be selected as the final route for the Project.

ARGUMENT

I. ORONOCO TOWNSHIP IS ADVOCATING FOR EITHER THE 3A-CROSSOVER ROUTE OR THE ALTERNATE ROUTE AS THE FINAL ROUTE.

A. The 3A-Crossover Route is Included in the FEIS, Exhibit 90, and the Top Half of Exhibit 97.

To be absolutely clear, Oronoco Township previously referred to the 3A-Crossover Route as the "Oronoco Preferred Route" and argued for selection of this route in the Post-Hearing Brief it submitted on September 14, 2011. The 3A-Crossover Route appears in the FEIS, Oronoco Township's Exhibit 90, and the top half of the Applicant's Exhibit 97. (Hr'g Tr., vol. 3, 71:17-24 (June 24, 2011).) Contrary to the North Route Group's ("NRG") argument, Oronoco Township is not advocating for the route in Exhibit 89, since this route included a segment that was not included in the scoping decision for the FEIS and cannot be considered by the Court and the Commission. (See NRG's Initial Br. 41-42; Hr'g Tr., vol. 2, 162-63 (June 21, 2011).) Unlike the route in Exhibit 89, the 3A-Crossover Route was identified during the scoping process, consists of route segments considered by the Applicant, and is included in the FEIS. Accordingly, the Court has the authority to recommend the 3A-Crossover Route as the final route, and the Commission has the authority to select the 3A-Crossover Route as the final route. (See Hr'g Tr., vol. 1, 43:20-23 (June 20, 2011).)

B. The 3A-Crossover Route Shares Segments of the Modified Preferred Route and the Alternate Route.

As shown by Exhibit 90, the 3A-Crossover Route generally follows the western half of the Alternate Route, the 3A-Crossover/3P-Zumbro-S Route, and the eastern half of the Modified

Preferred Route. The exact path of the 3A-Crossover Route is specifically described in the FEIS on the sheet maps included in Appendix A – Overview Map Segment 3 as follows:

- **Western Half of the Alternate 345kV Route**

  - **Sheet MR24** – beginning at the North Rochester Substation (N) and commencing east for 1.0 mile while crossing U.S. Highway 52 N, then south on 195th Avenue for 0.5 miles. Sheet MR24 connects to Sheet MR25.

  - **Sheet MR25** – continuing south on 195th Avenue for less than 0.5 miles, then turning southeasterly along a quarter section line for approximately 0.5 miles. Sheet MR25 connects to Sheet MR26.

  - **Sheet MR26** – continuing east along a quarter section line for 2.0 miles. Sheet MR26 connects to Sheet MR27.

  - **Sheet MR27** – continuing east along a quarter section line for 2.0 miles crossing County State Aid Highway (CSAH) 11. Then east for another 0.5 miles before turning northeast cross-country for 0.25 miles. Sheet MR27 connects to Sheet MR28.

  - **Sheet MR28** – continuing east along a quarter section line for roughly 1.25 miles, turning southeast for 0.25 miles, then east along a quarter section line for less than 1.5 miles and crossing the Zumbro River and its floodplain. Sheet MR28 connects to Sheet MR29.

  - **Sheet MR29** – commencing east for approximately 1.0 mile along a quarter section line before heading southeasterly for 0.5 miles and crossing U.S. Highway 63. Continuing east for 0.5 miles, south for 0.5 miles along a quarter section line and then southeast for 0.5 miles. Sheet MR29 connects to Sheet MR30.

  - **Sheet MR30** – continuing east for 0.25 miles along a quarter section line before turning south cross-country for 0.5 miles, and then east for 0.75 miles along a quarter section line. Sheet MR30 connects to Sheet MR31.

- **3A-Crossover/3P-Zumbro-S**

  - **Sheet MR31** – continuing south for 0.75 miles along a quarter section line before joining up with the FEIS designated "Variation on A Route," also known as the "3A-Crossover" and the "3P-Zumbro-S," commencing south for 0.5 miles. Sheet MR31 then connects to Sheet MR46.

  - **Sheet MR46** – continuing south for less than 0.5 miles along a quarter section line before turning southeast for less than 0.25 miles and heading directly south

for 0.25 miles leaving Wabasha County and crossing into Olmsted County. Beginning at the Wabasha/Olmsted County line and continuing south for 0.5 miles along a quarter section line, turning east for 1.0 mile along a quarter section line to a point where the 3A-Crossover joins with the Modified Preferred Route, thus joining the Alternate Route to the Modified Preferred Route. Sheet MR 46 then connects to Sheet MR12.

- **Eastern Half of the Modified Preferred Route**

  - **Sheet MR12** – From the point where the 3A-Crossover joins with the Modified Preferred Route, continuing east along a quarter section line for 2.0 miles. Sheet MR12 then connects to Sheet MR13.

  - **Sheet MR13** – continuing east for 2.5 miles along a quarter section line. Sheet MR13 connects to Sheet MR14.

  - **Sheet MR14** – continuing east for 3.0 miles along a quarter section line. Sheet MR14 connects to sheet MR15.

  - **Sheet MR15** – continuing east for 2.5 miles along a quarter section line. Sheet MR15 connects to Sheet MR16.

  - **Sheet MR16** – continuing east for 2.0 miles along a quarter section line before proceeding another 0.5 miles and crossing U.S. Highway 42.[1] Sheet MR16 then connects to Sheet MR17.

  - **Sheet MR17** – proceeding another 1.5 miles along a quarter section line before turning north for 0.5 miles, then east for 1.0 miles.[1] Sheet MR17 connects to Sheet MR18.

  - **Sheet MR18** – continuing northeasterly for approximately 2.0 miles before joining up with the Alternate Route/ Modified Preferred Route. Sheet MR18 connects to Sheet MR19.

  - **Sheet MR19** – following the Alternate Route/ Modified Preferred Route cross-country.[1] Sheet MR19 connects to Sheet MR20.

  - **Sheet MR20** – continuing to follow the Alternate Route/ Modified Preferred Route cross-country.[1] Sheet MR20 connects to Sheet MR21.

  - **Sheet MR21** – following the Alternate Route/ Modified Preferred Route cross-country.[1] Sheet MR21 connects to Sheet MR22.

[1] The route segments described also follow an "existing 69 kV transmission line for approximately 3.5 miles near Plainview, and the existing Q-3 line for 11 miles to the Alma Crossing." (Applicant's Post-Hearing Br., p. 11 (Sept. 14, 2011.)

- **Sheet MR22** – continuing along the Alternate Route/ Modified Preferred Route traveling cross-country.[1] Sheet MR22 connects to Sheet MR23.

- **Sheet MR23** – continuing to follow the Alternate Route/ Modified Preferred Route traveling cross-country before crossing the Mississippi River at the Alma Crossing.[1]

Placement of the final route along the 3A-Crossover Route or the Alternate Route will satisfy the Minnesota Rule 7850.4100 factors and result in the least negative impacts to humans and the environment.

II. THE 3A-CROSSOVER ROUTE OR THE ALTERNATE ROUTE SHOULD BE SELECTED AS THE FINAL ROUTE FOR THE PROJECT.

When the Modified Preferred Route, the Alternate Route, and the 3A-Crossover Route are studied and compared, it becomes clear that either the 3A-Crossover Route or the Alternate Route is the best route alternative for the Project. Consideration of the factors in Minnesota Rule 7850.4100 shows that, out of the three routes, the 3A-Crossover Route and the Alternate Route often have the least impacts on humans and the environment. Where the 3A-Crossover Route does not have the least impacts on other factors, it serves to resolve the conflict between the Modified Preferred Route and the Alternate Route by minimizing the negative impacts on humans and development that would occur along the Modified Preferred Route and by minimizing the negative impacts on the environment that would occur along the Alternate Route.

In addition to satisfying the Rule 7850.4100 factors, the 3A-Crossover Route also satisfies the general public. During the scoping process, the public had the opportunity to comment and express any issues or concerns they had with the transmission line Project. The issues that were raised with the greatest frequency are expressed in the following table:

Table 1. Major Issues Raised During Public Scoping Period

Issue	Number of Times Issue Mentioned	Percentage of All Commenters who Raised the Issue
Property Value	67	32%
Proximity to Homes/Structures	66	31%
Land-Based Economics	50	24%
Visual and Aesthetic Impacts	42	20%
EMF	40	19%

(FEIS, App. K, tbl. 1.)

Property values, homes and structures, land-based economics, and aesthetics will suffer the greatest negative impacts if the Modified Preferred Route is selected as the final route, primarily because it is more densely populated and has a greater focus on development than either the Alternate Route or the 3A-Crossover Route. EMF will also have the potential to affect more people along the Modified Preferred Route. As explained more fully below, these impacts will be minimized with placement of the final route along either the 3A-Crossover Route or the Alternate Route.

A. Selection of the 3A-Crossover Route or the Alternate Route Minimizes the Negative Effects on Human Settlement.

Minnesota Rule 7850.4100 requires the Commission to consider the "effects on human settlement, including, but not limited to, displacement, noise, aesthetics, cultural values, recreation, and public services" when selecting a final route for the Project. Minn. R. 7850.4100(A). The Modified Preferred Route contains the most houses and structures within the 1,000-foot route width, is the most densely populated route, and will suffer the greatest negative impact on human settlement if it is selected as the final route. Selection of the 3A-Crossover Route or the Alternate Route will minimize these devastating impacts.

1. *The Modified Preferred Route has More Developed Acres and Houses than the 3A-Crossover Route or the Alternate Route.*

Human settlement will suffer the greatest impacts if the Modified Preferred Route is selected as the final route. The chart below shows that human settlement, as evidenced by developed acres and house counts, is greater along the Modified Preferred Route than it is along either the 3A-Crossover Route or the Alternate Route.

Route	Length (miles)	Developed Land Cover in Route (acres)	Houses Within 1,000-Foot Route Width
Modified Preferred Route	44.7	36.6	26
3A-Crossover Route	**44.5**	**19**	**21**
Alternate Route	42	26.1	20

(FEIS, App. J, Segment 3 – Houses ROW Type, Segment 3 – GAP Data; see also fig. 8.3.4.3-1.) The Modified Preferred Route is the most developed route with 36.6 developed acres, whereas the Alternate Route has 26.1 developed acres, and the 3A-Crossover is the least developed route with only 19 acres. The Modified Preferred Route also has more houses than the other two routes. Specifically, within the 1000-foot route width, there are 26 houses along the Modified Preferred Route, 21 houses along the 3A Crossover Route, and 20 houses along the Alternate Route.

In reality, however, these house counts are not an accurate measure of the true impact the Project will have along the Modified Preferred Route. The current house counts do not take into account the future residential development that is planned in Oronoco Township and Olmsted County pursuant to their respective land-use plans. (Hr'g Ex. 66 at Ex. 5 (Oronoco Township Land Use Plan), Ex. 8 (Olmsted County Future Land Use Map); Hr'g Tr., vol. 1, 124:12-14.) Unlike the Modified Preferred Route, the Alternate Route and the 3A-Crossover Route cross agricultural land in Wabasha County that is not slated for residential development, but rather for

continued agricultural use. (Hr'g Ex. 66 at Ex. 12 (Wabasha County Comprehensive Plan Map); Hr'g Tr., vol. 1, 131:4-20.) It is expected that, pursuant to these land-use plans, Oronoco Township and Olmsted County will become even more populated in the future, while Wabasha County's population will remain somewhat stable. These future development patterns and expectations are important to consider, especially when seeking to avoid impacts to human settlement. However, Oronoco Township's and Olmsted County's plans for future development have seemingly been ignored by the Applicant, based upon its selection of and preference for the Modified Preferred Route as the final route for the Project.

Interestingly, the Applicant is giving deference to MnDOT's future highway plans, but it is not giving that same deference to Oronoco Township's and Olmsted County's future plans for urbanization. In accordance with MnDOT's accommodation policy, MnDOT and the Applicant have worked together to "plan for the future and try to locate utilities where they are best positioned for the long term." (Hr'g Tr., vol. 3, 207:18-19.) Oronoco Township and Olmsted County, as government units with standing, should receive the same considerations. Their plans for residential development are just as important and predictable as MnDOT's highway plans. The Applicant agrees that "finding a permanent location for the pole is a worthy and common objective." (Hr'g Tr., vol. 3, 210:22-23.) That permanent location should be as far away as possible from human settlement, both present and future.

With residential development planned along the Modified Preferred Route, it is more than likely that the number of homes located along the Modified Preferred Route will increase over the years, thus increasing the impact of the Project on human settlement. It makes sense to plan for the future now, seek to minimize impacts to human settlement, and locate the Project where it is best positioned for the long-term. The best position for the Project is away from

current and expected areas of human settlement and development on either the 3A-Crossover Route or the Alternate Route.

2. *Recreation is More Prevalent at the Lake Zumbro Crossing on the Modified Preferred Route than at the Zumbro River Crossing on the 3A-Crossover Route and the Alternate Route.*

The negative impacts on recreation at the Modified Preferred Route's White Bridge Road crossing of Lake Zumbro can be avoided with placement of the final route on the 3A-Crossover Route or the Alternate Route. Oronoco Township is aware that Olmsted County currently has 16 protected water lakes within the County's jurisdictional boundary, as noted on page 5 of Oronoco Township's Post-Hearing Brief. However, it should be clarified that Lake Zumbro is recognized as the only recreational lake in Olmsted County that allows motorized boat usage with gasoline engines, in addition to other forms of recreational activities including water skiing, jet skiing, swimming, kayaking, canoeing, and fishing. In fact, Lake Zumbro is the only lake in Olmsted County that has a surface use zoning ordinance, Resolution No. 94-109, that restricts speeds at certain surface water levels to minimize wake zones on the lake. No other lakes in Olmsted County are restricted under this ordinance.

Placement of the final route on the Modified Preferred Route will negatively impact recreation on Lake Zumbro. As indicated previously in this preceding, the Lake Zumbro crossing at the White Bridge Road on the Modified Preferred Route will have the greatest impact on recreational users due to the fact that recreation abounds on Lake Zumbro. Oronoco Township expert Jeffrey Broberg testified in his Surrebuttal Testimony about the 2007 Minnesota Department of Natural Resources ("DNR") Division of Fish and Wildlife Lake Zumbro and Lower Zumbro River Creel Survey ("Survey"). (Hr'g Ex. 68 at Ex. 5, 69 at pp. 4-6.) The

Survey provided a summary of Creel Season Fishing Pressure Estimates by Site for the Zumbro River and Lake Zumbro, as shown in the table below:

Table 1: Summary of Creel season fishing pressure estimates by site for the Zumbro River and Lake Zumbro, MN.

Location in DNR Study	Route Location	Angler hours	Standard Error
Green Bridge (Zumbro River)	Alternate Route and 3A-Crossover Route[2]	1,673	355
White Bridge Road (Lake Zumbro)	Modified Preferred Route	Boat Anglers 25,158 Bank anglers 5,312 **All anglers 30,470**	2,735 710 3,005

(Ex. 68 at Ex. 5; Source: MN DNR Division of Fish and Wildlife Lake Zumbro and Lower Zumbro River Creel Survey, Table 3 (p. 15) and Table 14 (p. 20), May- August 2007.)

The table indicates that the fishing pressure is the greatest at the Lake Zumbro White Bridge Road crossing on the Modified Preferred Route with 30,470 angling hours, compared to 1,673 angling hours at the Zumbro River Green Bridge crossing, which is approximately one mile upstream from the Alternate Route and 3A-Crossover Route. Since angling is considered a recreational activity, the amount of fishing pressure estimated by the DNR Survey can be directly related to the use of the recreational resource. It also provides a metric to quantify the "use" of the resource and shows that the magnitude of "use" on Lake Zumbro surpasses the magnitude of "use" on the Zumbro River by a factor of 15:1. The impacts to Lake Zumbro, as an important recreational resource on the Modified Preferred Route, should be avoided.

3. *Visuals and Aesthetics are Most Greatly Impacted on the Modified Preferred Route.*

The relationship between the usage of the recreational resource and the quality of the users' experience is directly proportional to the visual impact on the recreational user. Visual

[2] While the Green Bridge is not the exact location where the Project will cross the Zumbro River on the Alternate Route or the 3A-Crossover Route, it is approximately one mile upstream and is the closest point in the Survey at which to estimate fishing pressure on these routes.

impacts, such as the placement of transmission line structures near Lake Zumbro on the Modified Preferred Route, the river crossing with the greatest recreational use, will result in recreational avoidance. It is important to note that the visual impact on the recreational users of Zumbro Lake will be constant. The fishermen and women who use the lake will have the 345 kV line in sight at all times. When placed across the Zumbro River, along the Alternate Route, it will be observed by canoers and boaters only for a short time as they move up or down the river. Therefore, the Modified Preferred Route will have a larger impact on recreational users through visual and enjoyment impacts than either the 3A-Crossover Route or the Alternate Route.

Accordingly, the final route should not be placed along the Modified Preferred Route where the only recreational lake in Olmsted County will be impacted. Recreational impacts and visual impacts on recreational users will be minimized by selecting the 3A-Crossover Route or the Alternate Route at the Zumbro River crossing.

B. Selection of the 3A-Crossover Route or the Alternate Route has the Least Negative Effects on Land-Based Economies.

Minnesota Rule 7850.4100 requires the Commission to consider the "effects on land-based economies, including, but not limited to, agriculture, forestry, tourism, and mining" when selecting a final route for the Project. Minn. R. 7850.4100(C) (emphasis added). The Applicant has limited its analysis to the four items specifically enumerated in the Rule: agriculture, forestry, tourism, and mining. However, land-based economies must also include issues related to development properties, hobby farms, and small parcels created to accommodate rural home ownership. That clearly defines the property in Oronoco Township along the Modified Preferred Route.

1. *A Greater Number of Parcels Along the Modified Preferred Route are More Negatively Impacted by the Project Than Parcels Along the 3A-Crossover Route or the Alternate Route.*

More parcels will be affected between Highway 52 and Highway 63 along the Modified Preferred Route than along either the 3A-Crossover Route or the Alternate Route. As demonstrate by the chart below, the Modified Preferred Route has twice as many parcels as the 3A-Crossover Route and the Alternate Route within the 1,000-foot route width between Highway 52 and Highway 63. Within 1.25 miles of the route between Highway 52 and Highway 63, the Modified Preferred Route has nearly five times as many parcels as the 3A-Crossover Route and the Alternate Route.

US 52 to US 63	**Miles**	**Parcels within 1,000 feet**	**Parcels within 1.25 miles of route**
Modified Preferred Route	15.3	252	3136
3A-Crossover Route	12.2	129	676
Alternate Route	12.2	129	676

(Hr'g Ex. 68, p. 9, Ex. 3.)

The parcels along the Modified Preferred Route are also smaller in size than the parcels along the 3A-Crossover Route and the Alternate Route. Assume a five-acre, 10-acre, or 20-acre parcel located in Oronoco Township. Tables 5 and 6 in Exhibit 9 to the Direct Testimony of William P. Smith indicate that the average per-acre value in Oronoco Township is around $6,000. (Hr'g Ex. 66.) Tables 5 and 6 of the same exhibit indicate that Wabasha County property is valued at approximately $3,000 per-acre range. (Id.) But 5, 10, or 20-acre parcels are not found in Wabasha County. That is because the zoning does not provide for it, and the long-term plan is to keep that acreage as farmsteads, not to have it developed. Consequently, in

Wabasha County, parcels are likely at least 160 acres and sometimes larger.[3]

When you analyze the impact of a 150-foot easement corridor going across the front of a five-acre square parcel, which is 467 feet per side, you see that such an easement would encompass 32% of such a parcel. A 10-acre parcel at 660-feet a side would have 23% of its total area encumbered by such an easement. A 20-acre parcel, if it were square, would have 16% of its surface encumbered. If the 20-acre parcel was rectangular, it would have an 11.35% encumbrance if the easement was on the short side, and a 22.7% encumbrance if the easement was on the longer side. A 160-acre farmstead, 2,640-feet per side, would only have encumbered 5.7% of its land by the easement. Even that figure is grossly misleading given the fact that the overwhelming majority of that 5.7% is still farmable.

Even the percentages set forth above do not tell the whole story. If you encumber 32% of a five-acre square parcel that abuts the road, you may well have effectively destroyed the entire five-acre parcel as a building site. The residual damage to the remaining two-thirds of that five-acre site is immense. Similar arguments can be made for a 10 or 20-acre site that is intended for rural residential use or a hobby farm. The same argument does not apply to a 160-acre parcel zoned and planned to remain farmland indefinitely. Not only are you impacting a smaller percentage of the larger size parcel, but since it is planned and zoned to remain agricultural, you

[3] The NRG continues to misinterpret Oronoco's land-based economies argument in this respect. Oronoco is not saying put the line where the poor people live. Who is wealthier: the owner of a 160-acre parcel at $3,000 an acre or the owner of a 10 or 20-acre parcel at $6,000 an acre? Because of the size differential, comparing Oronoco Township property with Wabasha County property on a per-acre basis does not work. You must recognize the parcel size differential created when Oronoco Township property is subdivided to encourage residential small parcel development, and Wabasha County property is zoned to keep land in large parcels for farming purposes. Farming parcels do not decrease in size. If anything, they increase in size. Likewise, development property never increases in size, but most likely will continue to decrease in size as development continues to occur. The per-acre price differential reflects the smaller parcel size and residential use, not the wealth of the owner.

do not have nearly the impact on the occupied farmstead that you would on the remaining portion of a much smaller building site.

2. ***The Project will be in Closer Proximity to Structures Along the Modified Preferred Route Now and in the Future.***

Pages 42 to 43 of the FEIS addresses the issue of the Project's proximity to structures:

> Regulators and utilities try to select routes that avoid residences, outbuildings and other structures as much as possible. . . . The primary way to reduce proximity to homes and buildings is through careful route selection. As stated in the route permit application, the applicant tried to avoid residences and buildings when selecting their proposed routes. Avoiding homes would also be an important criterion for final route selection.

In identifying homes close to the proposed line, the Applicant has told us 26 such homes would be impacted by the Modified Preferred Route, 21 by the 3A-Crossover Route, and 20 by the Alternate Route. One of the deficiencies in the FEIS and in the Applicant's analysis, however, is the fact that the future planned uses for these routes are not considered. That is to say, what will be the impact on homes and buildings <u>expected</u> to be constructed in the future along these three routes? No one disputes, nor could they dispute, the fact that, if the Modified Preferred Route through Oronoco Township is selected, more people, homes, businesses, churches and the like will be constructed in proximity to the 345 kV line. The prospect of similar construction and development along the Alternate Route in Wabasha County west of the Zumbro River is minimal. The zoning simply does not allow for it, nor does the planning anticipate it.

The Applicant makes the argument that development in urban areas such as Shakopee, has had to accommodate high voltage transmission lines (HVTLs). That argument misses the mark. The City of Shakopee faces the Minnesota River to the north and west. When the City began to expand rapidly in the past 20 years, it needed to go in a southerly direction toward the

pre-existing HVTLs. Urban development is dictated primarily by utilities, sewer and water being the most important, with transportation next in line. It was not as though Shakopee had an alternative to developing through and past the HVTL system that was originally constructed through what was then farmland and not even within the city limits. That does not make development around HVTLs optimum; it simply means that sometimes it cannot be avoided. When the HVTLs were built through Shakopee, there was probably little in the way of planning and zoning to impact their placement. In retrospect, no doubt the City of Shakopee would have requested those transmission lines to go further south had the extent of Shakopee's future growth been known 50 years ago.

We have those planning resources today in a much more comprehensive manner. We know what is coming in Oronoco Township and Olmsted County and what is expected in Wabasha County. Page 43 of the FEIS states:

> **7.4 Land Use**
> This section provides an overview of potential transmission line impacts on existing land use and regulated land use plans, such as county, city, and township zoning plans and ordinances. While local approvals are not required for the construction and operation of this project, knowledge of current zoning designations are valuable because they provide insight into the possible impacts on existing land uses and future development plans. . . . In municipalities and developing suburban areas, transmission lines can conflict with recreational, residential, and other potential future development. For example, they can conflict directly with zoned development if new construction is planned within the ROW itself (which is not allowed). More commonly, a proposed route could more indirectly conflict with zoning or other land use plans in nearby area due to visual impacts or other issues.

(Emphasis added).

At page 54, the FEIS notes that residential development along proposed routes is denser near the Twin Cities Metropolitan region and as the line approaches the Rochester area. It also notes that commercial and industrial land uses are also more concentrated in these areas. The

deficiency of the FEIS is that, while acknowledging impacts on future development plans, there is no analysis performed to measure those impacts. In an interesting juxtaposition, the Applicant considered and indeed planned around MnDOT's future plans for highway expansion and accommodated those potential future plans, even when actual plans did not exist as of today. The same deference given to MnDOT, however, was not given to Olmsted County or to Oronoco Township, both of which have existing land use plans for future development along the Modified Preferred Route west of the Zumbro River. Oronoco Township acknowledges it is not MnDOT, but both it and Olmsted County are governmental entities whose long-range planning has effectively been ignored by the Applicant.

3. *Property Values Along the Modified Preferred Route will be Most Negatively Impacted by the Project.*

The FEIS addresses property values beginning at page 38, and those comments include the following:

> Public input gathered during the scoping process for this project indicated that many people are concerned about the potential of HVTLs on the value of their property. This concern is understandably higher among residents living adjacent to the proposed routes.
>
> * * *
>
> Public concerns over the potential negative impact of nearby transmission lines on property values generally fall into one or more of the following three categories:
>
> 1. **Concern over the potential health effects from Electric and Magnetic Fields (EMF):** . . . [P]ublic perception of the effects of EMF on health can influence decisions relating to the purchase of property adjacent to a transmission line, and may exert an influence on property value.
>
> 2. **Potential aesthetic impacts of transmission lines:** The visual profile of transmission line structures and wires may decrease the perceived aesthetic quality of adjacent property. Also, while transmission lines would not generate noise above the state noise standards, the public perception may be that transmission lines generate unacceptable noise levels.

3. **Potential interference with farming operations and/or foreclosure of present or future land uses:** Installation of a transmission line can remove arable land from production. It also has the potential to interfere with the operation of equipment, create safety hazards, and foreclose the opportunity to consolidate farmlands or develop the land for another use.

* * *

Morgan, et al., 1985 – A questionnaire asked participants to rank the risk from transmission lines, electric blankets, and 14 other common hazards. Electric blankets and transmission lines were ranked as presenting the least risk. Participants were then provided with information on EMF and its potential health effects. Additional subsequent questions and responses indicated a change in perception and an increased concern about the risk of EMF.

* * *

Delaney and Timmons, 1992 – Survey results from 219 real estate appraisers found that 84% believe that transmission line proximity results in an average ten percent lower market value. [For property owners, perception has an impact on the market.]

* * *

Priestley and Evans, 1996 – Conducted a survey of 445 homeowners living near transmission lines in the San Francisco area. Eighty-seven percent of the 267 respondents felt the transmission line was a negative element in their neighborhood.

* * *

Colwell and Foley, 1979 – Examined 200 property sales over a ten-year period in Decatur, Illinois, and found that sales price increases as distance from the transmission line increases. Property values were approximately six percent lower within 50 to 200 feet of the transmission line, but there was no difference in property value beyond 200 feet.

Colwell, 1990 – Followed up the study above and confirmed that the selling price of residential property increases as distance from the transmission line increases. The rate of increase slows with distance and eventually disappears.

* * *

Hamilton and Schwann, 1995 – Reviewed previous literature and found that transmission lines can reduce adjacent property values, but that the reduction is

generally less than five percent of the property value, and that the reduction diminishes at 500 feet.

Des Rosiers, 1998 – Reviewed property values of 507 homes in the Montreal area, and found an average drop in property value of 9.6 percent for homes immediately adjacent to the line. He also found an average increase of up to 9.2 percent in value for homes one to two lots away from the transmission line, and no effect beyond 500 feet.

* * *

Between 1978 and 1982, Jensen and Weber and the Jensen Management Company conducted three studies in west-central Minnesota. . . . The 1978 study found that the landowners cited an inconvenience to the presence of the line, but had not paid less for their land. (citation omitted) The 1982 study, however, found there was a broad range of effect from no effect to a 20 percent reduction, which depended on the amount of disruption to the farm operations.

In the final EIS on the Arrowhead-Weston Electric Transmission Line Project, the Wisconsin Public Utilities Commission (PSC) addressed the issue of property value changes associated with high voltage transmission lines. This document summarized the findings of approximately 30 papers, articles, and court cases covering the period of 1987 through 1999. The Arrowhead-Weston EIS provides six general observations:

- The potential reduction in sales price for single family homes may range from 0 to 14%.

- Adverse effects on the sale price of smaller properties could be greater than effects on the sale of larger properties.

- Other amenities, such as proximity to school or jobs, lot size, square footage of a house and neighborhood characteristics tend to have a much greater effect on sales price than the presence of a power line.

- The adverse effects diminish over time.

- Effects on sales price are most often observed for property crossed by or immediately adjacent to a power line, but effects have also been observed for properties farther away from the line.

- The value of agricultural property is likely to decrease if the power line poles are placed in an area that inhibits farm operations.

In addition to the studies that show property value reductions, the FEIS also references studies that show HVTLs have little or no impact on value. The point is that, in the real estate market, perception, not reality, governs the desirability, saleability, and price of the property. That is to say, it is the perception that property values are impacted by HVTLs that causes the market to react to them. The reason for those perceptions may be visual and aesthetic, health related, or simply a sense that the HVTLs interfere with the use and enjoyment of residential property and hobby farms. The FEIS, as quoted above, recognizes that public perception has such an impact. If a buyer is in the market for a five or 10-acre rural residential property or small hobby farm, and finds two comparable properties, one of which is encumbered by an HVTL, which is the buyer more likely to purchase? Obviously, the unencumbered property. Consequently, if the owner of the encumbered property wishes to interest a buyer in choosing his land, he is going to have to provide an incentive by lowering the price.

The long and the short of it is this: the Modified Preferred Route west of the Zumbro River will clearly have the greatest impact on not only present, but especially future dwellers and users of that land, than will the Alternate Route west of the Zumbro River. Shortly after the Alternate Route crosses the Zumbro River, the 3A-Crossover Route connects it to the Modified Preferred Route to continue eastward toward the Mississippi River. It is clear that the 3A-Crossover Route mitigates a great number of concerns expressed about following the Alternate Route east of the Zumbro River and provides the advantages of the Modified Preferred Route east of the river, while avoiding all of the people-related entanglements that the Modified Preferred Route presents west of the river.

4. ***FHA Regulations Weigh in Favor of Locating the Final Route Away From the Modified Preferred Route.***

On page 40, the FEIS cites the FHA Regulations relating to FHA financing as follows:

1. If the dwelling or related property improvement is located within such an [HVTL] easement, the lender must obtain a letter from the owner or operator of the tower indicating that the dwelling and its related property improvements are not located within the tower's (engineered) fall distance in order to waive this requirement.

2. If the dwelling and related property improvements are located outside the easement, the property is considered eligible and no further action is necessary. The appraiser, however, is instructed to note and comment on the effect on marketability resulting from the proximity to such site hazards and nuisances.

The FHA regulations seem to expect that the easement will include the engineered fall distance, which is a reasonable assumption. The regulations did not anticipate a situation such as this where the engineered fall distance is up to 340 feet, while the easement is only 150 feet. A fair reading of those regulations indicates that FHA does not want dwellings and related property improvements located with the engineered fall distance. Even the way the regulations are written requires the appraiser to note and comment on the effect on marketability resulting from a proximity to such "site hazards and nuisances." This is yet another indication of the reason to try and keep HVTLs away from where people presently are, as well as away from where people are reasonably expected to be in the future. In other words, the Project should be kept away from the Modified Preferred Route west of the Zumbro River.

C. Selection of the 3A-Crossover Route Conforms to Minnesota's Policy of Nonproliferation.

Minnesota Rule 7850.4100 requires the Commission to consider the "use of existing transportation, pipeline, and electrical transmission systems or rights-of-way" when selecting a final route for the Project. Minn. R. 7850.4100(J). The 3A-Crossover Route follows existing transmission lines, roads, and property lines for a larger portion of its route than either the Modified Preferred Route or the Alternate Route, and therefore, more closely conforms to Minnesota's non-proliferation policy. The 3A-Crossover Route's adherence to Minnesota's non-

proliferation policy is demonstrated by the table below. The figures in the table for the Modified Preferred Route and the Alternate Route columns were taken from Hearing Exhibit 16A, which is the Revised Schedule 3 to Hillstrom's Direct Testimony: "Summary Comparison of Impacts for North Rochester to the Mississippi River Modified Preferred and Alternative Routes." Oronoco Township obtained the figures for the 3A-Crossover column by viewing the sheet maps in Appendix A of the FEIS and counting the transmission lines, roads, and property lines that fell within the 1000-foot corridor along the 3A-Crossover Route.

Summary Comparison of Impacts for North Rochester to the Mississippi River 345 kV Modified Preferred, Alternative and 3A-Crossover Routes

	Modified Preferred Route	**Alternate Route**	**3A-Crossover**
Use or Paralleling of existing ROW (transportation, pipeline, and electrical transmission systems) and property lines			
Total length of route (miles)	44.8	41.9	44.5
Length following Transmission Line (miles)	14.4	9.2	11.8
Percentage of route following Transmission Line	32%	22%	26.5%
Length following road but not Transmission Line	5.4	1.6	1.24
Percentage of route following road but not Transmission Line	12%	4%	2.8%
Length following property line but not transmission line or roads (miles)	17.7[4]	12.4	27.7
Percentage of route following property line but not transmission line or roads	40%	29%	62.2%
Total length following transmission line, roads, or property lines (miles)	37.5	23.3	**40.7**
Percentage of route following transmission line, roads or property lines	84%	55%	**91.5%**
Length not following transmission line, roads or property lines (miles)	7.3	18.7	**3.78**
Percentage of route not following transmission line, roads or property lines	16%	45%	**8.5%**

[4] The NRG mistakenly states the length of the Modified Preferred Route following property line but not transmission line or roads is 7.7 miles, which is an apparent typographical error. (NRG Initial Br., p. 19.) Exhibit 16A provides that this length is actually 17.7 miles.

As highlighted in the table, the 3A-Crossover Route follows existing transmission lines, roads and property lines for 40.7 miles, which is greater than either the Modified Preferred Route, which follows existing transmission lines, roads and property lines for 37.5 miles, or the Alternate Route, which follows existing transmission lines, roads and property lines for 23.3 miles. The 3A-Crossover Route also follows existing transmission lines, roads, and property lines for a greater percentage of its total route length (91.5%) than either the Modified Preferred Route (84%) or the Alternate Route (55%). Only 3.28 miles, or 8.5%, of the 3A-Crossover Route does not follow existing transmission lines, roads, or property lines. Based on this data, use of the 3A-Crossover Route would maximize the use of existing transportation and transmission corridors, as well as property lines, in conformance with Minnesota's non-proliferation policy. Therefore, the 3A-Crossover Route is the best route for the Project.

D. Selection of the 3A-Crossover Route has the Least Negative Effects on Public Health and Safety.

Minnesota Rule 7850.4100 requires the Commission to consider the "effects on public health and safety" when selecting a final route for the Project. Minn. R. 7850.4100(B). There are several issues of public health and safety that arise with the siting of any HVTL, including downed or fallen towers, electric and magnetic fields or EMF, and stray voltage.

1. *Downed or Fallen Towers*

The safety of those adjacent to the line is a concern with respect to the possibility of the towers the Applicant intends to build every 700 to 1,000 feet. Those towers are between 130 and 170-feet high. Apparently, most of the towers will be 150-feet high. The difficulty is that the easement taken by the applicant will only be 150 feet, or 75 feet on each side of the centerline.

Page 38 of the FEIS has this to say about severe weather:

> Severe weather, including high winds, ice and snow storms, and tornadoes, could create possible safety hazards in what is considered the "engineering (designed) fall distance" of an overhead transmission line. Snow and ice accumulation and high winds can increase a structure's weight, making it more susceptible to failure or collapse. While the term "fall distance" is not defined or utilized by the utility industry, by the applicant, or by federal statute or by federal regulation (Xcel Energy, FHA 2009), the HUD Handbook 4150.2 states that: "[f]or field analysis, the appraiser may use the tower height as the fall distance" (Xcel Energy, FHA 2009). The fall distance, therefore is defined by a perimeter around the structure with a radius equal to the height of the tower.

While the Applicant claims that it simply does not define or utilize the term "fall distance," it must recognize that term is defined in the HUD Handbook. That Handbook recognizes that the "fall distance" is literally the distance in any direction a pole might fall. The problem created by the Applicant's refusal to acknowledge the "fall distance" in setting its easement width means that a 170-foot pole falling perpendicular to the transmission line will be 95 feet outside of the Applicant's easement when it hits the ground. Since construction of buildings or homes is allowed outside the easement area, but within the "fall distance," buildings or homes can be constructed within that "fall distance." As an alternative, the landowner can effectively recognize the entire 170-foot fall distance as an area where it would be risky to build, thus losing another 95 feet of property for the distance of the easement, without compensation, according to the Applicant.

Irrespective of how unconcerned the Applicant's primary witness Thomas Hillstrom was with regard to any potential collapse of one of these 17-story high monopoles, the FEIS, as quoted above, makes clear that it is a possibility. As our weather continues to evolve and change in its severity, this may well become more of an issue. If the FEIS recognizes these "possible safety hazards" located within the designed fall distance of 130 to 170-foot towers, why wouldn't this be a concern for anyone living within that design fall distance? Why wouldn't this

impact an informed buyer's decision with regard to purchasing and building within the designed fall distance? This is why page 42 of the FEIS states the following:

> Regulators and utilities try to select routes that avoid residences, outbuildings and other structures as much as possible. . . . The primary way to reduce proximity to homes and buildings is through careful route selection. As stated in the route permit application, the applicant tried to avoid residences and buildings when selecting their proposed routes. Avoiding homes would also be an important criterion for final route selection. . . . [T]he applicant has proposed route centerlines that run along the side of the street without homes or building conflicts when possible.

(emphasis added).

2. *Electric and Magnet Fields or EMF*

Putting aside the concern about the possibility of a tower falling, or even a transmission line breaking, creating an electric whip up to 1,000 feet long, the public is more and more aware of the other health issues relating to HVTLs. Those problems include electric and magnetic fields or EMF. Page 31 of the FEIS describes EMF as follows:

> Electric fields are created by the electric charges (i.e., voltage) on a conductor (e.g., a transmission line). Electric fields are solely dependent upon the voltage of a conductor, not the actual flow of electricity (i.e., current). Electric field strength is measured in kilovolts per meter (kV/m). The strength of an electric field decreases rapidly as the distance from the source increases. Electric fields are easily shielded or weakened by most objects and material, such as trees, buildings, and even human skin.
>
> Although there are no federal regulations regarding allowable electric fields, the Minnesota Public Utilities Commission has set a standard of 8 kV/m for the maximum electric field associated with a transmission line (measured at centerline and at 1 meter above ground).

At page 32, the FEIS sets the calculated electric fields at various distances from the transmission center line. It shows that a pacemaker's lower sensitivity estimate is about 1.3 kV/m, and that directly under the line, the 345 kV line reaches about 3.7 kV/m.

The FEIS then sets forth calculated electric fields at various distances from the transmission center line and includes the EPRI's lower bound pacemaker sensitivity estimate. For almost all portions of the HVTLs, the calculated electric field under the line, and sometimes at the edge of the right-of-way, impact pacemakers. However, that does not tell the whole story. The Applicant continues to assume maximum output in this transmission line of 600 megavolt-amperes (MVA) when the line is designed for 2,050 MVA. Moreover, the project is designed for a potential second 345 kV line on these poles that will also have a capacity of 2,050 MVA. The Applicant's witnesses have acknowledged that the calculations of MVA made by electrical engineer Bruce McKay in Hearing Exhibit 88 are correct using the designed MVA of 2,050. While the Applicant refuses to give us calculated magnetic fields based on the design capacity of this line, Mr. McKay does, and they are concerning.

Page 35 of the FEIS has this to say about health studies:

> A common concern related to EMFs is the potential of adverse health effects that exposure to EMFs may have on children, elderly, and pregnant women. The suggestion that these demographics are more susceptible to adverse health effects from EMF exposure is consistent with a large body of information showing these demographics are more vulnerable than average adults to other exposures, such as chemicals, diseases and ionizing radiation.
>
> * * *
>
> *The National Institute of Health concludes that ELF-EMF exposure cannot be recognized as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard.*
>
> * * *
>
> *Some epidemiological results do show a weak but consistent association between childhood leukemia and increasing exposure to EMF (see the conclusion of IARC and NIEHS).*

The Applicant makes a point that EMF can be induced by common household appliances such as a hair dryer. The point being that, while a hair dryer exposes someone to EMF for a few

minutes a day, the project is a 24-hour-a-day issue. Moreover, using the hairdryer is a personal choice; being exposed to the power line is not a choice at all.

Oronoco Township commends the NRG's Initial Brief section on magnetic fields from page 38 through page 40. This is an excellent summary of the points Mr. McKay was making in his affidavit. We recommend the Court's consideration of the affidavit itself, or the Court can simply look up EMF on the internet, just as potential buyers will. There is a lot of information available that will concern the public.

Page 36 of the FEIS, under "Continued Research," references the continued research and guidelines proposed by, among others, Dr. David Carpenter, who provided guidance on EMF levels for public health, and further notes the Melatonin and Henshaw Effect hypothesis formed by Dennis Henshaw. Dr. Carpenter testified during the recent public hearing on the proposed 345 kV transmission line from Brookings, South Dakota to Hampton, Minnesota and provided testimony regarding his findings on the health effects associated with EMF. Dr. Carpenter is identified by the FEIS as a public health physician and Director of the Institute for Health and the Environment at the University of Albany, SUNY. The FEIS contains the following information on Dr. Carpenter:

> He researched and co-wrote an article titled *Setting Prudent Public Health Policy for Electromagnetic Field Exposures.* Dr. Carpenter concludes "there is strong scientific evidence that exposure to magnetic fields from power lines greater than 4 mG is associated with an elevated risk of childhood leukemia." He suggests that prudent public health policy would reflect this association and limit EMF exposures to levels in the 2 to 4 mG range. He also suggests that EMF exposure may be associated with risk for disease other than childhood leukemia, including Alzheimer's disease and amyotrophic lateral sclerosis (ALS). . . . Dr. Carpenter, in agreement with the "prudent avoidance" approach recommended by MSIWG on EMF issues[,] proposes that regulatory bodies consider EMF levels in their decisions, independent of whether a cause and effect relationship can be shown between EMF exposures and adverse health impacts.

> The Melatonin hypothesis proposed by Professor Denis Henshaw, associates exposure to elevated magnetic fields to a decrease in the natural production of melatonin in the human body, a known natural anti-cancer agent produced by the pineal gland. The Henshaw hypothesis . . . postulates that transmission lines increase the amount of air pollution the human body retains when it is inhaled, thus creating a greater likelihood of developing cancer and/or other adverse health affects. High voltages carried by transmission lines have the ability to separate electrons from individual air molecules (a process known as ionization). Ionization results in the creation of electrically charged particles, referred to as "corona ions." The Henshaw hypothesis proposes that the corona ions may be carried away from the immediate surrounding area by wind. The corona ions are considered to have a sticking ability to cling on to surfaces, similar to a dust particle, and are considered to stick to common air pollutants, such as vehicle exhaust pollution.

We are told we live in a time when man's knowledge doubles every five to 10 years. What is going to happen in 10 or 20 years if there is found to be an undisputed relationship between EMF and negative health impacts? If these HVTLs are in areas where, as expected, population and people are prevalent, the mitigation issues are going to be very significant. Oronoco Township suggests that, with an equal or even better alignment as proposed in either the Alternate Route or the 3A-Crossover Route, severity of these potential issues will be significantly reduced.

Page 37 of the FEIS deals with Implantable Medical Devices and states as follows:

> Research has established that certain electric fields can potentially interfere with implantable medical devices, such as cardiac pacemakers, implantable cardioverter defibrillators (ICDs), neurostimulators, and insulin pumps. This interference, referred to as Electromagnetic Interference (EMI), can cause inappropriate triggering of a device or inhibit a device from responding appropriately.
>
> . . . According to a 2004 Electric Power Research Institute (EPRI) report, implantable cardiac devices are more sensitive to electric fields than to magnetic fields.
>
> * * *
>
> Possible effects of electric fields on pacemakers are:

- Rate increase,
- Erratic pacing,
- Switch to asynchronous pacing or fixed-rate pacing,
- Single beat inhibition (i.e., a single beat is missed by the pacemaker), and
- Total inhibition.

> The 2004 EPI report states that sensitivity to electric fields was reported at levels ranging from 1.5 kV/m upwards, though some units are immune at 20 kV/m.
>
> * * *
>
> Magnetic field exposure is directly related to distance from the transmission line. The strength of both the electric and magnetic fields from transmissions lines is inversely proportional to the square of the distance from the source conductors. As indicated in the route permit application, the applicant has selected route options and designs in part to avoid residences to the greatest possible extent.

As the FEIS points out, the route should be selected and the project designed in part to avoid residences to the greatest possible extent. The FEIS should have gone on to mention not just residences, but commercial applications of land and things such as churches and public buildings, which can and will occur along the Modified Preferred Route as it crosses through Oronoco Township. Why would we knowingly take such a risk when it can be avoided by the Alternative Route or the 3A-Crossover Route?

3. ***Stray Voltage.***

Yet another issue dealt with in the FEIS is stray voltage. At pages 37-38 of the FEIS, you will find the following:

> Stray voltage is an extraneous voltage that appears on grounded surfaces in buildings, barns, and other structures. Stray voltage and its impact is normally an issue associated with electric distribution lines and is a condition that can exist between the neutral wire of a service entrance and grounded objects in buildings. The source of stray voltage is a voltage that is developed on the grounded neutral wiring network of a building and/or the electric power distribution system. Stray voltage can result from damaged, corroded, or poorly

> connected wiring or damaged insulation. . . . Transmission lines, however, can induce stray voltage on a distribution circuit that is parallel and immediately under the transmission line.
>
> * * *
>
> Stray voltage safety concerns are primarily associated with distribution lines. Stray voltage is not identified as a safety concern associated with the project; however, since transmission lines can induce stray voltage on distribution circuits that are parallel and immediately under a transmission line, mitigation measures may be necessary if the project transmission line parallels or crosses distribution lines.

As development occurs over the next 50 years in Oronoco Township, and more and more distribution lines will be needed to serve the population in that area, stray voltage issues will increase as will the need to, in some manner, mitigate that problem. Either the Alternate Route or the 3A-Crossover Route provides a great deal of initial mitigation to that problem by staying away from areas that are developed now and will be even more developed in the future.

E. Selection of the 3A-Crossover Route has the Least Negative Effects on Archaeological and Historic Resources.

Minnesota Rule 7850.4100 requires the Commission to consider the "effects on archaeological and historic resources" when selecting a final route for the Project. Minn. R. 7850.4100(D). Despite the NRG's position regarding the alleged abundance of archaeological and historic sites along the Alternate Route, the greatest number of archaeological and historic sites is actually found along the Modified Preferred Route, as reflected in the table below:

Route	Number of archaeological sites within one-half mile	Number of historic sites within one-half mile
Modified Preferred Route	7	14
3A-Crossover Route	**6**	**8**
Alternate Route	8	9

(FEIS, p. 180, fig. 8.3.4.10-1; fig. 8.3.4.10-2.)

As the table shows, the least number of archeological sites and historic sites is found along the 3A-Crossover Route. The 3A-Crossover Route has only six (6) archaeological sites, whereas the Modified Preferred Route has seven (7) sites and the Alternate Route has eight (8) sites. The 3A-Crossover Route also has only eight (8) historic sites, compared to the Modified Preferred Route's 14 sites and the Alternate Route's nine (9) sites. This factor clearly weighs in favor of locating the final route along the 3A-Crossover Route, in order to have the least impact on archaeological and historic resources.

F. Selection of the 3A-Crossover Route has the Least Negative Effects on the Natural Environment, Including Effects on Flora and Fauna.

Minnesota Rule 7850.4100 requires the Commission to consider the "effects on the natural environment, including effects on air and water quality resources and flora and fauna" when selecting a final route for the Project. Minn. R. 7850.4100(E). As shown in the table below, the following acreages of native plant communities are located within the route width of each of the respective routes: 121.5 acres in the 3A-Crossover Route; 122.5 acres in the Alternate Route; and 146.2 acres in the Modified Preferred Route.

				MCBS Native Plant Communities
Route	**Start**	**End**	**ROW (ft)**	**Area (acres) in Route Width**
Modified Preferred Route	North Rochester (S)	Mississippi River	150	146.2
3A-Crossover Route	**North Rochester (N)**	**Mississippi River**	**150**	**121.5**
Alternate Route	North Rochester (N)	Mississippi River	150	122.5

(FEIS, App. J, Segment 3 - MCBS.) The largest acreage of native plant communities is impacted along the Modified Preferred Route, while the smallest acreage is impacted along the 3A-Crossover Route.

Similarly, the fewest number of Reinvest in Minnesota ("RIM") conservation easements will be impacted by the 3A-Crossover Route. The RIM critical habitat match program encourages private citizens and organizations to help fund the acquisition and development of critical fish and wildlife habitat by having their donations of land or cash matched from a special state fund. The acquisition and enhancement of critical habitat includes, but is not limited to, restoring wetlands, improving forest habitat, planting critical winter cover, protecting undisturbed plant communities, preserving habitat for rare plant and animal species, protecting native prairie and grasslands, and preserving spawning and reproduction areas for fish. A RIM conservation easement is 45 years or perpetual in duration. Once established, certain restrictions are placed on the property to prevent disruption of the land. For example, a structure cannot be built on a RIM acreage and a walking path or trail cannot be mowed. The RIM acreage must remain in its natural state, and if it does not, the owner of the land encumbered by the RIM easement is required to pay liquidated damages back to the State. This is a point completely ignored by the Applicant.

The table below shows that the Modified Preferred Route contains the greatest number of RIM conservation easements within the 150-foot ROW and within 1 mile of the route, and has almost two times as many RIM conservation easements as either the 3A-Crossover Route or the Alternate Route.

RIM Conservation Easements		
	Within ROW	**Within 1 mile of Route**
Modified Preferred Route	25	180
3A-Crossover Route	**1**	**108**
Alternate Route	0	108

(FEIS, p. 173, fig. 8.3.4.7-3.) The Applicant does not explain how placement of the transmission poles within the RIM conservation easements can or will be accomplished, particularly in light

of the severe restrictions placed on the property. The RIM conservation easements are abundant along the Modified Preferred Route. If the Modified Preferred Route is selected as the final route, the critical habitat sought to be preserved by the RIM conservation easements will be damaged or destroyed. Accordingly, the 3A-Crossover Route or the Alternate Route should be selected to minimize these negative impacts.

G. Selection of the 3A-Crossover Route has the Least Negative Effects on Rare and Unique Natural Resources.

Minnesota Rule 7850.4100 requires the Commission to consider the "effects on rare and unique natural resources" when selecting a final route for the Project. Minn. R. 7850.4100(F). The 3A-Crossover Route has the fewest number of state-listed endangered and threatened species, as well as the least acres of significant biodiversity, as reflected in the charts below.

Route	# of state-listed endangered species	# of state-listed threatened species	Total
Modified Preferred Route	3	14	17
3A-Crossover Route	**3**	**10**	**13**
Alternate Route	3	13	16

(FEIS, p. 168, fig. 8.3.4.6-1a; fig. 8.3.4.6-1b.)

				MCBS Significant Biodiversity
Route	**Start**	**End**	**ROW (ft)**	**Area (acres) in Route Width**
Modified Preferred Route	North Rochester (S)	Mississippi River	150	348.5
3A-Crossover Route	**North Rochester (N)**	**Mississippi River**	**150**	**326.9**
Alternate Route	North Rochester (N)	Mississippi River	150	397.4

(FEIS, App. J, Segment 3 - MCBS.) In order to minimize the impacts to these rare and unique natural resources, the 3A-Crossover Route should be selected as the final route.

H. Costs of Construction, Operation, and Maintenance of the Project are Likely the Least Along the 3A-Crossover Route.

Minnesota Rule 7850.4100 requires the Commission to consider the "costs of constructing, operating, and maintaining the facility which are dependent on design and route" when selecting a final route for the Project. Minn. R. 7850.4100(L). The Applicant has provided cost information for the Modified Preferred Route and the Alternate Route, but it has not provided cost information for the 3A-Crossover Route. These costs, as set forth below, show that the Modified Preferred Route is less expensive than the Alternate Route:

Route	Length (miles)	Estimated Cost (millions)
Modified Preferred Route	44.7	$194
3A-Crossover Route	**44.5**	**Unknown, but likely <$194**
Alternate Route	42	$202

The 3A-Crossover Route is slightly shorter than the Modified Preferred Route and utilizes the northernmost crossing of the Zumbro River. Based on the Applicant's comparison of the Zumbro River crossing alternatives on the Modified Preferred Route, the northernmost crossing of the Zumbro River is less expensive than the White Bridge Road river crossing. (See Hr'g Ex. 71, Applicant's Response to Oronoco Township IR5.) According to the Applicant, the White Bridge crossing totaled $194 million and the North crossing totaled $192.2 million. (Id.) The fact that the 3A-Crossover Route is shorter than the Modified Preferred Route and utilizes the least expensive river crossing leads to the logical conclusion that the 3A-Crossover Route would be less expensive than both the Modified Preferred Route and the Alternate Route. Since the costs of construction, operation, and maintenance will likely be allocated among the rate base, it makes sense to select the route that will cost the least. Accordingly, the 3A-Crossover Route should be selected as the final route for the Project.

III. ORONOCO TOWNSHIP'S RESPONSE TO THE NRG'S INITIAL BRIEF.

Oronoco Township would like to respond to the arguments made by the NRG. To begin with, Oronoco Township takes issue with the NRG's statement that it conducted its own exhaustive on-the-ground investigation of conditions and features along the routes. The NRG's testimony, almost exclusively provided by Suzanne Rohlfing, is replete with Ms. Rohlfing's inability to provide real information, beginning with how many people are involved in the NRG. She herself is a registered nurse and has training in no areas that relate to the siting process. She lacked information on issues of fishing use along the Zumbro River. She testified about the Steeplechase Ski Resort, acknowledging that, while claiming it as a recreational area, she knew it had been out of business for three years. Wabasha County has confirmed that the conditional use permit issued to Steeplechase is no longer valid.

Ms. Rohlfing said her group had raised the issue of Indian artifacts along the Alternate Route but she had no information related to that, and, indeed, no one said whether there were Indian artifacts that would be impacted by the Alternate Route. She testified about something called Bright's Cave, of which she did not know the location, but someone told her was within one mile of the Alternate Route. She acknowledged it has never been recognized as a historical site. She referred in her testimony to the Red Bridge School House Foundation which also has no formal recognition by any historical body. She did not quite know where the "Stage Coach Trail" was located, but understood that there are wagon ruts visible. The Stage Coach Trail, she acknowledged, is not recognized as a historic site by any accredited body or agency, and from her description, would be intersected by either the Modified Preferred Route or the Alternate Route. She further acknowledges that the 345 kV line and its infrastructure will not provide electricity to anyone in the area of either route.

The bald-faced assertion by the NRG that the Modified Preferred Route will have the least human and environmental impacts is dealt with in the prior sections of this brief related to those issues. Oronoco Township would also like to note that the NRG does not have the ability to change the information provided by the FEIS, as it does on page 23 of its Initial Brief by modifying the number of homes located in or near the right-of-way.

The NRG, at page 43 of their Initial Brief, alleges that Oronoco Township relies heavily on speculation with regard to housing development patterns. That is simply not true. It is not speculation that Oronoco Township and Olmsted County have planned development that will occur in a northerly direction from the City of Rochester, and such development will occur in Oronoco Township. That planning is not speculation; that is a fact. On page 44, the NRG references a decline in building permits in Oronoco Township during the past four years as our country headed into a most significant drop in new housing. Is the NRG really suggesting that those figures indicate there will be no future residential development in Oronoco Township? Perhaps the point should be made that, in Oronoco Township, unlike many places in Minnesota, there still was residential construction occurring during this recent housing blight.

Another argument made by the NRG, this at page 45, was that some of the lots recently platted in Oronoco Township had not had homes constructed on them per the testimony of Mr. Smith. First of all, the Court may recall that it was really Ms. Overland who testified, asking questions such as, "Would you agree with me subject to check that . . ." Nevertheless, let us assume that Ms. Overland's testimony is correct and that some of these plotted lots have gone unused in the recent years of the housing downturn. Does Ms. Overland then suggest that we will improve chances of constructing homes on those platted lots by building a HVTL next to

them? These platted lots constitute a land-based economy. Hopefully, a route will be selected that does not make this particular land-based economy much more problematic.

At page 47, the NRG deals with issues of "human settlement":

> This is a case of Wabasha County's land-use policy that consciously and deliberately promotes preservation versus Olmsted County and Oronoco Township's land-use policy that consciously and deliberately promotes development.

Exactly. The NRG acknowledges this is the case, but then complains that fulfillment of that land-use policy is "speculation."

It is the NRG that speculates about such things as the existence of historically recognized places or things when the FEIS lists historical resources within one-half mile of the proposed centerline and concludes that the 3A-Crossover Route has seven (7) such sites, the Alternate Route has eight (8), and the Modified Preferred Route has 14. If the Court wishes, Oronoco Township would be happy to provide a list of structures or places it believes to be of historical importance adjacent to the portion of the Modified Preferred Route that goes through Oronoco Township. However, if the analysis is confined to actual recognized historical sites, the NRG loses that argument.

CONCLUSION

An analysis of the factors in Minnesota Rule 7850.4100 does not favor selection of the Modified Preferred Route as the final route for the Project. As demonstrated in the chart below, the 3A-Crossover Route or the Alternate Route has fewer impacts than the Modified Preferred Route in every factor the Court and the Commission are required to consider:

Minnesota Rule 7850.4100 Factors Considered:	**Modified Preferred Route**	**3A-Crossover Route**	**Alternate Route**
Human Settlement (A)	26 houses within 1,000-foot route width	21 houses within 1,000-foot route width	20 houses within 1,000-foot route width

Minnesota Rule 7850.4100 Factors Considered:	Modified Preferred Route	3A-Crossover Route	Alternate Route
Human Settlement (A) (cont.)	36.6 acres of developed land within 150-foot ROW	19 acres of developed land within 150-foot ROW	26.1 acres of developed land within 150-foot ROW
Public Health and Safety (B)	More people and structures within 150-foot ROW and 1,000-foot route width	Less people and structures within 150-foot ROW and 1,000-foot route width	Less people and structures within 150-foot ROW and 1,000-foot route width
Land-Based Economies (C)	Residential and future development land-use	Agricultural land-use	Agricultural land-use
	252 parcels within 1,000-foot route width	129 parcels within 1,000-foot route width	129 parcels within 1,000-foot route width
	Small parcels	Large parcels	Large parcels
Archaeological and Historic Resources (D)	21 total sites within ½ mile of route	14 total sites within ½ mile of route	17 total sites within ½ mile of route
Natural Environment (E)	146.2 acres of native plant communities within 1,000-foot route width	121.5 acres of native plant communities within 1,000-foot route width	122.5 acres of native plant communities within 1,000-foot route width
	25 conservation easements within 150-foot ROW	1 conservation easement within 150-foot ROW	0 conservation easements within 150-foot ROW
	180 conservation easements within 1 mile of route	108 conservation easements within 1 mile of route	108 conservation easements within 1 mile of route
Rare and Unique Natural Resources (F)	17 total species within 1 mile of route	13 total species within 1 mile of route	16 total species within 1 mile of route
	348.5 acres of significant biodiversity within 1,000-foot route width	326.9 acres of significant biodiversity within 1,000-foot route width	397.4 acres of significant biodiversity within 1,000-foot route width
Non-proliferation (H) and (J)	84% of route follows existing transmission lines, roads or property lines	91.5% of route follows existing transmission lines, roads or property lines	55% of route follows existing transmission lines, roads or property lines
Costs of Construction (L)	$194 million	<$194 million	$202 million

In order to avoid or minimize the negative impacts to human settlement, public health and safety, land-based economics, the environment, and archaeological, historic, and rare and unique natural resources, Oronoco Township respectfully requests that the Court and the Commission select either the Alternate Route or the 3A-Crossover Route as the final route for the Project.

Respectfully submitted,

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