



2200 IDS Center
80 South 8th Street
Minneapolis MN 55402-2157
tel 612.977.8400
fax 612.977.8650

October 25, 2010

Valerie T. Herring
(612) 977-8501
vherring@briggs.com

VIA ELECTRONIC FILING

Dr. Burl W. Haar
Executive Secretary
Minnesota Public Utilities Commission
350 Metro Square Building
121 Seventh Place East
St. Paul, MN 55101

**Re: *In the Matter of the Application for a High Voltage Transmission Line
Route Permit for the Hiawatha Transmission Project***
MPUC Docket No.: E-002/TL-09-38
OAH docket No.: 15-2500-20599-2

Dear Dr. Haar:

Enclosed for electronic filing by Northern States Power Company, a Minnesota corporation, in the above-captioned matter is Applicant's Exceptions to the Administrative Law Judge's Report.

Please contact me if you have any questions.

Sincerely,

/s/ Valerie T. Herring

Valerie T. Herring

VTH/ts
Enclosures
cc: Service List

**STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION**

David Boyd	Chair
J. Dennis O'Brien	Commissioner
Thomas Pugh	Commissioner
Phyllis Reha	Commissioner
Betsy Wergin	Commissioner

In the Matter of the Application for a
Route Permit for the Hiawatha
Transmission Line Project

MPUC Docket No. ET2/TL-09-38
**APPLICANT'S EXCEPTIONS TO
THE ADMINISTRATIVE LAW
JUDGE'S REPORT**

I. INTRODUCTION

Northern States Power Company, a Minnesota corporation ("Xcel Energy"), provides the Minnesota Public Utilities Commission ("Commission") with certain observations and clarifications pertaining to the Findings of Fact, Conclusions and Recommendations ("Report") issued by the Administrative Law Judge ("ALJ") for the proposed Hiawatha Transmission Project ("Project"). The nearly 100-page Report presents a thorough examination of the record evidence presented by 14 parties and the Department of Commerce Office of Energy Security ("OES") during the two public hearing days and 13 evidentiary hearing days. The scope and depth of this record was especially comprehensive and Xcel Energy appreciates the ALJ's exhaustive evaluation and balancing of the numerous routing factors underlying the recommendation that Route D between the Hiawatha West and Midtown North substation sites is the best alternative on the record.

The ALJ carefully considered the many unique circumstances and challenges presented in assessing the appropriate route for the Project. The entire Project area is characterized by numerous historical resources, including the Chicago, Milwaukee,

and St. Paul Railroad Grade Separation historic district, significant built-up commercial and residential infrastructure and limited open space. The routes considered are all located within a high density area (8,000 people per square mile) and just two miles from downtown Minneapolis. The area is also one of the most culturally diverse areas of the State. Based on these characteristics, the ALJ recommended that the Commission approve Route D.

Xcel Energy does believe there are a few issues that need to be explored by the Commission to ensure that the final decision is fully supported. To that end, Xcel Energy takes exception to three issues and respectfully requests that the Commission address these issues in its final Order:

(1) the Report's incomplete discussion of the application of the Minnesota Environmental Protection Act, Minnesota Statutes Chapter 116D ("MEPA"), and the Minnesota Environmental Rights Act, Minnesota Statutes Chapter 116B ("MERA") to transmission routing proceedings (Finding 240 and Conclusion 7);

(2) the Report's findings that are not supported by the record evidence and unnecessary to the Commission's analysis of the record as a whole. These findings relate to human health and safety health impacts (Findings 314, 315, 321, 328 and 457), impacts of overhead transmission lines on property values (Finding 259) and potential impacts on bike use along the Midtown Greenway (328); and

(3) the proposed conditions regarding substation design (Recommendations 2 and 3).

As to these three narrow issues, Xcel Energy respectfully requests that the Commission adopt the modified findings and conditions set forth in these Exceptions. For the Commission's convenience, Xcel Energy has compiled its suggested modifications in the attached Exhibit 1.

II. MEPA AND MERA STANDARD

Minnesota Rule 7850.4000 provides that the Commission should issue a route permit only when it finds that the requirements of MEPA and MERA are satisfied.¹ The Report correctly recognizes that MEPA applies to routing proceedings, but oversimplifies the applicable standards and may not have thoroughly applied the standards. (Finding 240 and Conclusion 7.)

Clarification is necessary to avoid confusion and misapplication of the standards in future routing proceedings.

Finding 240 states (emphasis added):

State agencies are required to consider environmental factors before making decisions, including the routing of high voltage transmission lines, that potentially have significant environmental effect, and shall not make a decision that is likely to cause pollution, impairment, or destruction of a natural resource so long as there is a feasible and prudent alternative consistent with public health, safety and welfare.

Conclusion 7 appears to apply part of this standard and provides (emphasis added):

The CM&St.P Railroad Separation Historic District is a protected natural resource. Construction of Route A either overhead or underground has the potential to impair that resource. Although it is the least expensive alternative, cost, convenience and efficiency are not sufficient reasons to select a route that has the potential to impair a protected resource.

¹ “The commission shall issue a permit for a proposed facility when the commission finds, in keeping with the requirements of the Minnesota Environmental Policy Act, Minnesota Statutes, chapter 116D, and the Minnesota Environmental Rights Act, Minnesota Statutes, chapter 116B, that the facility is consistent with state goals to conserve resources, minimize environmental impacts, and minimize human settlement and other land use conflicts and ensures the state's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure.” Minnesota Rule 7850.4000.

The reference to “potential to impair” in Conclusion 7 is not supported by the law and Finding 240 omits a necessary discussion about materiality in order for it to properly comply with the requirements of MEPA. As framed by the ALJ, Finding 240 and Conclusion 7, appear to broaden the legal standard to reject a route from the mere “potential” to “impair” a natural resource without regard to the likelihood of impairment or the materiality of the impairment required by MERA and MEPA.²

Without the necessary likelihood and materiality elements, it appears the ALJ has broadened the standard in a way that could be problematic to future proceedings.³ An example of how such a standard might be applied in a routing case is as follows: If Route 1 may impair wetlands but avoids homes and Route 2 has no potential to impair wetlands but would significantly impact homes, the standard as applied in this case would suggest the legally incorrect conclusion that Route 2 must be selected to the detriment of homes.

To avoid potential confusion in future routing proceedings, Xcel Energy recommends that Finding 240 and Conclusion 7 be modified as follows (new language is shown in *italics*):

240. State agencies are required to consider environmental factors before making decisions, including the routing of high voltage transmission lines, that potentially have significant environmental effect, and shall not make a decision that is likely to cause pollution, impairment or destruction of a natural resource so long as there is a feasible and prudent alternative consistent with

² MEPA and MERA specifically prohibit any state action that “has caused or is likely to cause pollution, impairment, or destruction” of a natural resources so long as there is a “feasible and prudent alternative.” Minn. Stat. § 116D.04, subd. 6; Minn. Stat. § 116B.04.

³ Likely to cause pollution, impairment or destruction is clearly defined under MERA and MEPA to require a showing of materiality: “...any conduct which materially adversely affects or is likely to materially adversely affect the environment . . .” Minn. Stat. § 116B.02, subd. 5 (2009) (emphasis added); *In the Matter of Univ. of Minn.*, 566 N.W.2d 98, 104 (Minn. Ct. App. 1997) (MEPA incorporates by reference the definition of “pollution, impairment, or destruction” contained in MERA).

public health, safety and welfare. *“Pollution, impairment or destruction” means “any conduct which materially adversely affects or is likely to materially adversely affect the environment.”*⁴

7. The CM&St.P Railroad Separation Historic District is a protected natural resource. Construction of Route A either overhead or underground has the potential to impair that resource. Although it is the least expensive alternative, *it is not superior to Route D when other routing criteria and factors are considered.* ~~cost, convenience and efficiency are not sufficient reasons to select a route that has the potential to impair a protected resource.~~

III. FINDINGS UNSUPPORTED BY RECORD EVIDENCE

1. *Human Health and Safety.*

Report contains four findings related to magnetic fields (“MF”) that are based on the World Health Organization’s (“WHO”) 2007 monograph *Environmental Health Criteria 238, Extremely Low Frequency Fields* (“WHO Monograph”) which was submitted in public comments after the contested case proceeding.⁵ (Findings 314, 315, 321 and 457). These findings are incomplete and were not based on a fully formed record.⁶ In addition, these findings are inconsistent with the Commission’s recent decision in the Brookings County – Hampton Corner 345 kV Project route proceeding (“Brookings”).⁷ The Report also contains a fifth finding regarding the consideration

⁴ Minn. Stat. §116B.02, subd. 5

⁵ Rep. Clark Letter and attachments, eDockets Doc. No. 20105-50442-01 (May 10, 2010).

⁶ In this proceeding, the ALJ declined to expand the scope of the proceeding to address issues related to potential health impacts of electric and magnetic fields. 4 Vol. 90-95.

⁷ Order Granting Route Permit adopting ALJ Findings of Fact, Conclusions and Recommendation, *In the Matter of the Route Permit Application by Great River Energy and Xcel Energy for a 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota*, Docket No. ET-2/TL-08-1474 (Sept. 14, 2010); ALJ Findings of Fact, Conclusions and Recommendation at Finding 216, *In the Matter of the Route Permit Application by Great River Energy and Xcel Energy for a 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota*, Docket No. ET-2/TL-08-1474 (April 22, 2010).

of routes' relative health impacts that are dependent on the inaccurate WHO findings and should be modified (Finding 328). While these MF findings do not change the overall analysis of the record and were not critical to the ALJ's recommendation, Xcel Energy respectfully requests that they be amended to avoid confusion and to ensure consistency with prior Commission action.

The Commission has addressed the impacts of MF in a number of recent prior proceedings. The record in this case, including the WHO Monograph, is fully consistent with the Commission's prior treatment. For example, in the recent Brookings proceeding, the issue of MF and potential health effects was fully litigated with expert testimony and the Commission adopted the following finding:

216. The absence of any demonstrated impact by EMF-ELF exposure supports the conclusion that there is no demonstrated impact on human health and safety that is not adequately addressed by the existing State standards for such exposure. The record shows that the current exposure standard for EMF-ELF is adequately protective of human health and safety.⁸

In the present case, the ALJ takes certain isolated statements from the WHO Monograph out of context and does not discuss the lack of evidence demonstrating causation between MF levels above 3 to 4 milligauss ("mG") and negative health effects (Findings 314 and 315). While the WHO recognized that associations have been found in epidemiological studies, the WHO also stated that the association is merely an indicator of a cause and does not establish the studied factor causes the health effect. The WHO also noted that epidemiological studies are inherently limited by issues of confounding, measurement error and selection bias and therefore must be

⁸ Order Granting Route Permit adopting ALJ Findings of Fact, Conclusions and Recommendation, *In the Matter of the Route Permit Application by Great River Energy and Xcel Energy for a 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota*, Docket No. ET-2/TL-08-1474 (Sept. 14, 2010); ALJ Findings of Fact, Conclusions and Recommendation at Finding 216, *In the Matter of the Route Permit Application by Great River Energy and Xcel Energy for a 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota*, Docket No. ET-2/TL-08-1474 (April 22, 2010).

confirmed with laboratory results.⁹ When such laboratory tests were performed, the WHO found that “virtually all laboratory evidence and the mechanistic evidence” have failed to find to a relationship between MFs and adverse health effects.¹⁰

Findings 321 and 457 also incorrectly refer to 3 and 4 mG as the WHO’s identified “level of concern” and “recommendation”. The WHO has not established any MF exposure guideline. To the contrary, the WHO recommends that given the limited evidence supporting a link between childhood leukemia and MFs, an arbitrary low level guideline should not be established.¹¹ Instead the WHO recommends that the best source of guidance are the international guidelines.¹² The lowest international guideline for continuous exposure based on a medical and scientific analysis is the International Commission on Non-Ionizing Radiation Protection (“ICNIRP”) general-public guideline of 833 mG.¹³

In reliance on Findings 314, 315, 321 and 457, the Report also includes a finding that “underground transmission alternatives with lower magnetic and electric fields would reduce the safety and health impacts of the Hiawatha Project” (Finding 328). As noted, a relationship between magnetic fields and adverse health effects has not been demonstrated and therefore it would be inappropriate to equate lower MF levels with lessened health effects.

In order to avoid confusion for future proceedings, Xcel Energy respectfully requests that the Report’s four WHO and one health and safety findings be modified

⁹ WHO noted that “[u]ncertainties in the hazard assessment include the role that control selection bias and exposure misclassification might have on the observed relationship.” WHO Monograph at 12.

¹⁰ WHO Monograph at 12.

¹¹ “[I]t is not recommended that the limit values for exposure guidelines be reduced to some arbitrary level in the name of precaution. Such practice undermines the scientific foundation on which the limits are based” WHO Monograph at 12.

¹² WHO Monograph at 13.

¹³ Ex. 19 (Gallay Rebuttal Schedule 19 at p. 84).

to accurately reflect the WHO's conclusions and this Commission's prior orders regarding magnetic fields. These modified findings are listed below with the new language in italics.

314. The World Health Organization (WHO) has evaluated scientific evidence of the relationship between chronic low-intensity exposures, such as those from power lines, and adverse health effects. The WHO reported in 2007 that scientific evidence suggesting that everyday, chronic low-intensity magnetic field exposure poses a health risk is based on epidemiological studies demonstrating a consistent pattern of increased risk for childhood leukemia. Although ~~the~~ *laboratory and biophysical mechanistic evidence has failed to demonstrate causation*, the WHO concluded that the evidence is sufficiently strong to remain a concern *and that further research in this area is warranted, but due to the uncertainties about the existence of chronic effects (like childhood leukemia), international exposure guidelines should not "be reduced to some arbitrary level in the name of precaution" and only little to no cost precautionary procedures should be used.*^[1]

315. Epidemiological studies have consistently shown an association between magnetic fields above 3 to 4 milligauss (mG) and childhood leukemia, *but virtually all laboratory and mechanistic evidence fails to support such a relationship between magnetic fields and necessary changes in biological function.*^[2]

321. Hundreds of families in South Minneapolis would be exposed to the magnetic fields reflected in the table above, because there are 245 dwellings within 25 feet of Route A 1, 335 dwelling units within 25 feet of Route B, 206 dwelling units within 25 feet of Route C, and 730 within 25 feet of Route E. Magnetic field levels for persons living on the second or third floor (from 6 to 10 meters above ground) of a dwelling within 25 feet of Route A1 are 10 to 15 times the *3 to 4 mG exposure level of concern*

^[1] WHO Monograph at 11-13.

^[2] WHO Monograph at 12 and 354-356.

identified by the WHO and epidemiological literature associating transmission lines with *by epidemiological studies that the WHO recognizes as the level at which an increased risk of childhood leukemia has been reported, but one-twentieth the level the WHO recommends as the exposure guideline (ICNIRP, 1998—833 mG) without evidence of a link between exposure to magnetic fields and childhood leukemia.*^[3]

328. ~~Underground transmission alternatives with lower magnetic and electric fields would reduce the safety and health impacts of the Hiawatha Project.~~ If Route D is constructed, an alignment closer to the center of East 28th Street would place the transmission line farther from residential homes, children and other pedestrians.

457. Some members of the public expressed concern about EMF exposure from the Hiawatha Substation. The highest projected magnetic field level during peak operation at zero feet from the proposed wall or fence of the Hiawatha Substation is 13.09 mG. At 25 feet from the wall or fence, the highest projected level is 2.02 mG, which is below the ~~WHO recommendation of 3 to 4 mG level~~ *that has been associated with an increased risk for childhood leukemia in epidemiological studies.*^[4] It is not likely that any person would have continuous exposure to the Hiawatha Substation site.

The Company further recommends that the Commission adopt an additional finding consistent with the Commission's decision in the Brookings proceeding.

315A. There is no demonstrated impact on human health and safety that is not adequately addressed by the existing State standards for such exposure. The record shows that

^[3] WHO Monograph at 12-13.

^[4] WHO Monograph at 11-12.

the current exposure standard for MF is adequately protective of human health and safety.¹⁴

2. *Bike Use Along Midtown Greenway.*

The Report includes one finding regarding the potential adverse impact transmission lines along Route A may have on bike use on the Midtown Greenway (Finding 296). Specifically, the finding states, in relevant part: “Route A1 would be more likely to deter use of the bicycle and pedestrian trail than the alternative routes because of its proximity to and visibility along the Midtown Greenway.” *Id.* The finding is not supported by the record evidence and should not be adopted.

The record contains no study, historical data or expert opinion to support the claim that bike use along the Midtown Greenway will be reduced if overhead or underground lines are installed. To the contrary, the record contains evidence of co-location of trails and transmission lines such as the Cedar Trail.¹⁵ Indeed, the Midtown Greenway itself follows the Elliott Park – Southtown 115 kV transmission line and there was no evidence that the Midtown Greenway’s proximity to the transmission line had any impact on the use of the Midtown Greenway. Therefore, Xcel Energy recommends that Finding 296 be revised as follows:

296. The presence of a high voltage transmission line may affect the use of the Midtown Greenway because of the perceived health risks as well as the aesthetic effect of overhead lines. *However, there was no evidence that the Midtown Greenway’s proximity to the Elliott Park – Southtown 115 kV transmission line has had any adverse impact on use.* There are several places throughout the metropolitan Twin Cities where bicycle trails run along or near transmission lines,

¹⁴ Order Granting Route Permit adopting ALJ Findings of Fact, Conclusions and Recommendation at Finding 216, *In the Matter of the Route Permit Application by Great River Energy and Xcel Energy for a 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota*, Docket No. ET-2/TL-08-1474 (April 22, 2010).

¹⁵ Ex. 1A at 85 (Application); Ex. 1B at App. B.15 (Application Appendices).

but there was insufficient evidence to compare the Midtown Greenway to the population density along,' and proximity of, other lines. ~~Route A1 would be more likely to deter use of the bicycle and pedestrian trail than the alternative routes because of its proximity to and visibility along the Midtown Greenway.~~

3. *Property Values.*

The Report also contains one finding relating to the impact of overhead lines on home values that is unsupported by record evidence and should not be adopted. (Finding 259).

The last sentence of Finding 259, citing the Final Environmental Statement (“FEIS”), states, in part, that “[a]lso, although the effect of overhead transmission lines on home values may be difficult to measure, close proximity (within 200 to 300 feet) is one of the factors that deflates home values.”¹⁶ The Report’s statement is an incomplete reference to a literature review described in the FEIS, which recognized that potential impacts are uncertain. In describing the study, the FEIS notes:

- Over time, there is a consistent pattern with about half of the studies finding negative property value effects and half finding none.
- When effects have been found, they tend to be small; almost always less than 10 percent and usually in the range of three to six percent.
- Where effects are found, they decay rapidly as distance to the lines increases and usually disappear at about 200 feet to 300 feet.

¹⁶ Referencing FEIS, pp. 210-12.

- Two studies investigating the behavior of the effects over time find that, where there are effects, they tend to dissipate over time.¹⁷

The FEIS's summary regarding all of the studies reviewed is a more complete description of the potential impact of transmission lines on property values:

Based upon the conclusions from the cited studies, the presence of power lines alone is not always indicative of a reduction in residential property value. Other factors and considerations, such as property type and condition, existing amenities, distance to, and the size of transmission lines are also present when buyers evaluate property. These conclusions suggest that the impacts on property values from overhead transmission lines would vary throughout the Socioeconomic Study Area.¹⁸

Accordingly, the Company believes that Finding 259 should be modified by deleting the last sentence of the finding referenced above.

IV. SUBSTATION CONDITIONS

The Report sets forth two recommendations pertaining to community and government input into the final placement, noise mitigation, wall design, lighting, and landscaping of the Hiawatha and Midtown substations.¹⁹ These recommendations are not limited in scope to cover the particulars of the situation and do not provide necessary guidance on how this input should be elicited, the timeframe for such input, and how this input should be incorporated into the final design of these substations, which design remains subject to Commission approval.

¹⁷ FEIS at p. 211.

¹⁸ FEIS at p. 212.

¹⁹ Similarly, the noise conditions set forth in Recommendation 3 is duplicative. Noise mitigation techniques will also be incorporated into the Midtown Substation design, as recognized in Finding 493. ALJ Report at Recommendation 2 and 3.

Xcel Energy regularly consults with relevant government agencies in preparation of a plan and profile for our projects. The Company will certainly involve the County, the City and Mn/DOT to develop a design for the substations that minimizes impacts to existing transportation uses of the Midtown Greenway. Adding permit conditions on this point will not meaningfully alter the dialogue we would already undertake.²⁰

The aesthetics (landscaping, wall design and lighting) issues addressed in the conditions are likewise unnecessary and may create areas for future dispute. What is the “appropriate” design of the substations from an aesthetic standpoint is open to interpretation by the numerous stakeholders involved in this situation. The Company is concerned that potentially conflicting opinions and expectations could create delay and confusion during the design and construction phase. We are also mindful that the Commission has the authority to make final decisions and that this authority should not be misunderstood by stakeholders. Xcel Energy believes the City and County, which represent all of the residents of the entire Project Area, are uniquely situated to gather stakeholder opinions regarding wall designs, lighting and landscaping. The Company, therefore, requests that Recommendation 2 and 3 of the Report be replaced with the following:

2. Prior to the submission of the plan and profile information to the Commission for the Hiawatha Substation and the Midtown Substation, the Applicant shall confer with elected representatives of the City of Minneapolis and Hennepin County regarding substation design and placement. The Company will specifically seek input from these elected officials regarding how to minimize disruption to the current and planned Midtown Greenway bicycle and pedestrian trails, future rail use of the Midtown Greenway, wall design, landscaping and lighting.

²⁰ Midtown Substation will be built with low noise transformer and sound absorbing walls rubber matting will also be placed under the transformer. *Id.*

V. CONCLUSION

Xcel Energy respectfully requests that the Commission adopt the Report in its entirety with the exception of the minor modifications described above.

Dated: October 25, 2010

Respectfully submitted,

BRIGGS AND MORGAN, P.A.

Jennifer Thulien Smith
Assistant General Counsel
Xcel Energy Services Inc.
414 Nicollet Mall
Minneapolis, MN 55401

By: /s/Lisa M. Agrimonti
Lisa M. Agrimonti (#272474)
Valerie T. Herring (#336865)
2200 IDS Center
80 South Eighth Street
Minneapolis, MN 55402
(612) 977-8400

**Attorneys for Northern States Power
Company, a Minnesota corporation**

EXHIBIT 1

Proposed Modifications to ALJ Report Findings and Proposed Supplemental Finding:¹

240. State agencies are required to consider environmental factors before making decisions, including the routing of high voltage transmission lines, that potentially have significant environmental effect, and shall not make a decision that is likely to cause pollution, impairment or destruction of a natural resource so long as there is a feasible and prudent alternative consistent with public health, safety and welfare. *“Pollution, impairment or destruction” means “any conduct which materially adversely affects or is likely to materially adversely affect the environment.”*²

259. The Midtown Greenway is an overwhelmingly popular improvement to the Project Area that benefits the diverse neighborhood and provides its residents with a recreational amenity. By placing transmission line underground, the negative impact of placing an unattractive, large-scale transmission line can be avoided. Because of its proximity to the Midtown Greenway, the Applicant’s preferred route A1 would have the greatest negative impact on the people living throughout the Project Area. All the overhead routes would place the overhead transmission line in close proximity to hundreds of people. The underground alternatives, Route A2, Route A3 and Route D would have a significantly smaller impact on the area residents. ~~Also, although the effect of overhead transmission lines on home values may be difficult to measure, close proximity (within 200 to 300 feet) is one of the factors that deflates home value.~~

296. The presence of a high voltage transmission line may affect the use of the Midtown Greenway because of the perceived health risks as well as the aesthetic effect of overhead lines. *However, there a was no evidence that the*

¹ Note that all references are to numbered paragraphs in the ALJ Order. Proposed additions are shown in italics and suggested deletions are marked as strikethrough text.

² Minn. Stat. §116B.02, subd. 5

Midtown Greenway's proximity to the Elliott Park – Southtown 115 kV transmission line has had any adverse impact on use. There are several places throughout the metropolitan Twin Cities where bicycle trails run along or near transmission lines, but there was insufficient evidence to compare the Midtown Greenway to the population density along,' and proximity of, other lines. ~~Route A1 would be more likely to deter use of the bicycle and pedestrian trail than the alternative routes because of its proximity to and visibility along the Midtown Greenway.~~

314. The World Health Organization (WHO) has evaluated scientific evidence of the relationship between chronic low-intensity exposures, such as those from power lines, and adverse health effects. The WHO reported in 2007 that scientific evidence suggesting that everyday, chronic low-intensity magnetic field exposure poses a health risk is based on epidemiological studies demonstrating a consistent pattern of increased risk for childhood leukemia. Although ~~the~~ *laboratory and biophysical mechanistic evidence has failed to demonstrate causation, the WHO concluded that the evidence is sufficiently strong to remain a concern and that further research in this area is warranted, but due to the uncertainties about the existence of chronic effects (like childhood leukemia), international exposure guidelines should not “be reduced to some arbitrary level in the name of precaution” and only little to no cost precautionary procedures should be used.*³

315. Epidemiological studies have consistently shown an association between magnetic fields above 3 to 4 milligauss (mG) and childhood leukemia, *but virtually all laboratory and mechanistic evidence fails to support such a relationship between magnetic fields and necessary changes in biological function.*⁴

New Finding 315A. *There is no demonstrated impact on human health and safety that is not adequately addressed by the existing State standards for such exposure. The record shows that the current*

³ WHO Monograph at 11-13.

⁴ WHO Monograph at 12 and 354-356.

*exposure standard for MF is adequately protective of human health and safety.*⁵

321. Hundreds of families in South Minneapolis would be exposed to the magnetic fields reflected in the table above, because there are 245 dwellings within 25 feet of Route A 1, 335 dwelling units within 25 feet of Route B, 206 dwelling units within 25 feet of Route C, and 730 within 25 feet of Route E. Magnetic field levels for person living on the second or third floor (from 6 to 10 meters above ground) of a dwelling within 25 feet of Route A1 are 10 to 15 times the ~~3 to 4 mG exposure level of concern identified by the WHO and epidemiological literature associating transmission lines with~~ *by epidemiological studies that the WHO recognizes as the level at which an increased risk of childhood leukemia has been reported, but one-twentieth the level the WHO recommends as the exposure guideline (ICNIRP, 1998—833 mG) without evidence of a link between exposure to magnetic fields and childhood leukemia.*⁶

328. ~~Underground transmission alternatives with lower magnetic and electric fields would reduce the safety and health impacts of the Hiawatha Project.~~ If Route D is constructed, an alignment closer to the center of East 28th Street would place the transmission line farther from residential homes, children and other pedestrians.

457. Some members of the public expressed concern about EMF exposure from the Hiawatha Substation. The highest projected magnetic field level during peak operation at zero feet from the proposed wall or fence of the Hiawatha Substation is 13.09 mG. At 25 feet from the wall or fence, the highest projected level is 2.02 mG, which is below the ~~WHO recommendation of 3 to 4 mG level that has been associated with an increased risk for childhood leukemia in~~

⁵ Order Granting Route Permit adopting ALJ Findings of Fact, Conclusions and Recommendation at Finding 216, *In the Matter of the Route Permit Application by Great River Energy and Xcel Energy for a 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota*, Docket No. ET-2/TL-08-1474 (April 22, 2010).

⁶ WHO Monograph at 12-13.

*epidemiological studies.*⁷ It is not likely that any person would have continuous exposure to the Hiawatha Substation site.

Proposed Modifications to the ALJ Report Conclusions and Proposed Replacement Conclusion

~~2. The route permit shall include the Hiawatha West Substation, subject to the following conditions to minimize the impact of the Project on the persons living and working in close proximity to it:~~

~~The Applicant shall consult with the City of Minneapolis about placement of the Hiawatha West Substation on the site to minimize disruption to the current and planned Midtown Greenway bicycle and pedestrian trails, and that the Applicant shall consult with the City of Minneapolis, MnDOT and the community groups concerning the substation's wall design, lighting and landscaping to minimize the aesthetic impact and be compatible with the surrounding structures.~~

~~3. The route permit shall include the Midtown North Substation, subject to the following conditions to minimize the impairment of resources and to minimize the impact of the Project on persons living and working in close proximity to it:~~

~~The Applicant shall consult with the City of Minneapolis and Hennepin County about placement of the Midtown North Substation on the site to minimize impairment or destruction of the Midtown Greenway and retain flexibility for future transit development, and shall consult with the City of Minneapolis, Hennepin County and the community groups concerning the substation's wall design, lighting and landscaping to minimize the aesthetic impact, be compatible with the surrounding structures, reduce noise, and, to the degree practicable, conform with City development plans along the Midtown Greenway.~~

⁷ WHO Monograph at 11-12.

New Conclusion 2. *Prior to the submission of the plan and profile information to the Commission for the Hiawatha Substation and the Midtown Substation, the Applicant shall confer with elected representatives of the City of Minneapolis and Hennepin County regarding substation design and placement. The Company will specifically seek input on how to minimize disruption to the current and planned Midtown Greenway bicycle and pedestrian trails, future rail use of the Midtown Greenway, wall design, landscaping and lighting.*

7. The CM&St.P Railroad Separation Historic District is a protected natural resource. Construction of Route A either overhead or underground has the potential to impair that resource. Although it is the least expensive alternative, *it is not superior to Route D when other routing criteria and factors are considered.* ~~cost, convenience and efficiency are not sufficient reasons to select a route that has the potential to impair a protected resource.~~

**In the Matter of the Application for a High
Voltage Transmission Line Route Permit
for the Hiawatha Transmission Project**

**CERTIFICATE OF SERVICE
MPUC Docket No. E-002/TL-09-38
OAH Docket No. 15-2500-20599-2**

Theresa Senart certifies that on the 25th day of October 2010, she filed a true and correct copy of Applicant's Exceptions to the Administrative Law Judge's Report, by posting the same on www.edockets.state.mn.us. Applicant's Exceptions to the Administrative Law Judge's Report was also sent via U.S. Mail or email as designated on the Official Service List on file with the Minnesota Public Utilities Commission.

/s/ Theresa Senart
Theresa Senart

Service List Member Information**Electronic Service Member(s)**

Last Name	First Name	Email	Company Name	Delivery Method	View Trade Secret
Agrimonti	Lisa	lagrimonti@briggs.com	Briggs And Morgan, P.A.	Electronic Service	No
Conover	Corey	corey.conover@ci.minneapolis.mn.us	City Of Minneapolis	Electronic Service	No
DeBleeckere	Patricia	tricia.debleeckere@state.mn.us	Public Utilities Commission	Electronic Service	Yes
Ellis	Lori	Lori.ellis@learth.org	Little Earth of United Tribes	Electronic Service	No
Ferguson	Sharon	sharon.ferguson@state.mn.us	Department of Commerce	Electronic Service	Yes
Gunn	Bradley	bjg@mgmlp.com	Malkerson Gunn Martin LLP	Electronic Service	No
Gustafson	Eric	eric@corcoranneighborhood.org	Corcoran Neighborhood Organization	Electronic Service	No
Haar	Burl W.	burl.haar@state.mn.us	Public Utilities Commission	Electronic Service	Yes
Hammel	Karen Finstad	Karen.Hammel@state.mn.us	Office of the Attorney General-DOC	Electronic Service	Yes
Hart	Eric	hart3151@tcq.net	Longfellow Community Council	Electronic Service	No
Hayashida	Leslie	Leslie.M.Hayashida@wellsfargo.com	Wells Fargo & Company	Electronic Service	No
Herring	Valerie	vherring@briggs.com	Briggs and Morgan, P.A.	Electronic Service	No
Heyer	Shirley	shirleymidtownphillips@msn.com	Midtown Phillips Neighborhood Association, Inc.	Electronic Service	No
Koeller	Mara	mara.n.koeller@xcelenergy.com	Xcel Energy	Electronic Service	No
Mains	Sheldon	smains@visi.com	Seward Neighborhood Group, Incorporated	Electronic Service	No
Pass	Carol	cpass@runbox.com	East Phillips Improvement Coalition	Electronic Service	No
Roston	Howard	har@mgmlp.com	Malkerson Gunn Martin LLP	Electronic Service	No
Salter	Charles	chuck.salter@co.hennepin.mn.us	Hennepin County Attorneys Office	Electronic Service	No
Sautter	Gregory	gregory.sautter@ci.minneapolis.mn.us	City of Minneapolis	Electronic Service	No
Savelkoul	Richard	rsavelkoul@felhaber.com	Felhaber, Larson, Fenlon & Vogt, P.A.	Electronic Service	No
Schmiesing	Elizabeth H.	eschmiesing@faegre.com	Faegre & Benson LLP	Electronic Service	No
Shaddix Elling	Janet	jshaddix@janetshaddix.com	Shaddix And Associates	Electronic Service	Yes
Springer	Tim	tim@midtowngreenway.org	Midtown Greenway Coalition	Electronic Service	No
Storm	William	bill.storm@state.mn.us	Department of Commerce	Electronic Service	Yes
Thulien Smith	Jennifer	jennifer.thuliensmith@xcelenergy.com	Xcel Energy Services, Inc.	Electronic Service	No
Watkins	Rhyddid	rwatkins@faegre.com	Faegre & Benson	Electronic Service	No

Paper Service Member(s)

Last Name	First Name	Company Name	Address	Delivery Method	View Trade Secret
Heydinger	Beverly	Office of Administrative Hearings	PO Box 64620, St. Paul, MN-551640620	Paper Service	Yes
Maccabee	Paula	Just Change Law Offices	1961 Selby Avenue, St. Paul, MN-55104	Paper Service	No