



BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

COMMENTS AND RECOMMENDATIONS OF THE

MINNESOTA DEPARTMENT OF COMMERCE

ENERGY FACILITY PERMITTING STAFF

DOCKET No. E002/TL-09-38

Meeting Date: January 10, 2011.....Agenda Item #

Company: Xcel Energy
 Docket No. PUC Docket Number: E002/TL-09-38
 In the Matter of the Application for a HVTL Route Permit for the Hiawatha 115 kV Transmission Project.

Issue(s): Should the Commission find that the Environmental Impact Statement adequately addresses the issues identified in the Scoping Decision? Should the Commission issue a HVTL Route Permit identifying specific routes and permit conditions for the proposed Hiawatha HVTL project?

DOC Staff: William Cole Storm.....651-296-9535

Relevant Documents (in Commission Packet).

- Xcel Energy’s HVTL Route Permit Application.....April 24, 2009.
- Advisory Task Force Report.....August 29, 2009
- DOC’s Scoping Decision.....September 3, 2009.
- Final Environmental Impact Statement.....June 4, 2010.
- ALJ’s Report (FOF, Conclusions and Recommendation).....October 8, 2010
- Xcel Energy’s Exceptions.....October 25, 2010
- Midtown Greenway Coalition’s Reply comments.....November 4, 2010

The enclosed materials are work papers of the Department of Commerce (Department) Energy Facility Permitting (EFP) staff. They are intended for use by the Public Utilities Commission (Commission) and are based on information already in the record unless otherwise noted.

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Documents Attached.

1. Site map illustrating the study area in which the route will be located.
2. Proposed Findings of Fact, Conclusions of Law , and Order.
3. Proposed HVTL Route Permit.

(Note: Relevant documents and additional information can be found on eDockets (E002/TL-10-249) or the PUC Energy Facilities Permitting website

<http://energyfacilities.puc.state.mn.us/Docket.html?Id=19981>

Statement of the Issue

Should the Commission find that the Environmental Impact Statement (EIS) adequately addresses the issues identified in the Scoping Decision? Should the Commission issue a high voltage transmission line (HVTL) route permit identifying specific routes and permit conditions for the proposed Hiawatha HVTL project?

Introduction

Xcel Energy (Applicant) is a Minnesota corporation with its headquarters in Minneapolis, Minnesota. Xcel Energy is a wholly-owned subsidiary of Xcel Energy Inc., a utility holding company with its headquarters in Minneapolis. Xcel Energy provides electricity services to approximately 1.2 million customers and natural gas services to 425,000 residential, commercial and industrial customers in Minnesota. Xcel Energy Services Inc. is the service company for Xcel Energy and its personnel prepare, submit and administer regulatory applications to the Commission on behalf of Xcel Energy, including route permit applications

The Applicant applied for a high-voltage transmission line route permit to construct two new 115 kV single circuit and two new distribution substations in south Minneapolis, in an area known as the Midtown District.

Project Description

The project is located in Hennepin County, in the city of Minneapolis.

Xcel Energy included four separate alternative routes and five design options for consideration in its application. Xcel Energy also identifies two locations for the Hiawatha Substation and two locations for the Midtown Substation. The proposed routes and substations are described below:

- **Hiawatha Substation:** The Hiawatha Substation will be approximately 2.25 acres in size. The Applicant's preferred site for the substation (HiawathaWest) is located on the east side of Hiawatha Avenue (Minnesota State Highway 55) slightly south of the intersection of Hiawatha Avenue and East 28th Street. Currently this site is an open area owned by

the Minnesota Department of Transportation, no business relocation would be needed. The estimated cost for construction on the Applicant's preferred Hiawatha West substation site is \$14.3 million. The alternative location (Hiawatha East) is located on adjacent land to the northeast, currently the site is occupied by a warehouse that would need to be relocated.

- **Midtown Substation:** The Midtown Substation will be approximately 1 acre in size. The Applicant's preferred site for the substation (Midtown North) is located on the northwest corner of Oakland Avenue South and 29th Street. Construction costs for the substation at the Applicant's preferred site are estimated to be \$11.1 million. At this time, the site is occupied by the old Xcel Energy Oakland Substation, a triplex (owned by Xcel Energy) and an open lot. The alternative location (Midtown South) is located on the southwest corner of Oakland Avenue South and 29th Street and contains the Brown Campbell warehouses that would need to be relocated.
- **Route A:** Route A, the Applicant's preferred route, is a 1.4-mile route that can be constructed overhead or underground. The transmission lines would connect at the Hiawatha West substation site and parallel the 29th Street/Hennepin County Regional Rail Authority (HCRRA) corridor for approximately 1.4 miles to the Midtown North substation site. If constructed overhead, it would be built with galvanized steel single pole, double circuit structures. The estimated transmission line cost for construction of the two transmission lines along this route using an overhead configuration is \$3.0 million. The estimated transmission line cost for constructing the transmission lines using underground construction along this route is \$15.6 million.
- **Route B:** Route B is proposed as an overhead street route that would require construction of two single circuit lines because there is insufficient clearance for double circuit structures. Galvanized steel single circuit single pole structures would be used. One of the transmission lines would follow 26th Street between the Hiawatha West and Midtown North substation sites. The second line would follow East 28th Street. On both streets, the arms of the poles would be cantilevered over the street. The estimated route lengths of the two lines are 1.8 and 1.4 miles. The cost for construction of the transmission facilities along this route is estimated to be \$5.0 million.
- **Route C:** Route C is also proposed as an overhead street route that would require construction of two single circuit lines because there is insufficient clearance for double circuit structures. Galvanized steel single circuit single pole structures would be used.

One of the transmission lines would follow East 28th Street between the Hiawatha West and Midtown North substation sites. The second line would parallel 31st Street. Both would use a cantilever pole configuration. The estimated route lengths of the two lines are 1.5 and 2.3 miles. The estimated cost for construction of the transmission facilities along this route is \$5.8 million.

- **Route D:** Route D is proposed as a 1.5-mile underground route along East 28th Street. This route is designed for a double circuit 115 kV transmission line between the

Hiawatha West and Midtown North substation sites. The estimated transmission line costs for construction of the underground transmission facilities along this route is \$16.4 million.

Regulatory Process and Procedures

Minnesota Statutes, section 216E.03, subdivision 2, provides that no person may construct a high voltage transmission line (HVTL) without a route permit from the Commission. An HVTL is defined as a transmission line of 100 kV or more and greater than 1,500 feet in length in Minnesota Statutes, section 216E.01, subdivision 4. The two 115 kV transmission lines proposed for the Hiawatha Transmission Project are HVTLs and therefore a route permit is required prior to construction.

Because the project is considered an HVTL, it is subject to the Minnesota Power Plant Siting Act (Minnesota Statutes, chapter 216E). This process includes application review, a Public Information/Scoping Meeting, a Scoping Decision, development of an environmental review document, a Public Hearing and ultimately a final decision by the Commission.

Minnesota Rules, chapter 7850 implements and regulates the Power Plant Siting Act. The intent of the Act and Chapter 7850 is to ensure that HVTLs are routed in an orderly manner compatible with environmental preservation and the efficient use of resources. In accordance with this policy, the Commission must choose locations that minimize adverse human and environmental impacts, while ensuring continuing electric power system reliability and integrity and ensuring that electric energy needs are met and fulfilled in an orderly and timely fashion. The Commission is also required to provide for broad spectrum citizen participation in conjunction with these rules.

Route Permit Application and Acceptance

On April 24, 2009, Xcel Energy submitted a high voltage transmission line (HVTL) Route Permit application to the Commission for the proposed transmission lines and substations that make up the Hiawatha HVTL Project. The docket number for the route proceedings is E002/TL-09-38.

The application was submitted pursuant to the provisions of the Full Permitting Process outlined in Minnesota Rules 7850.1700 to 7850.2700.

The Commission accepted the Hiawatha HVTL Route Permit Application as complete on May 26, 2009. In the Order the Commission:

- Accepted the application, initiating the Full Review Process.
- Authorized the Energy Facility Permitting (EFP) unit to name a Public Advisor; Deborah Pile was named.
- Authorized the EFP to establish an Advisory Task Force, with the proposed structure and charge.
- Referred the docket to the Office of Administrative Hearings for the contested case hearing.

The review process begins with the determination by the Commission that the application is complete. The Commission has one year to reach a final decision on the route permit application from the date the application is determined to be complete. The Commission may extend this limit for up to three months for just cause or upon agreement of the applicant (Minn. R. 7850.3900).

Public Information and Environmental Review Scoping Meeting

The Department of Commerce (DOC) EFP staff is responsible for conducting the environmental review for route permit applications to the Commission (Minn. Rules 7850.2500). Environmental review for a project undergoing the full review process requires a public information/scoping meeting, development of a *Scoping Decision* and the preparation of an environmental impact statement (EIS). An EIS examines the potential human and environmental impacts of a proposed project, alternative routes for the project, and potential mitigative measures.

On May 29, 2009, the DOC EFP staff sent notice of the place, date and times of the Initial Public Information and Scoping meeting to those persons on the General List maintained by the Public Utilities Commission, the agency technical representatives list and the project contact list. Additionally, Xcel Energy mailed the notice to those persons on their property owners list and local unit of government list.

Notice of the public meeting was also published in the local newspapers.

On Thursday, June 18, 2009, the EFP staff held a public information meeting at the Midtown Global Market. The meeting convened at 6:00 pm. The purpose of the meeting is to provide information to the public about the proposed project, to answer questions, and to allow the public an opportunity to suggest alternatives and impacts that should be considered during preparation of the environmental review document. Written comments were accepted through end of business Friday, July 10, 2009.

Approximately 100 people attended the public information and scoping meeting; 24 individuals took the opportunity to speak on the record. A court reporter was present to document oral statements.

A variety of questions were asked and answered during the oral discussion, topics included: specifics on poles locations, undergrounding cost, the right-of-way (ROW) width; sources of power generation for this project; and timeline and milestones of the application review process.

Ninety-one written comments were received.

The major areas of concern expressed during the public comment period included: compatibility with existing and future land use plans; health and safety issues; environmental justice; cost of mitigation (undergrounding) and who pays, and questions about the stated need and means of satisfying that need.

Advisory Task Force

The Advisory Task Force (ATF) met three times: Wednesday, June 24, 2009, Wednesday, July 15, 2009, and Wednesday, August 5, 2009. The meetings were held in the Midtown Globe Market from 6:00 pm to 9:30 pm. The ATF, through a facilitated process, 1) discussed potential alternative routes and substation locations, 2) discussed potential impacts and possible mitigations of the proposed and alternative routes/sites, 3) discussed potential alternatives to the transmission solution, and 4) discussed and voted on a resolution concerning the proposed project.

The ATF released a report on August 29, 2009.

As with the public comments, the ATF's major areas of concern included the compatibility of the proposed HVTL project with the Midtown Greenway Land Use and Development Plan, potential health and safety impacts, environmental justice issues, responsibility for the cost of undergrounding the transmission line as a mitigating measure, and alternative system configurations or means of satisfying the stated need.

The ATF identified seven alternative substation locations and one alternative HVTL route for consideration in the EIS.

The ATF proposed alternative HVTL (Route E) route extends north from 28th Street East along Highway 55 to Interstate 94 (I-94) then follows the I-94 corridor west to Interstate 35W (I-35), and turns south to follow I-35W to roughly 28th Street East.

The ATF identified five substation alternatives for the eastern most proposed substation (Hiawatha Substation); they are identified as G-1, G-2, G-3, G-4, and G-5.

G-1 is located on vacant property south and west of the intersection of Minnehaha Avenue and East 26th Street.

G-2 is located on a paved lot west of 21st Avenue South, south of a building on East 28th Street.

G-3 is located on a triangle shape of land, east of Hiawatha Avenue and north of Lake Street.

G-4 is located on a triangle shape of land east of Hiawatha Avenue from just north of where East 31st Street would intersect with Hiawatha Avenue to just north of where East 32nd Street would intersect with Hiawatha Avenue.

G-5 is located on a triangle shape of land east of Hiawatha Avenue north of East 26th Street.

The ATF identified two substation alternatives for the western most proposed substation (Midtown Substation); they are identified as Mt-28N and Mt-28S.

Mt-28N is located on a green space north of East 28th Street between 4th Avenue South and Interstate 35W.

Mt-28S is located on a paved lot south of East 28th Street, between the Wells Fargo building and Interstate 35W.

Scoping Decision

The Commissioner of the DOC determines the scope of the EIS. The Commissioner shall not consider whether or not the project is needed (Minnesota Statutes, section 216E.03, subdivision 5), nor shall the issues of size, type and timing, system configuration, and voltage be included in the scope of environmental review (Minnesota Statutes, section 216E.02, subdivision 2).

The items, issues and alternatives raised during the scoping meeting and comment period were reviewed in preparation of the proposed Order on the Environmental Impact Statement Scoping Decision.

The DOC released its EIS Scoping Decision on September 3, 2009. The DOC EFP staff provided a Notice of Scoping Decision to all parties on the project contact list.

Environmental Impact Statement

Applications for high voltage transmission line route permits are subject to environmental review, which is conducted by the EFP staff under Minn. R. 7850.1700.

An EIS is a written document that describes the human and environmental impacts of a proposed project (and selected alternative routes) and methods to mitigate such impacts. The public has the opportunity to comment on the Draft EIS through a public meeting and comment period.

The DOC released the Draft EIS on January 8, 2010. The EFP staff provided a Notice of Availability of the Draft EIS and Notice of the Public Meeting on the Draft EIS to all parties on the project contact list on January 9, 2010. Additionally, Xcel Energy mailed the notice to those persons on their property owners list and local unit of government list.

On Wednesday, February 10, 2010, the EFP staff held a public meeting on the draft EIS at the Plaza Verde in Minneapolis. The meeting convened at 6:00 pm. The purpose of the meeting was to take public comment on the draft EIS and to answer questions that the public may have.

Based on sign-in sheets, the draft EIS meeting was attended by more than 100 individuals. EFP staff led the presentation and presided over the public meeting. The public was encouraged to provide oral comments at the public meeting and to submit written comments to the EFP by March 10, 2010. A court reporter was present at the public meeting to ensure that all oral comments were recorded accurately.

Oral comments were given by 28 individuals at the draft EIS public meeting; EFP received 78 written comments during the public comment period.

In preparing the Final EIS, the EFP staff considered all comments to the extent practicable. An identification number was assigned to each commenter, including those who expressed comments orally at the public meeting. Individuals who submitted comments in multiple separate submissions were assigned a separate commenter number for each submission.

Each specific comment by the same commenter was assigned a sequential comment number; for example, Comment 41-3 refers to the 3rd comment by the commenter assigned as number 41.

Based on the comments received on the Draft EIS, the EFP prepared responses and modified the EIS where appropriate. The EIS was also revised based on EFP's internal technical and editorial review of the draft EIS (i.e., changes made to the EIS that were not in response to a comment received).

The DOC released its Final EIS on June 7, 2010; a notice of the availability of the final EIS was published in the EQB Monitor and a press release was made to the local newspaper.

Public Hearing

This matter was assigned to Administrative Law Judge (ALJ) Beverly Jones Heydinger to conduct a contested case hearing on the application by Xcel Energy for a route permit for the proposed Hiawatha HVTL project.

The Public Hearings were held on April 5 and April 6, 2010, at 2:00 p.m. and 7:00 p.m. at the Plaza Verde, 1516 East Lake Street, Minneapolis, Minnesota.

The Evidentiary Hearing was held on April 12-21, and April 26-30, 2010, at the Public Utilities Commission, 121 Seventh Place East, Suite 350, St. Paul, Minnesota.

There are twelve parties to the proceedings besides the Applicant; they include Midtown Greenway Coalition (MGC), City of Minneapolis, Crew2 Incorporated, Hennepin County, Little Earth, Longfellow Neighborhood, Seward Neighborhood, Corcoran Neighborhood, Wells Fargo, Midtown Phillips Neighborhood, East Phillips Neighborhood, and Zimmer Davis.

Post-hearing submissions were filed. The record closed upon receipt of the final briefs on August 13, 2010.

ALJ's Findings of Fact, Conclusions of Law, and Recommendation

The ALJ report and recommendation was released on October 8, 2010. The ALJ recommended that the Commission issue to the Applicant a HVTL route permit for the Hiawatha Project, with the following stipulations:

1. A route permit for a high voltage transmission line corridor up to 80 feet wide, underground along Route D, subject to the following condition to minimize the impact of the Project on the persons living and working in close proximity to Route D:

The route alignment shall be developed in consultation with the City of Minneapolis, and shall be as close to the center of 28th Street as possible, with due regard for the existing infrastructure, in order to assure that the alignment is at the greatest reasonable distance from the sidewalk and residential structures, and minimizes the removal or destruction of mature trees along the adjacent boulevard.

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 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 the resources and 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 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.

4. The route permit shall require the Applicant to obtain all required local, state, and federal permits and licenses, comply with the terms of those permits and licenses, and comply with all applicable rules and regulations.

Exceptions to the ALJ's Report

On October 25, 2010, Xcel Energy filed exceptions to the ALJ's report; these exceptions focused on three areas: 1) application of the Minnesota Environmental Protection Act (MEPA) and Minnesota Environmental Rights Act (Finding 240 and Conclusion 7); 2) impacts associated with HVTLs, including EMF (Findings 314, 315, 321, 328 and 457), bike trail usage (Finding 328), and property values (Finding 259); and 3) permit condition concerning substation design/construction (Recommendations 2 and 3).

Hennepin County submitted one exception to the ALJ's report on October 25, 2010; this exception was to correct a statement made relative to Hennepin County's representation in the appearances section.

No other exceptions to the ALJ's report were filed with the Commission.

On November 4, 2010, the MGC filed a petition seeking a variance to Minnesota Rules, Part 7829.2700, subp. 2, to allow for replies to the exceptions filed. On November 4 and 5, 2010, the City of Minneapolis, the Seward Neighborhood Group, Inc., Hennepin County, Midtown Phillips Neighborhood Association, Inc. and the East Phillips Improvement Coalition filed letters in support of the Midtown Greenway Coalition's petition to allow replies to exceptions. On November 15, 2010, Xcel filed a letter in support of the petition for a variance and to incorporate the reply comments into the record.

On December 2, 2010, the Commission met to consider the matter. The Commission, in an Order released on December 13, 2010, varied Minn. Rules, part 7849.2700, subp. 2, and authorized the filing of replies to exceptions, and the entry of replies in the record.

EFP Staff Analysis and Comments

The Power Plant Siting Act sets standards and criteria and outlines the factors to be considered in determining whether to issue a permit for a high voltage transmission line (Minn. Stat. § 216E and Minn. R. 7850.4000). The law also allows the Commission to place conditions on high voltage transmission line permits (Minn. Stat. § 216E.03 and Minn. R. 7850.4600).

EFP staff reviewed and evaluated the Hiawatha 115 kV Transmission Line Project during the public involvement and environmental review processes, and has compiled a record for the Commission's decision on the route permit.

The ALJ concluded EFP conducted an appropriate environmental analysis of the project. The ALJ found, "The evidence on the record demonstrates that the FEIS is adequate because it addresses the issues and alternatives raised in the Scoping Decision, provides responses to the substantive comments received during the draft EIS review process, and was prepared in compliance with Minnesota Rules 7850.1000 to 7850.5600."

EFP staff concurs with the ALJ recommendation to issue a HVTL route permit for Route D, which is an underground design option. EFP staff finds that of the Route Alternatives and design options proposed by the Applicant and the public, and evaluated under the state environmental review process, Route Alternative D has the least impact on human habitation, aesthetics, cultural values and resources, public infrastructure, transportation, land-based economies, and maximizes the use of existing public right-of-way.

EFP Analysis of Exceptions to the ALJ Report.

As noted above, exceptions to the ALJ's report centered on a number of topics, in addition to several suggested clarifications. These are discussed below.

1. Exceptions related to MEPA

While agreeing with the ALJ that MEPA applies to routing proceedings before the Commission, Xcel Energy takes the position that the report oversimplifies the applicable standards and may not have thoroughly applied the standards by omitting a discussion about materiality (Finding

240 and Conclusion 7.). Xcel Energy has proposed changes, incorporating a definition of impairment that have as a feature the concept of materiality, which it believes will add clarification necessary to avoid confusion and misapplication of the standards in future routing proceedings.

The MGC’s reply comments to the Applicant’s exceptions challenged Xcel Energy’s position on the application of the Minnesota Environmental Protection Act and Minnesota Environmental Rights Act; the impacts associated with HVTLs (EMF, trail usage, and property values), and Xcel Energy’s suggested changes to the ALJ’s recommendation on the permit conditions concerning substation design/construction. The MGC asked the Commission to reject the Xcel Energy exceptions in their entirety.

The MGC believes that the proposed language regarding “materiality” in the application of the Minnesota Environmental Protection Act and Minnesota Environmental Rights Act put forth by Xcel Energy is confusing and minimizes the significance of impacts to resources on the National Register of Historic Places. Further, the MGC states that the Federal rules interpreting the National Environmental Policy Act (NEPA), upon which Minnesota statutes are based, describe the “significance” of impacts in terms of their potential to affect listed resources. Federal rules state that the intensity or severity of impact includes consideration of “proximity to historic or cultural resources,” (40 C.F.R. 1508.27(b)(3); the “degree to which the effects on the quality of the human environment are likely to be highly controversial,” (40 C.F.R. 1508.27(b)(4); and the “degree to which the action *may* adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or *may* cause loss or destruction of significant scientific, cultural, or historical resources.” (40 C.F.R. 1508.27(b)(8), emphasis added).

MGC considers Xcel Energy’s exceptions to Finding 240 and Conclusion 7 as inappropriate and that they would diminish the protection required under the law of designated historic resources; as such they are without merit and should be rejected by the Commission.

EFP Staff Analysis: On the issue of the application of the Minnesota Environmental Protection Act and Minnesota Environmental Rights Act, EFP staff concurs with the ALJ’s Finding 240 and conclusion 7

Recommendations: EFP proposes no changes to these items.

2. Exceptions related to EMF.

The ALJ’s report contains four findings related to magnetic fields 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 (Findings 314, 315, 321 and 457).

Xcel Energy believes that these findings are incomplete, were not based on a fully formed record, and taken out of context overstate the WHO position on magnetic field levels in the 3 to 4 milligauss range; as such Xcel Energy has suggested clarifying language that more completely reflects the WHO position on EMF exposure.

Additionally, Xcel Energy believes the ALJ's report contains a fifth finding (Finding 328) regarding the consideration of routes' relative to magnetic field health impacts that are dependent on the inaccurate WHO findings contained in the ALJ's report and suggest that this language should also be modified. With regards to Finding 328, Xcel Energy believes 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.

Xcel Energy further recommends that the Commission adopt an additional finding (315A) consistent with the Commission's decision in the Brookings proceeding.¹

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

The MGC states that the ALJ Findings 314, 315, 321, 328 and 457 regarding human health and safety concerns from magnetic fields are consistent with prior findings approved by the Commission and contrary to Xcel Energy's exceptions do reflect a careful distinction between association and causation concerning exposure to magnetic fields in the 3 to 4 milligauss range.

Also, the MGC believes that the additional finding (315A) proposed by Xcel Energy is not relevant to the Hiawatha Project since no evidence in this case pertains to State standards for magnetic field exposure.

EFP Staff Analysis: As to the issues of the potential health effects of EMF in the 3 to 4 milligauss range, EFP staff agrees with Xcel Energy that the ALJ's findings (314, 315, 321, 328, and 457) may leave the reader with stronger conclusions on exposure to EMF in the 3 to 4 milligauss range than a full review of the WHO Monograph supports. EFP staff has proposed changes to these findings (see below).

Pertaining to Xcel Energy's proposed finding 315A, EFP staff agrees with the MGC that since the record does not contain evidence regarding a State standard for magnetic fields, the proposed language is not relevant to the Hiawatha proceeding and staff has not incorporated this finding into the proposed findings.

Recommendations: EFP staff recommends accepting Xcel's recommended changes as follows:

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 every day, chronic low-intensity magnetic field exposure poses a health risk is based on epidemiological studies demonstrating a consistent

¹ 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).

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.

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.

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.

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

3. Exceptions related to Trail Usage.

The ALJ’s report includes one finding (Finding 296) regarding the potential adverse impact of transmission lines along Route A may have on bike use on the Midtown Greenway. Xcel Energy

believes that the claim made in Finding 296, that bike use along the Midtown Greenway will be reduced if overhead or underground lines are installed, is not supported by the record evidence (studies, historical data or expert opinion) and should not be adopted.

As to the ALJ's finding (296) that an overhead HVTL along the Midtown Greenway would be more likely to deter use of the bicycle and pedestrian trails than alternative routes, the MGC believes this finding to be well supported by the record and public testimony and that Xcel Energy's exception to Finding 296 should be rejected.

EFP Staff Analysis: EFP staff believes that the record does contain adequate evidence (Findings 155, 222, 223, 225, and 227) to support the statement that "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" contained within the ALJ's Finding 296.

Recommendations: EFP staff has not proposed any change to Finding 296.

4. Exceptions related to Property Values.

The ALJ's report also contains one finding (Finding 259) relating to the impact of overhead lines on home values; in that finding (relevant part) the report states that "...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." Xcel Energy believes that this statement is an incomplete reference to the literature review cited in the EIS and should not be adopted.

The MGC feels that Xcel Energy's exception to the ALJ's finding (259) on the HVTL's potential effect on property values is without merit; the MGC agrees with the ALJ findings (205, 208, 214, 253, and 254) that distinguish the examples provided by Xcel Energy from the Hiawatha HVTL project in the areas of lot size, population density, and distances from homes and businesses. The MGC believe that Xcel Energy's exception to Finding 259 should be rejected.

EFP Staff Analysis: In the ALJ's Finding 259, the statement is made (in relevant part) that "...close proximity (within 200 to 300 feet) is one of the factors that deflates home value." In its exceptions to the ALJ report, Xcel Energy has requested that this last sentence of Finding 259 be deleted; while EFP staff believes that the effect on home values from the presence of HVTLs may be difficult to measure and surely proximity to a line is one of the many variables in the equation. However, EFP does not believe the record supports quantifying a distance (i.e. 200 to 300 feet).

Recommendations: EFP staff has proposed a change to Finding 259 that would remove the 200 to 300 foot reference from the finding.

5. Substation Conditions

The ALJ's report recommended that the Commission issue to the Applicant a HVTL route permit for the Hiawatha Project with stipulations or conditions; two of these conditions (Recommendations 2 and 3) pertain to community and government input into the final design

(placement on the approved sites, noise mitigation, wall design, lighting, and landscaping) of the Hiawatha and Midtown substations.

Xcel Energy expressed concern that these recommended conditions were not limited in scope, lack adequate guidance or timeframes, and provided no direction on how final design decision would be made. Xcel Energy stated, in its exception to Recommendation 2 and 3, that the company regularly consults with relevant government agencies in preparation of a plan and profile for its projects. Additionally, Xcel Energy stated its intent to involve the County, the City and Mn/DOT in the development of substation designs that will minimize potential impacts to the Midtown Greenway. Further stating that the addition of permit conditions on these issues would not meaningfully alter the dialogue the company would already undertake with local units of government.

Xcel Energy requested that Recommendation 2 and 3 of the ALJ's report be replaced with the following language:

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.

The MGC stated in its reply to Xcel Energy's exceptions that the language proposed by Xcel Energy would remove community groups from discussion on substation design and mitigation.

EFP Staff Analysis: While agreeing conceptually with the ALJ's recommendations, and recognizing that the record supports the need for community input, EFP staff understands that in terms of a permit condition there needs to be a definitive scope and timeframe for gathering input into the design of the substations. In consideration of these points, EFP staff suggests the following procedures:

- a) the development of preliminary substation designs by the Applicant, based on the record to date;
- b) an opportunity for the parties of record to review and submit comments to the Applicant on the preliminary designs; and,
- c) the submission, along with the typical project Plan and Profile, of the final substation designs, including a discussion of the comments received and rational for the Applicant's final design decisions.

Recommendation: EFP staff recommends that the ALJ's recommendations be replaced with the following language:

That the Commission issue to Northern States Power Company, dba Xcel Energy, the following permit for the Hiawatha HVTL Project:

- I. A route permit to construct a high voltage transmission line underground along Route D, with a route width of 80 feet. The transmission line alignment shall be developed in consultation with the City of Minneapolis, and shall be as close to the center of 28th Street as possible, with due regard for the existing infrastructure, in order to assure that the alignment is at the greatest reasonable distance from the sidewalk and residential structures, and minimizes the removal or destruction of mature trees along the adjacent boulevard.
- II. The route permit shall include the Hiawatha West Substation site. The substation shall be designed and constructed to minimize the impact of the project on the persons living and working in close proximity to it to the extent practicable. The HVTL Route Permit shall contain procedures that allow an opportunity for the parties of record to provide input into a) placement of the Hiawatha West Substation on the approved site, and b) the substation's wall design, lighting and landscaping. These efforts will be made to minimize disruption to the current and planned Midtown Greenway bicycle and pedestrian trails, to minimize the aesthetic impact, and to assure compatibility with the surrounding structures to the extent practicable.
- III. The route permit shall include the Midtown North Substation site. The substation shall be designed and constructed to minimize the impact of the project on the persons living and working in close proximity to it to the extent practicable. The HVTL Route Permit shall contain procedures that allow an opportunity for the parties of record to provide input into a) placement of the Hiawatha West Substation on the approved site, and b) the substation's wall design, lighting and landscaping. These efforts will be made to minimize disruption to the current and planned Midtown Greenway bicycle and pedestrian trails, to minimize the aesthetic impact, and assure compatibility with the surrounding structures to the extent.
- IV. The route permit shall require the Permittee to obtain all required local, state, and federal permits and licenses, comply with the terms of those permits and licenses, and comply with all applicable rules and regulations.

4. Technical Changes

MGC suggested corrections to factual errors in two findings (137 and 191) relative to alternative substation location G-4. MGC's suggested changes are shown below:

137. ~~In light of MnDOT's ownership of a portion of the G-4 site that includes a~~ and its lease to the Metropolitan Council, but neither MnDOT nor the Metropolitan are opposed to making the site ~~may not be~~ available to the Applicant for a substation.²

² Ex. 232; Tr. Vol. 11, at 182 (Seykora)

191. MnDOT considers the property at the Hiawatha West, G-4 and G-3 sites as surplus and those parcels may be available for sale, but asserts that ~~Site G-4 and Site G-5~~ *are* is not available because of agreements in effect with the Metropolitan Council.³

EFP Staff Recommendation: EFP staff recommends that the Commission adopt the ALJ's Findings 137 and 191 with the additions and changes described above.

Finding of Fact and Permit

EFP staff has prepared the attached proposed Findings of Fact, Conclusions of Law, and Order and proposed Route Permit that includes (or incorporates) the staff recommendations noted above.

Commission Decision Options

A. Approve and adopt the Findings of Fact, Conclusions of Law and Order for the Xcel Energy's Hiawatha HVTL project (PUC Docket No. E002/TL-09-38) which:

1. Determines that the environmental impact statement addresses the issues identified in the Scoping Decision;
2. Designates the HVTL route and location of the Hiawatha and Midtown substations as the routes/sites for the construction/implementation of the Hiawatha HVTL project and associated facilities; and
3. Issues a HVTL Route Permit, with appropriate conditions, to Northern States Power (Xcel Energy).

B. Amend the Findings of Fact, Conclusions and Order and Route Permit as deemed appropriate.

C. Make some other decision deemed more appropriate.

EFP Staff Recommendation: Option A.

³ Ex.228; Ex. 232; Tr. Vol. 11, at 183,189 (Seykora).

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Site Map Illustrating the Study Area

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Proposed Findings of Fact, Conclusions, Order.

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Proposed HVTL Route Permit.