BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

COMMENTS AND RECOMMENDATIONS OF THE MINNESOTA OFFICE OF ENERGY SECURITY ENERGY FACILITY PERMITTING STAFF

DOCKET NO. ET2/TL-08-1474

Meeting Date: July 13 and 15, 2010 ..... Agenda Item #2

Company: Great River Energy and Xcel Energy

Docket No: **ET2/TL-08-1474**

In the Matter of the Route Permit Application for a 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota.

Issue(s): Should the Minnesota Public Utilities Commission find that the environmental impact statement and the record adequately address the issues identified in the scoping decision? Should the Minnesota Public Utilities Commission issue a route permit identifying a specific route and permit conditions for the proposed Brookings to Hampton 345 kV transmission line project?

Energy Facility Permitting Staff ..... Scott E. Ek

RELEVANT DOCUMENTS

Route Permit Application ..... December 29, 2008
Scoping Decision Document ..... June 30, 2009
Draft Environmental Impact Statement ..... October 20, 2009
Final Environmental Impact Statement ..... January 26, 2010
Administrative Law Judge, Findings of Fact, Conclusion, and Recommendation .... April 22, 2010
Exceptions of NO CAPX2020 and United Citizens Action Network ..... May 7, 2010
Theresa Ruhland letter ..... May 5, 2010

Mark Katzenmeyer letter ..... May 7, 2010
Bimeda, Inc. letter ..... May 6, 2010
U.S. Fish and Wildlife Service letter ..... June 10, 2010

DOCUMENTS ATTACHED

Findings of Fact, Conclusions of Law, and Order
High-Voltage Transmission Line Route Permit
Overview Map – Applicants' Preferred and Alternate Route
Overview Map – Applicants' Modified Preferred and Crossover Routes
Overview Map – Permitted Route
Brookings-Hampton Route Maps
Table 1 – Alternative Crossover/Crossover and North-South Connector Summary
Figure - Crossover Routes
Figure - North/South Connectors

Note: Relevant documents and additional information can be found on eDockets (Docket No. 08-1474) https://www.edockets.state.mn.us/EFiling/search.jsp or the Commission's Energy Facilities Siting and Routing website at: http://energyfacilities.puc.state.mn.us/Docket.html?Id=19860.

I. STATEMENT OF THE ISSUES

Should the Commission find that the environmental impact statement is adequate? Minn. R. 7850.1500, subp. 10, requires that an EIS must: A) address the issues and alternatives raised in scoping to a reasonable extent considering the availability of information and the time limitations for considering the permit application; B) provide responses to the timely substantive comments received during the draft environmental impact statement review process; and C) was prepared in compliance with the procedures in parts 7850.1000 to 7850.5600. Should the Commission issue a route permit identifying a specific route and permit conditions for the proposed Brookings to Hampton 345 kV transmission line project?

Route options include:

- The Modified Preferred Route, with an aerial crossing of the Minnesota River at Le Sueur, modified further by Alternative 6P-06 between Lake Marion and Hampton (the administrative law judge's (ALJ) first choice)

- The Modified Preferred Route, modified further by Alternative 6P-06, and modified further by the Crossover/Alternative Route between Sibley County and the Helena Substation, with an aerial crossing of the Minnesota River at Belle Plaine (the ALJ's second choice)

- The Modified Preferred Route, modified further by Alternative 6P-06, and modified further by the North-South Connector Example 2/Alternative Route between Sibley County and the Helena Substation, with an aerial crossing of the Minnesota River at Belle Plaine (EFP Alternative Crossover Route)

II. INTRODUCTION

Great River Energy and Xcel Energy (applicants) filed a route permit application under the full permitting process on December 29, 2008, for approximately 237 miles of new 345 kV transmission line and associated facilities between the existing Brookings County Substation near White, South Dakota, and a newly proposed substation near Hampton, Minnesota.[1]

A. Project Description

The applicants identified a preferred and an alternate route in their route permit application. The two routes would both begin in Minnesota at the state's western border near Hendricks, Minnesota and cross a portion of the following counties: Lincoln, Lyon, Yellow Medicine, Chippewa, Redwood, Brown, Renville, Sibley, Le Sueur, Scott, and Dakota.

B. Applicants Preferred and Alternate Routes

The preferred and alternate routes are approximately 237 and 262 miles in length, respectively, and would be constructed between (1) the existing Brookings County Substation near White, South Dakota, and a new Hampton Substation near Hampton, Minnesota, and (2) the Lyon County Substation near Marshall, Minnesota; and the Minnesota Valley Substation near Granite Falls, Minnesota.

The applicants' proposed and alternate routes can each be divided into six segments as described below and depicted in the attached figure *Applicants' Preferred and Alternate Routes*.

1. Brookings County Substation to Lyon County Substation

   The transmission line would originate at the Brookings County Substation, near White, South Dakota, and extend approximately four to eight miles to the Minnesota border. Minnesota permitting authority would begin as this segment crosses the Minnesota border passing through Lincoln and Lyon counties for approximately 50 miles to the existing Lyon County Substation near Marshall, Minnesota. This segment would be constructed and operated as a 345 kV single-circuit on double-circuit structures.

[1] Ex. 2 (Application)

2. Lyon County Substation to Hazel Creek Substation to Minnesota Valley Substation

This segment is approximately 29 to 34 miles long and would pass through Lyon, Yellow Medicine, and Chippewa counties, and would replace the existing Lyon County to Minnesota Valley 115 kV transmission line. This segment would also be constructed and operated as a 345 kV single-circuit on double-circuit structures, with the exception of the segment of transmission line running from the newly proposed Hazel Creek Substation to the existing Minnesota Valley Substation, which would initially be operated at 230 kV.

3. Lyon County Substation to Cedar Mountain Substation

This segment is approximately 51 to 53 miles long and would pass through Lyon, Redwood, Brown, and Renville counties. This segment would be constructed and operated as a double-circuit 345 kV, that is, two 345 kV circuits strung on one double-circuit structure.

4. Cedar Mountain Substation to Helena Substation

This segment is approximately 62 to 74 miles long and would pass through Renville, Sibley, Le Sueur, and Scott counties. This segment would also be constructed and operated as a double-circuit 345 kV.

5. Helena Substation to Lake Marion Substation

Passing through Le Sueur, Rice, and Scott counties, this section is approximately 26 to 31 miles in length. Similar to the first two segments this stretch of the route would also be constructed and operated as a 345 kV single-circuit on double-circuit structures.

6. Lake Marion Substation to Hampton Substation

This segment would connect the Lake Marion Substation to the final termination point, the newly proposed Hampton Substation. This segment is approximately 18 to 24 miles in length and would pass through Scott and Dakota counties. This route segment would be constructed and operated as a 345 kV single-circuit on double-circuit structures.

C. Substations

The proposal also includes the construction of four new substations and the expansion of three existing substations. New substations include a Hazel Creek Substation near Granite Falls, Minnesota; a Helena Substation near New Prague, Minnesota; a Cedar Mountain Substation near Franklin, Minnesota; and a Hampton Substation near Hampton, Minnesota. Existing substations include the Lyon County Substation near Marshall; the Minnesota Valley Substation in Granite Falls, and Lake Marion Substation just north of Elko/New Market.

D. Transmission System Interconnections

As part of the proposed project, transmission system interconnections would be constructed between the proposed Cedar Mountain Substation and the existing Minnesota Valley – Franklin – New Ulm 115 kV transmission line; the proposed Helena Substation and the existing Wilmarth – Blue Lake 345 kV transmission line; and the proposed Hampton Substation and the existing Prairie Island – Blue Lake 345 kV transmission line.

E. Route Width

As indicated in the route permit application, the applicants are requesting a 1,000 foot wide route width for the majority of the project. In areas where new and existing substations are proposed, along with five other route locations, the applicants are requesting a 1.25-mile wide route width to facilitate system interconnection and/or address river crossing areas and environmental and land use concerns.

F. Right-of-Way Width

The applicants propose using single structure steel poles which would require a 150-foot right-of-way for the majority of the route. A 100-foot right-of-way would be required for the route segment connecting to the Cedar Mountain substation near Franklin, Minnesota. There may be some limited situations along the route where specialty structures (H-frames or triple-circuit structures) may be needed, and a right-of-way up to 180 feet would be required in these instances.

III. REGULATORY PROCESS AND PROCEDURES

In Minnesota, no person may construct a high-voltage transmission line without a route permit from the Commission Minn. Stat. § 216E.03, subd. 2. A high-voltage transmission line is defined as a conductor of electric energy designed for and capable of operation at a voltage of 100 kV or more and is greater than 1,500 feet in length Minn. Stat. § 216E.01, subd. 4. The project as proposed would consist of between 237 to 262 miles of new 345 kV transmission line thereby requiring a high-voltage transmission line route permit from the Commission.

In addition, because the proposed transmission line capacity would be greater than 200 kV and more than 1,500 feet in length, a certificate of need is required under Minn. Stat. § 216B.2421. A certificate of need application for this project was filed separately by Great River Energy and Xcel Energy on August 16, 2007, and the Commission issued an order granting a certificate of need for the project on May 22, 2009 (Docket No. ET-2, E-002, et al./CN-06-1115).

A. Route Permit Application and Acceptance

Route permit applications must provide specific information about the proposed project including, but not limited to, applicant information, route description, environmental impacts, alternatives, and mitigation measures. Minn. R. 7850.1900.

The Commission may accept an application as complete, reject an application and require additional information to be submitted, or accept an application as complete upon filing of supplemental information. Minn. R. 7850.2000.

On January 29, 2009, the Commission issued an Order accepting the Brookings to Hampton route permit application as complete and authorized the OES staff to:

- process the application under the full permitting process in Minnesota Rules 7850.1700 to 7850.2700;
- name a public advisor in this case; and
- establish an advisory task force or task forces and develop a structure and charge for them.

B. Advisory Task Forces

The Commission authorized Energy Facility Permitting (EFP) staff to establish an advisory task force (ATF) or task forces and develop a structure and charge for them.

EFP staff, in accordance with Minnesota Statute 216E.08, subdivision 1, established a total of two geographically-based ATFs, the Lake Marion to Hampton ATF and the Minnesota River Crossings to New Prague ATF. Staff also sent letters to 75 local governmental units west of the Minnesota River at Henderson/Belle Plaine requesting assistance in assessing the need for an ATF in their respective communities. Of the 75 letters sent out, only 12 local government units (LGU) responded; eight of the LGUs declined an ATF; two LGUs requested an ATF and one LGU thought an ATF might help. Due to the lack of response EFP staff determined there was insufficient interest in establishing an ATF(s) in areas west of the Minnesota River.

The two established ATFs were each charged with: (1) identifying local site or route specific impacts and issues of local concern, and (2) identifying alternative transmission line routes or substation locations in their respective area of concern that may maximize positive impacts and minimize or avoid negative impacts of the project. The ATFs each met three times between March and April 2009. ATF meetings were open to the public with a designated comment period during each meeting. A final report summarizing their activities and their conclusions and recommendations was issued for each ATF and the ATF reports were incorporated by reference into the scoping decision document. The final ATF reports along with meeting notes and supporting materials for all meetings were also made publicly available on the Commission's Energy Facilities website. The environmental impact statement (EIS) scoping decision document included recommendations of the ATFs.

C. Public Information/EIS Scoping Meetings

Twelve public information/EIS scoping meetings were conducted by EFP staff between March 30 to April 9, 2009, at nine different locations that included the cities of Marshall, Hendricks, Granite Falls, Redwood Falls, Gaylord, Henderson, New Prague, Lakeville, and Cannon Falls. Approximately 1,065 people attended the 12 public meetings, according to the meeting sign-in sheets.

The scoping meetings provided the public an opportunity to learn about the proposed project and the route permitting process, review the route permit application, ask questions and submit comments. A court reporter was present at each of the public meetings to transcribe questions asked and comments made by the public as well as responses from EFP staff and the applicants.

A public comment period, ending on April 30, 2009, provided the public an additional opportunity to submit comments and alternative routes to be considered for the scope of the EIS. A total of 999 comments were received by the close of the comment period which included 801 written or emailed comments and 198 oral comments from the public scoping meetings. There was also approximately 827 form letter/postcards from the Watt Munisotaram Temple indicating opposition to the line near their Temple.

EFP staff reviewed all comments received and determined that it was reasonable to evaluate 47 alternative route segments and 26 alignment alternatives. The Director of the OES issued the scoping decision on June 30, 2009. Upon further refinement while preparing the DEIS, four additional alternative route segments were identified, increasing the number of alternative route segments to 51 and five of the alignment alternatives were found to be duplicates, thus reducing the alignment alternatives to 21.

D. Draft EIS Public Meetings

On October 20, 2009, EFP staff released the draft EIS (DEIS). EFP staff conducted ten public meetings in six different locations along the length of the proposed project in order to provide an opportunity for the public to comment on the DEIS. A public comment period beginning on October 20, 2009, and ending on November 30, 2009, provided the public an additional opportunity to submit comments on the DEIS.

A total of 272 written and oral comments were received during the meetings and comment period. EFP staff considered and responded to all comments. Responses to comments received are included in the final EIS (FEIS) that was issued on January 26, 2010.

E. Public Hearings

Applications for high-voltage transmission line route permits under the full permitting process require a public contested-case hearing upon completion of the DEIS pursuant to Minnesota Rule 7850.2600. In its February 5, 2009 Order, the Commission referred the docket to the Office of Administrative Hearings (OAH) for a contested case hearing.

A total of 17 public hearings in eight different locations along the proposed project were held in November and December 2009. Evidentiary hearings were held between December 15 to 18, 2009, at the Commission's Large Hearing Room in St. Paul, Minnesota. All of the public hearings and evidentiary hearings were presided over by Judge Richard Luis, an administrative law judge (ALJ) with the OAH. The hearings provided members of the public an opportunity to speak at the hearings, present evidence, ask questions, and submit comments to the ALJ. Judge Luis accepted written and emailed comments starting on the first day of the public hearings and ending on February 8, 2010.

F. Standards for Permit Issuance

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.03 and 216E.04. See also Minn. R. 7850.4000. Minnesota Statute § 216.E.03 also allows the Commission to place conditions on high-voltage transmission line permits. *See also* Minn. R. 7850.4600.

One of the considerations noted in Minn. Stat. 216E.03, subd. 7 (b) (12), is that the Commission's designation of routes shall be guided by "when appropriate, consideration of problems raised by other state and federal agencies and local entities."

In addition, Minn. Stat. 216E.10, subd. 3 (a), requires that state agencies with authority to issue permits for high voltage transmission lines must participate in the Commission's and must clearly state whether a route being considered for designation will be in compliance with state agency standards, rules, or policies.

State and federal agencies raised several issues and concerns in this docket for Commission consideration. These include Minnesota Department of Transportation's concerns with route segments along I-35 and Highways 169 and 52, and U.S. Fish and Wildlife Service's (USFWS) indication that granting an incidental take permit under the federal Bald and Golden Eagle Protection Act for a aerial crossing of the Minnesota River at Le Sueur is unlikely.

IV. ADMINISTRATIVE LAW JUDGE'S REPORT

The ALJ released his Findings of Fact, Conclusions, and Recommendation (ALJ Report) on April 22, 2010.[2] The ALJ Report addresses transmission line siting for the applicants' high-voltage transmission line route permit for the proposed Brookings to Hampton 345 kV transmission line project, and makes recommendations regarding the adequacy of the FEIS. The ALJ's report consists of three recommendations, 565 findings of fact, and 16 conclusions.

A. ALJ Recommendations

The ALJ made the following recommendations:

1. That the Commission determine that all relevant statutory and rule criteria necessary to obtain a Route Permit have been satisfied and that there are no statutory or other requirements that preclude granting a Route Permit based on the record.

2. That the Commission grant a Route Permit to Applicants on behalf of themselves and the participating CapX2020 utilities for the facilities described below, to the effect of authorizing:

[2] Administrative Law Judge. *Findings of Fact, Conclusions, and Recommendation* ("ALJ Report") at 50, filed 04/22/10, Doc. Id. 20104-49478-01 and 20104-49902-01.

A. For the 345 kV transmission line between Brookings to Hampton and Associated Facilities,

(1) The Modified Preferred Route, with an aerial crossing of the Minnesota River at Le Sueur, modified further by Alternative 6P-06 between Lake Marion and Hampton;

(1a) If the Modified Preferred Route adjusted by Alternative 6P-06 is not granted a Permit, the ALJ recommends granting of a Route Permit for the Modified Preferred Route, modified further by Alternative 6P-06, and modified further by the Crossover/Alternate Route between Sibley County and the Helena Substation, with an aerial crossing of the Minnesota River at Belle Plaine;

(2) A route width of 600 feet except for those locations identified in Applicants' Proposed Findings where Applicants are requesting a route width of 1,000 feet or up to 1.25 miles;

(3) Construction of four new substations (Hazel Creek Substation, Cedar Mountain Substation, Helena Substation, and Hampton Substation) at the substation sites identified in the Application;

(4) Modifications and additions to four existing substations (Brookings County Substation, Lyon County Substation, Minnesota Valley Substation, and Lake Marion Substation) to accommodate the new transmission line facilities;

(5) A short transmission line connector between the existing Wilmarth – Blue Lake 345 kV line and the new Helena Substation; and

(6) A short transmission line connector between the existing Prairie Island – Blue Lake 345 kV line and the new Hampton Substation.

B. For the 115 kV transmission line between Cedar Mountain Substation and Franklin Substation,

(1) The Revised Cedar Mountain 115 kV Route as shown on Attachment 7;

(2) A route width of 4,225 feet; and

(3) Expansion of and modifications to the Franklin Substation to accommodate the new 115 kV transmission line facilities.

3. That Applicants be required to take those actions necessary to implement the Commission's Orders in this proceeding.

The ALJ Report includes Attachment 1, which accurately summarizes the comments made at the public hearings and the written comments that are a part of the record, and indicates that the permitting process has been conducted in accordance with Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850, identifies route impacts and mitigation measures, and draws conclusions based on the record.

The ALJ Report also presents findings of fact for each of the decision criteria under Minn. Rules 7850.4100. The Commission may accept or reject the ALJ recommendations. The ALJ recommendations have no legal effect unless expressly adopted by the Commission in its final order. If the Commission wishes to adopt findings that are not consistent with the ALJ findings, it must explain its reasons for so doing.

EFP staff addresses the ALJ's recommendations in Section V. below, specifically making alternative recommendations to the ALJ's recommendations 2.A(1), (1a), and (2).

B. Description of Modified Preferred Route

Applicants filed Direct Testimony and Schedules of Mr. Craig Poorker prior to the start of the public hearings, which identified Applicants' modifications to the Preferred Route.[3] Applicants' Modified Preferred Route is the result of their evaluation of the various route and segment alternatives included in the DEIS. Based upon their review and analysis of the various route and segment alternatives proposed in the DEIS,[4] Applicants identified four route modifications acceptable to them and incorporated such into the initially proposed Preferred Route to develop the Modified Preferred Route.[5]

Thus, the Modified Preferred Route is the Preferred Route[6] as modified by the following[7]:

- DEIS Alternative Route Segment 3P-06 in Underwood Township, Redwood County. The Modified Preferred Route leaves the Preferred Route and heads south between sections 35 and 36 until it comes to the north side of State Highway 19. The Modified Preferred Route continues east for one mile until it joins the Preferred Route at the junction of County Highway 5 and County Highway 12.[8]

- DEIS Alternative Route Segment 3P-04 in Eden Township in Brown County is approximately 0.5 mile north of 320th Street, where the Modified Preferred Route heads east along the half section line of Section 7 for one mile.

- The Modified Preferred Route turns north on 330th Avenue for approximately one mile and turns east on the half section line of Section 5. The Modified Preferred Route then turns north on 327th Avenue for 0.5 mile where it rejoins the Preferred Route.[9]

[3] Ex. 102 at p. 15 (Poorker Direct).
[4] Ex. 23 (DEIS)
[5] Ex. 102 at p. 15 (Poorker Direct).
[6] ALJ Report at pp. 56-64.
[7] See attached figure *Applicants Modified Preferred and Crossover Routes*.
[8] ALJ Report at 57.
[9] ALJ Report at 58.

- DEIS Alternative Route Segment 5P-02[10] is located between the Helena Substation and the Lake Marion Substation at the intersection of Aberdeen Avenue and 270th Street. The Modified Preferred Route continues east for one mile to Delmar Avenue. At Delmar Avenue, the Modified Preferred Route continues north one mile until it joins the Preferred Route at 260th Street.[11]

- The fourth modification is along the South Dakota border south of Hendricks, Minnesota, along 290th Street in Hendricks Township. The Modified Preferred Route includes an approximately 2.15-mile route segment along 290th Street just south of Highway 19, where it crosses into South Dakota. The route segment includes 290th Street where it turns south for approximately 600 feet on the Minnesota border (this road becomes 201st Street in South Dakota). The route width in this area is proposed to be 1.1 miles.[12]

The applicants also developed two alignment modifications and a route width modification, which were incorporated into the Modified Preferred Route.[13]

- The alignment of the Preferred Route centerline at the Le Sueur Minnesota River crossing was changed to parallel U.S. Highway 169. Applicants made this modification to avoid crossing Buck's Lake, which the Minnesota Department of Natural Resources (MnDNR) identified as a habitat to "substantial numbers of bald eagles, great egrets, and other waterfowl." The MnDNR did not support a crossing of Buck's Lake "due to the high concentration of species using the area for resting, roosting, feeding and nesting."[14]

- The Preferred Route width and proposed alignment were changed to avoid the RES Specialty Pyrotechnics, Inc., facilities near Belle Plaine. The Institute of Makers of Explosives has detailed guidance regarding proximity of transmission line facilities to pyrotechnic facilities. This guidance recommends that transmission lines be located no nearer to the pyrotechnic facility than the width between poles in the line (in this case, 1,000 feet).[15]

- The Preferred Route width was expanded to 3,000 feet for a certain narrow area north of Marshall, Minnesota.[16]

C. NoCapX/UCAN's Exceptions to the ALJ Report

As provided for on page 101 of the ALJ report, "Under the Commission's Rules of Practice and Procedure, Minn. R. 7829.0100 to 7829.3200, exceptions to this report, if any, by any party adversely affected must be filed within 15 days of the mailing date hereof with the Executive Secretary of the Public Utilities Commission…."

[10] Ex. 23 at 7-129 (DEIS).
[11] ALJ Report at 59.
[12] ALJ Report at 60.
[13] ALJ Report at 61.
[14] ALJ Report at 62.
[15] ALJ Report at 63.
[16] ALJ Report at 64.

NO CAPX 2020 and United Citizens Action Network (NoCapX2020/UCAN),[17] parties to this proceeding, filed exceptions to the ALJ Report.

[Note: The findings and conclusions included in the discussion in the following sections retain the same numbering used in the ALJ's report. Amendments, changes, deletions and additions to the ALJ findings are shown by strikethrough and underlining. Please note that the ALJ footnotes have been omitted for formatting reasons.]

NoCapX2020/UCAN filed as exceptions a redlined version of the ALJ Report. NoCapX2020/UCAN provided few citations to the record for its proposed changes and essentially no discussion as to why it believes the proposed changes should be made. As noted in the ALJ Report, exceptions "must be specific, relevant to the matters at issue in this proceeding, and stated and numbered separately." Since NoCapX2020/UCAN's exceptions are in substantial part not consistent with this directive, the Commission could reasonably require NoCapX2020/UCAN to provide further explanation and support for its exceptions or determine to not take them into account in making its decision regarding the ALJ Report.

The OES EFP staff does not suggest that NoCapX2020/UCAN's exceptions be excluded from consideration; however, it would be excessively burdensome to address each proposed change individually, particularly where NoCapX2020/UCAN has included no discussion as to the separate modifications, deletions and additions that it proposes. Thus, OES EFP staff has grouped the numerous exceptions into issue categories separately numbered in the discussion below:

Exception [Category] 1. NoCapX2020/UCAN takes exception to the overlap of portions of the alternate and preferred routes in the Application, claiming that the Applicants are required to identify two completely separate routes. *See, e.g.,* NoCapX2020/UCAN proposed Findings 48, 508.[18]

EFP Staff Analysis: This is not the first time that NoCapX2020/UCAN has raised this issue. The Commission recently addressed NoCapX2020/UCAN's similar claim in another CapX proceeding, *In the Matter of the Application for a Route Permit for the CapX2020 Hampton-Rochester-Lacrosse High Voltage Transmission Lines*, Docket No. E-002/TL-09-1448. In the *Hampton-Rochester-Lacrosse Docket,* NoCapX2020/UCAN argued that the application was not complete and should not be accepted as such by the Commission because the Applicants did not identify and propose two distinct and entirely separate routes as required by Minn. Stat. § 216E.03, Subd. 3. The Commission declined to accept NoCapX2020/UCAN's interpretation of the rule for completeness. ORDER ACCEPTING APPLICATION AS COMPLETE AND REQUESTING PROPOSAL FOR TASK FORCES, at pp. 3-4.

[17] NO CAPX 2020 & United Citizens Action Network, Exceptions to Recommendation of ALJ, filed 05/07/10, Doc. Id. 20105-50259-01 and 20105-50262-01.
[18] Citations to NoCapX2020/UCAN's exceptions are examples for reference, and are not intended to be all-inclusive.

Recommendation: OES EFP staff recommend that the Commission reject this exception, consistent with its decision in the *Hampton-Rochester-Lacrosse* proceeding which found the application complete despite the fact that the two proposed routes share an eight-mile segment.

Exception 2. NoCapX2020/UCAN takes exception to the failure to include in the ALJ Report that certain documents were not available on eDockets or introduced into the record until the time of the hearing. *See, e.g.*, Findings of Fact 113-118 (USFWS letters); Findings of Fact 102-105 (Mn/DOT letters). With regard to Findings 113-116, and 118, NoCapX2020/UCAN recommends the following language be included in each finding:

> This letter did not become part of the public or evidentiary record until during the public hearing, when it was introduced by a member of the public, and then later in Applicant's Supplemental Testimony.

EFP Staff Analysis: NoCapX2020/UCAN refers to several letters from the United States Fish and Wildlife Service (USFWS), the Minnesota Department of Natural Resources (MNDNR) and the Minnesota Department of Transportation (Mn/DOT) which relate to the OES's process in developing the DEIS. *See* Ex. 140, Schedules 42-49 (Poorker Supplemental Testimony); Ex. 40 (OES); Ex. 41 (OES). Much was made of the fact that such letters, ATF reports, and other comments received during the DEIS scoping process and the subsequent DEIS comment process, were allegedly not made available prior to the hearings. NoCapX2020/UCAN considered this to be error, and inferred that the OES EFP staff intentionally failed to file them prior to the hearings in order to keep them from being viewed by the public.[19]

NoCapX2020/UCAN statements throughout the contested case proceeding and now in its proposed findings reflect a general misunderstanding of the process involved in developing a draft environmental impact statement, and the separate but related procedure involved in processing a route permit application. As the Commission is well aware, the DEIS is developed by the OES for the Commission in a separate process that is under the authority of the Commissioner of the Department of Commerce. Once the Final EIS is issued, the Commission has authority to determine whether the EIS is "adequate" pursuant to Minn. R. 7850.1500, subp. 10. Since the EIS process is a Department of Commerce function (handled by the Energy Facility Permitting unit of the Office of Energy Security), comments related to EIS development are directed to and handled by the OES. There is no requirement or expectation that comments on scoping and the DEIS in this separate OES process be e-filed when received.

EFP staff bundles comments at the end of environmental document scoping process for posting on the Commission's Energy Facilities Permitting website location and eDockets. The Final EIS includes the comments received on the DEIS and is likewise posted on the website location and eDockets.

[19] EFP staff notes that the documents received by OES were available on the Commission's Energy Facility Permitting webpage.

The letters from Mn/DOT, MnDNR and USFWS were comment letters related to EIS scoping and the DEIS, an OES EFP process that results in EIS documents (both draft and final) which become exhibits submitted during the evidentiary hearing in the route permit application process. In this matter, specifically, the OES received 999 comments on scoping and 272 comments on the DEIS. There also is no reason to amend the findings as suggested by NoCapX2020/UCAN since the hearing transcript reflects when the documents were submitted into the record, as well as the circumstances surrounding their submission. Furthermore, the procedural steps that NoCapX2020/UCAN would require are not necessary to support a determination on granting a route permit. Significantly, comments received by OES on the draft EIS are relevant to a determination of adequacy of the FEIS, and they are included in the FEIS and appropriately addressed there.

Recommendation: OES EFP staff recommend no change to any findings related to the timing of document filings suggested by NoCapX2020/UCAN.

Exception 3: NoCapX2020/UCAN takes exception to the Advisory Task Force (ATF) process, claiming that the OES's failure to establish a third task force in the area west of the Minnesota River to the South Dakota border detrimentally affected citizen participation. NoCapX2020/UCAN argues that a procedural irregularity requires that the public participation and environmental review be revisited. *See, e.g.,* NoCapX2020/UCAN Proposed Findings 16-17, 509.

EFP Staff Analysis: NoCapX2020/UCAN raised procedural issues regarding the ATF process, claiming that the OES had improperly chosen not to form a task force despite requests for one in the Marshall area. As explained by the OES in its response to such arguments during the hearing, the responses received from governmental units to the OES EFP staff's task force solicitation letters were insufficient to form a task force pursuant to Minn. Stat. § 216E.08. *See* Ex. 43 (OES Memorandum Responding to Claims Concerning Citizen Advisory Task Force Requests). As the ALJ's Finding 509 states, the OES "has established that the applications for formation of advisory task forces from Townships in Lyon County were deficient."

Recommendation: The OES EFP staff recommends rejecting NoCapX2020/UCAN's proposed findings relating to ATF requests and procedures.

Exception 4: NoCapX2020/UCAN asserts in proposed findings 512, 515, and 565 that the FEIS is inadequate and proposes the following changes to the ALJ's Findings and Conclusions:

> [NoCapX2020/UCAN Proposed Finding] 565. The record demonstrates that the FEIS is ***inadequate*** because it failed to encourage public participation and engage the public in the spirit and letter of the law, that it failed to addresses the issues and alternatives raised in the Scoping Decision, failed to provides substantive and veted (sic) responses to the substantive comments received during the DEIS review process, and was prepared in compliance with Minnesota Rules 7850.1000 to 7850.5600. (Emphasis added, as explained below.)

> [NoCapX2020/UCAN Proposed Conclusion] 9. The environmental review was not prepared in compliance with the procedures in Minn. R. 7850-1000 and under Minn. R. 7850.2500, Subp. 10.

EFP Staff Analysis: The ALJ addressed the adequacy of the FEIS, noting an FEIS is appropriately found to be adequate by the Commission if it: "(A) addresses the issues and alternatives raised in scoping to a reasonable extent considering the availability of information and the time limitations for considering the permit application; (B) provides responses to the timely substantive comments received during the DEIS review process; and (C) was prepared in compliance with the procedures in Minnesota Rules 7850.1000 to 7850.5600."

The argument that the FEIS "failed to encourage public participation and engage the public in the spirit and letter of the law" is not one of the three standards for adequacy of an FEIS. The other suggested failures are unexplained by NoCapX2020/UCAN, but the proposed finding appears to stem from NoCapX2020/UCAN's other arguments relating to the ATF and from public notice arguments that were made previously, but are not included in the exceptions. NoCapX2020/UCAN's proposed finding is troublesome in another respect; i.e., while NoCapX2020/UCAN has used strikethrough and underlining appropriately to suggest additional language and associated grammatical changes, the proposed finding also includes another substantial change that is not so noted and is not identified as a change. The emphasized word "inadequate" in NoCapX2020/UCAN's proposed finding does not appear in the ALJ's Finding No. 565, which is accurately quoted below, emphasizing the word that has been replaced by NoCapX2020/UCAN:

> 565. 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 DEIS review process, and was prepared in compliance with Minnesota Rules 7850.1000 to 7850.5600. (Emphasis added.)

EFP staff's review of the NoCapX2020/UCAN exceptions also indicated other such changes that were not identified by NoCapX2020/UCAN and which may also reflect substantial changes to the ALJ's findings.

Recommendation: The OES EFP staff suggests that the ALJ appropriately found that the FEIS in this proceeding is "adequate," and that ALJ Finding of Fact 565 should be accepted by the Commission with no modification.

Exception 5: NoCapX2020/UCAN takes exception to the ALJ's choice of the Myrick Street Alternative in order to cross the Minnesota River at Le Sueur, and the associated recommendation for an aerial crossing of the Minnesota River at Le Sueur. *See, e.g.,* NoCapX2020/UCAN proposed findings 104-07, 113, 418.

EFP Staff Analysis: The EFP staff addressed the "Myrick Alternative" in its post-hearing comments to the ALJ, noting that a small portion of the route necessary to permitting this alternative had not been included in the DEIS.

NoCapX2020/UCAN notes its agreement with the OES comments. [cite] However, the elimination of the Le Sueur river crossing as a viable alternative renders this exception moot.

Exception 6: NoCapX2020/UCAN also takes exception to the ALJ's findings that relate to property owned by two landowners, each of whom have filed exceptions to the ALJ's Report. The landowners have also participated in this proceeding at public hearings and by filing written comments.

EFP Staff Analysis: Counsel for NoCapX2020/UCAN does not represent either of the landowners. One of them is Bimeda, a veterinary pharmaceutical manufacturing company. *See, e.g.,* NoCapX2020/UCAN proposed findings 493-96. Bimeda owns and operates its business on property that is affected by the Myrick Alternative. Bimeda is represented by counsel, who filed exceptions on behalf of Bimeda, which are addressed separately below. The second landowner is Theresa Rhuland, who has participated throughout the entire process, and whose land stands to be substantially affected by a decision in this proceeding. *See, e.g.,* NoCapX2020/UCAN proposed findings 419-30. Like Bimeda, Ms. Ruhland filed exceptions on her own behalf, which are also addressed separately below.

D. Landowner letters citing exceptions to ALJ Report.

Three landowner participants, all of whom could be adversely affected by a Commission decision designating a route in this proceeding, also filed letters concerning the ALJ Report: Bimeda, Inc. (Bimeda),[20] Theresa Ruhland,[21] and Mark Katzenmeyer.[22]

All three relate to issues associated with the Modified Preferred Route and ALJ Recommendation 2 A (1) at and immediately east of the Le Sueur crossing of the Minnesota River.

EFP staff proposes the Belle Plaine river crossing, as discussed in Section V.A., thus is in agreement with the conclusion of Mr. Katzenmeyer's letter of exception. In addition, if the Commission selects a route crossing the Minnesota River at Belle Plaine (ALJ Recommendation 2 A (1a) or Alternative Crossover Route, *See* Section V.C.), neither the Myrick Alternative nor the Bimeda Adjustment would be required. The ALJ Recommendation 2 A (1a) and the Alternative Crossover Route as recommended by EFP staff would also alleviate concerns expressed in the exception letter from Ms. Ruhland.

Theresa Ruhland

Exception: Theresa Ruhland takes exception to the ALJ's findings that support the Recommendation 2. A. (1) which recommends the Applicants' Modified Preferred Route as further modified by Alternative 6P-06. Her letter addresses many of the findings in the ALJ Report, essentially arguing that Conclusion 9 should not be accepted by the Commission.

[20] Bimeda, Inc., Exceptions to Recommendation of ALJ, filed 05/07/10, Doc. Id. 20105-50185-01.
[21] Theresa Rhuland, Letter, filed 05/0710, Doc. Id. 20105-50297-01.
[22] Mark Katzenmeyer, Letter, filed 05/07/10, Doc. Id. 20105-50252-01.

Ms. Ruhland disagrees that the ALJ's preferred route is the best alternative for the transmission line. Conclusion 9 states:

> 9. The record demonstrates that the Modified Preferred Route, as further revised by Alternative 6P-06 in the Hampton area, is the best alternative for the 345 kV transmission line between Brookings County Substation and Hampton Substation.

Ms. Ruhland states that her "farm business will be severely impacted with CapX poles in the middle of most of our farm fields with the Route width and alignment adjustments for RES [Specialty Pyrotechnics] as detailed on page 72 and 73" of the ALJ Report. She states that the farm infrastructure (tile lines and soil till) will be severely compromised with invasive construction and subsequent monitoring/maintenance of the line. Ms. Ruhland describes the adverse impacts of existing 345 kV lines on her property, and states that the farming business would suffer far greater impacts with "dangerous obstacles" in the middle of the fields when using today's and future farm equipment, interference with GPS systems on equipment, the proven detrimental effects power lines have on honeybees which are vital to crop pollination and honey production, stray voltage impact on cattle, and the "extreme destruction of our land and fields as there is no way to get to poles in the middle of all our fields which will run the entire length and almost entire width of our farm."

Ms. Ruhland further details her extensive participation in this proceeding, noting that she had raised the issue of the RES pyrotechnics business as early as March of 2008 during the ATF process, but it was not until Applicants' filed the Rebuttal Testimony of Craig Poorker on November 20, 2009, that options were submitted to address the concerns of RES. She notes that the only options presented by Applicants both would place the line directly through her fields; she also questions the impacts as stated by Mr. Poorker.

Ms. Ruhland strongly urges the Commission to choose a line configuration that would eliminate the north-south corridor around RES Pyrotechnics and through the Ruhland farm in Derrynane Township. She believes that Judge Luis' alternate recommendation 2.A.(1a) would do this as it crosses the Minnesota River at Belle Plaine and then follows the Applicants' Alternate Route until it joins the preferred route at the north Helena substation. Ms. Ruhland also emphasizes the Belle Plaine river crossing--where there is an existing transmission line--would also eliminate conflicts associated with the Le Sueur river crossing that have been detailed by the USFWS and Mn/DOT, the resulting Myrick Street Alternative, and all Buck's Lake issues.

EFP Staff Analysis: The ALJ Report contains the following finding relating to the Ruhland property:

> 428. A significant portion of those permanent pole impacts will be borne by Theresa Ruhland. Mrs. Ruhland explained the placement of transmission poles on her farm fields would make farming more difficult as well as impact the landowner to the south.545 She testified that "[a]s proposed, I would have the CapX line about 800 feet to the south, 400 feet to the west, 5,000 feet to the north and the existing Xcel 345 line 5,200 feet to the east. We will be totally encompassed by either a double 345 or single 345 lines."

The ALJ Report also includes details relating to some of Ms. Ruhland's and her son Steve Ruhland's participation and comments in Attachment 1 to the ALJ Report. [23]

As Ms. Ruhland stated in her letter, she has been actively involved in this proceeding since the beginning, and has provided input in developing the DEIS as well, even serving on one of the task forces. The Ruhland property is affected by all the alignment alternatives on the initial Preferred Route, the Alternate Route, and the Modified Preferred Route. EFP staff agrees with most of her comments. Ms. Ruhland correctly notes that her property could be avoided by choosing the ALJ's alternate Recommendation 2.A.(1a). Further, if the Commission accepts the EFP staff's recommended Alternative Crossover Route, the Ruhland property and the RES Pyrotechnics property will both be avoided, thereby alleviating all the Ruhlands' concerns, as well as the concerns addressed in the ALJ Report with respect to RES Pyrotechnics that relate to their respective properties.

Bimeda, Inc.

Exception: Bimeda's suggestions reflect a change in the Myrick Alignment that would move the route from the northern part of Bimeda's property, where a tank farm storing flammable materials is located, to the southern part of Bimeda's property which it refers to as the "Bimeda Adjustment."[24] Bimeda proposes the following changes to the ALJ's findings, conclusions, and recommendations:

> [Finding] 496. If the Modified Preferred Route is selected, Applicants will design the line to ensure that the tanks are outside the right-of-way and will work with Bimeda on the final alignment of the line. By exceptions filed by Bimeda, Inc. on May 6, 2010, it has been represented to the Administrative Law Judge and to the Public Utilities Commission as follows: Bimeda has presented Applicant with the drawing affixed as Attachment 3, which generally depicts the Bimeda Adjustment. Business and legal representatives of Bimeda and Applicant have discussed the Bimeda Adjustment and a business representative of Applicant has visited Bimeda's property on May 5, 2010 regarding the Bimeda Adjustment. Applicant has suggested to Bimeda that the Bimeda Adjustment as generally depicted is constructible, conceptually acceptable, and would involve comparable project costs for the Applicant.
>
> 505. It is appropriate to select the Applicants' Myrick Alternative Route as modified by the Bimeda Adjustment within the Modified Preferred Route Segment in the Le Sueur area.

[23] The ALJ summarized Ms. Ruhland's comments at the Lakeville afternoon hearing on December 12, 2009, and December 28, 2009, on pages 130-131, 139, 141, 144 and 151-152.
[24] Bimeda Exceptions at 2 (May 6, 2010 letter and attached modifications to findings.)

[Conclusion] 7. The record demonstrates that the Modified Preferred Route, as modified by adoption of Alternative 6P-06 between Lake Marion and Hampton Substations, and its Associated Facilities and as further modified by the Bimeda Adjustment, satisfies the route permit criteria set forth in Minnesota Statute § 216E.03, subd. 7 and Minnesota Rule 7850.4100.

9. The record demonstrates that the Modified Preferred Route, as further revised by Alternative 6P-06 in the Hampton area and as further revised by the Bimeda Adjustment, is the best alternative for the 345 kV transmission line between Brookings County Substation and Hampton Substation.

10. The record demonstrates that it is appropriate to grant a Route Permit for the 345 kV transmission line and Associated Facilities along the Modified Preferred Route, modified by Alternative 6P-06, and as further modified by the Bimeda Adjustment.

[Recommendation] 2A(1): The Modified Preferred Route, with an aerial crossing of the Minnesota River at Le Sueur, modified further by Alternative 6P-06 between Lake Marion and Hampton; and further modified by an adjustment of that portion of the Myrick Alternative Alignment affecting the Bimeda, Inc. facility as graphically depicted on Attachment 3 affixed hereto as the approximate route (the "Bimeda Adjustment"). the Bimeda Adjustment modifies the Myrick Alternative Alignment so that (i) the route affecting Bimeda, Inc.'s property will be moved from the north side of Bimeda, Inc.'s property to the south side of Bimeda, Inc.'s property; and (ii) Mayo Park will not be impacted or only minimally impacted by the Myrick Alternative Alignment which incorporates the Bimeda Adjustment;

EFP Staff Analysis: Bimeda's property is affected only if the Le Sueur river crossing is part of the permitted route. Thus, if the Commission accepts the ALJ's recommended route choice, Bimeda's property is affected. However, as discussed herein, the Le Sueur crossing of the Minnesota River is no longer a viable alternative. Therefore, any concerns about the Bimeda property become moot.

The Alternative Crossover Route recommended by EFP staff would avoid entirely the river crossing at Le Sueur, and, therefore, the Bimeda property as well, and replace it with the alternative river crossing at Belle Plaine, which has been vetted through the full contested case process.

Mark Katzenmeyer

Exception: Mark Katzenmeyer of Le Sueur, Minnesota, filed an exceptions letter, stating that Tyrone Township in Le Sueur County, where his farm is located, has migratory waterfowl and swans that fly through and land year-round. He has between 2500-5000 on his farms alone, and he noted that his property includes wetlands and is an important resource for waterfowl and wildlife.

Like Ms. Ruhland, Mr. Katzenmeyer raises an exception to Recommendation 2.A.(1), which the ALJ found was the best alternative. Mr. Katzenmeyer believes that the river crossing at Belle Plaine would be a better alternative because of the existing transmission line, other problems associated with the Le Sueur river crossing, the USFWS recommendations, the scenic highway, and input from Mn/DOT.

EFP Staff Analysis: EFP staff agrees and further notes that in addition to ALJ recommendation (1a), the Alternative Crossover Route recommended by EFP staff will also alleviate Mr. Katzenmeyer's concerns, as it avoids crossing the Minnesota River at Le Sueur.

E. Clarification of Route Application process and minor changes.

The following proposed Findings of Fact and Conclusions are intended to address what EFP staff believe are important corrections, additions, and changes necessary to support the referenced Findings of Fact and Conclusions in the ALJ Report, but do not change the substance of the finding or conclusion. All changes to the numbered paragraphs in the ALJ Report are shown by strikethrough and underlining. Internal footnotes have been omitted; only those footnotes which are required to support the change are included.

Finding of Fact 38: The following change is suggested to clarify that the FEIS was *not* published in the EQB Monitor; only the notice of such was so published:

> 38. On February 8, 2010, notice of the FEIS availability was published in the EQB Monitor the FEIS was published in the EQB Monitor.[25]

Finding of Fact 59: The Scoping Decision identified Route Alternative 5P-02 as P-SCT-002. Route P-SCT-002 subsequently was renumbered for the DEIS. The following correction is suggested to correctly state that Alternative 5P-02 is how this route is numbered in the DEIS:

> 59. The third route modification, identified as ~~P-SCT-002~~ 5P-02 in the DEIS (also ~~r~~renumbered as 5P-02 on maps used at the Hearings), is located between the Helena Substation and the Lake Marion Substation at the intersection of Aberdeen Avenue and 270th Street.[26] The Modified Preferred Route continues east for one mile to Delmar Avenue. At Delmar Avenue, the Modified Preferred Route continues north one mile until it joins the Preferred Route at 260th Street.

Finding of Fact 83: The following addition is suggested to add new information available concerning the Applicants' delay of construction as contained in Xcel Energy's recent filing in the related CapX 2020 Certificate of Need proceeding (Docket No. ET-2/CN-08-1115):

[25] Notice of Availability of FEIS - EQB Monitor, filed 02/25/10, Doc. Id. 20102-47454-02.
[26] Ex. 102 at pp. 15-17 (Poorker Direct).

83. Applicants expect to begin construction of the Project in the fourth quarter of 2010 and estimate that the Project will be completed by the third quarter of 2013. Applicants filed a letter in Docket No. ET-2/CN-08-1115 on May 18, 2010, requesting a change in the originally proposed project start date to the second quarter of 2015.[27]

Finding of Fact: 131: is amended to clarify that the number of additional route segments and alignment alternatives was further refined during preparation of the DEIS, and is thus not the same as was stated in the Scoping Decision:

131. On June 30, 2009, OES issued its Scoping Decision for the EIS. The Scoping Decision identified the topics to be covered in the Project EIS: Regulatory Framework; Project engineering and design; Project construction; and Human and environmental resources impacted by the project and each proposed route alternative. The Scoping Decision also determined that the EIS would address 47 of the proposed route alternatives. Upon further refinement while preparing the DEIS, four additional alternative route segments were identified, increasing the number of alternative route segments to 51 and five of the alignment alternatives were found to be duplicates, thus reducing the alignment alternatives to 21.[28]

Finding of Fact 153: OES EFP staff suggests that the following changes and supplemental findings be accepted to support the ALJ's conclusions concerning displacement of homes, and permit conditions to minimized effects on human settlement:

153. For purposes of this proceeding, displacement of a residence or business was defined to occur when a structure is located within the 150 foot right-of-way or 75 feet on each side of the proposed transmission centerline.

Findings of Fact 282: OES EFP staff suggests that the following supplemental findings and changes to the ALJ's findings 282 be adopted to support the ALJ's conclusions and EFP staff's suggested permit conditions concerning design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generation capacity:

282. For the proposed new substation sites, Applicants will acquire approximately 40 acres to allow for future transmission line interconnections. For the proposed new substation sites, the record supports the following new substation locations, which were outlined by the Applicants' witness, Mr. Craig Poorker:[29]

[27] Applicants. May 17, 2010 Letter to Commission Requesting a Change in Proposed Construction Date, filed May 18, 2010, Docket ET-2, E-002, et al./CN-06-1115, Doc. Id. 20105-50557-02.
[28] Ex. 23 (DEIS).
[29] Ex. 102 at pp. 21-25 (Poorker Direct).

- The new Hazel Creek substation will be located at the southeast corner of the intersection of 520th Street (County Road B3) and 260th Avenue in section 18 of Minnesota Falls Township[30]

- The new Cedar Mountain Substation will be located at the northwest corner of the intersection of County Road 3 and 640th Avenue in Camp Township.[31]

- The new Helena Substation will be located at the southeast corner of the intersection of 231st Avenue and 320th Street (County Road 28) in Derrynane Township.[32]

- The proposed Hampton Substation North site will be located on the west side of Highway 52 near 215th Street on the north side of 215th Street[33] or the proposed Hampton South site would be located on the south side of 215th Street. The record demonstrates that the Hampton North Substation site would be better located for any route chosen, as it would minimize the distance when connecting to the Prairie Island – Blue Lake 345 kV line.[34]

V. EFP ANALYSIS AND COMMENTS ON ROUTE DESIGNATION

The ALJ Report documents that the procedural requirements of Minn. Stat. Ch. 216E and Minn. R. Ch. 7850 were followed, and presents findings of each of the decision criteria under Minn. Rules 7850.4100. The Applicants' Modified Preferred Route, the ALJ's first choice with one modification (route segment 6P-06), addresses several issues raised throughout this proceeding, including Mn/DOT concerns with I-35 and Highway 52.

However, subsequent information concerning the lower Minnesota River crossing at Le Sueur has become available which directly affects the ALJ's recommendation. In his report, the ALJ recommends:

> [2. A.]
>
> (1) The Modified Preferred Route, with an aerial crossing of the Minnesota River at Le Sueur, modified further by Alternative 6P-06 between Lake Marion and Hampton;

[30] *Id.* at Schedule 8 (Poorker Direct).
[31] *Id* at Schedule 9 (Poorker Direct).
[32] Ex. 102 at Schedule 11 (Poorker Direct).
[33] *Id.* at Schedule 13 at p. 1 (Poorker Direct).
[34] Ex. 23 (DEIS).

(1a) If the Modified Preferred Route adjusted by Alternative 6P-06 is not granted a Permit, the ALJ recommends granting of a Route Permit for the Modified Preferred Route, modified further by Alternative 6P-06, and modified further by the Crossover/Alternate Route between Sibley County and the Helena Substation, with an aerial crossing of the Minnesota River at Belle Plaine;

EFP staff notes that the ALJ's Recommendation 2.A.(1a), with the exception of the further modification of Alternative 6P-06 is the same as Applicants' "Crossover Route" discussed in Mr. Poorker's Supplemental Testimony as Applicants' preferred route if the Belle Plaine river crossing is chosen. The Alternative 6P-6 is not relevant to the discussion below, as it is a part of both the ALJ's Recommendation 2.A.(1a) and EFP staff's alternative recommendation.

Under state law, a permit could be issued for either the Belle Plaine or the Le Sueur river crossing; however, in reviewing the record and information which became available after the ALJ Report was issued, it appears that the river crossing at Le Sueur is fatally flawed. The ALJ's first choice (Applicant's Modified Preferred Route, modified by 6P-06), addresses several issues, including Mn/DOT's concerns with I-35 and Highway 52. Applicant's Modified Preferred Route has several flaws, however including a possible fatal flaw that only fully came to light after the hearing record closed: the USFWS likely denial of an incidental eagle take permit for Le Sueur Minnesota River crossing. Other flaws and concerns include:

- Mn/DOT issues with the Highway 169 crossing area, including the rest stop and scenic easement areas;
- Bimeda issues along Myrick Street; and
- RES Pyrotechnics, Inc./Ruhland issues.

EFP staff believes that the ALJ's alternative recommendation [2.A.(1a)], which includes an aerial crossing of the lower Minnesota River at Belle Plaine, is a viable alternative. The ALJ's second choice, which uses a portion of the Applicants' Alternate Route between the Cedar Mountain and Hampton North Substations, and then crosses the Minnesota River at Belle Plaine, addresses all of these flaws/concerns. This alternative uses the USFWS/MnDNR North-South Connector segment to cross from the Modified preferred route to the Alternate Route.

EFP staff also believes that an alternative connector segment presented and analyzed in the DEIS, but not addressed in the ALJ Report, is preferable to the ALJ's alternative recommendation using the USFWS/MnDNR North-South Connector segment in Recommendation 2.A.(1a). The DEIS and the Applicants' route permit application evaluated three other connector segments that could be used to cross from the Modified Preferred Route to the alternate route that also address all of these flaws/concerns. One of these, the connector segment labeled "Example 2" in the EIS, has fewer overall impacts.

A. Lower Minnesota River Crossing

The USFWS has provided input throughout this proceeding. In meetings with the USFWS, EFP staff was advised that the area of the proposed project that would cross the Minnesota River at Le Sueur is identified as an important eagle-use area providing year-round nesting, foraging and communal roost sites.[35] In addition, MnDNR provided information that this area experiences high concentrations of waterfowl during migratory periods and confirms other evidence in the record that the area is home to a heron rookery.[36] The primary concern expressed by USFWS with an aerial transmission line crossing at Le Sueur is the potential for birds of these various species to strike the line during flight. There is additional concern over eagle disturbance during construction and maintenance of the line in this area.

In a letter dated June 10, 2010, accompanied by a document summarizing available studies dated June 7, 2010,[37] the USFWS provided supplemental information regarding potential implications of the federal Bald and Golden Eagle Protection Act (BGEPA) with regard to the two proposed lower Minnesota River crossings (Le Sueur and Belle Plaine).[38] The USFWS letter provides the following additional information:

- A transmission line crossing of the Minnesota River at Le Sueur is likely to result in incidental take of bald eagles.
- Because a non-aerial crossing of the river at either river crossing location has been determined non-practicable by the applicants, the USFWS focused on other alternatives to avoid or minimize impacts to bald eagles.
- The Belle Plaine river crossing would be the less harmful of the two river crossing sites with regard to bald eagles.
- When compared to the Le Sueur river crossing, a river crossing at Belle Plaine is a practicable alternative which would avoid and minimize potential impacts to bald eagles.
- The existence of the Belle Plaine alternative river crossing makes it unlikely that an incidental take permit under the BGEPA would be issued for an aerial crossing at the Le Sueur location.[39]

The Belle Plaine crossing exhibits some of the same characteristics as the Le Sueur crossing, pertaining generally to avian species. However, there is an existing 69 kV transmission line at the Belle Plaine Crossing; there is no existing electric utility crossing in the Le Sueur area.

[35] USFWS February 8, 2010 Letter, filed 2/9/10, Doc. Id. 20102-46903-01.
[36] DNR Letter (4/30/09), filed 6/10/09, Doc. Id. 20096-38376-05
[37] *Id.,* Attached Summary Review of Available Studies
[38] *Id*.
[39] In addition, the USFWS recommends the applicants develop a project-specific avian protection plan with advanced conservation practices which would become the basis of a programmatic BGEPA incidental take permit, if deemed necessary. Also recommended is extensive line monitoring that includes the use of Bird Strike Indicators and Bird Activity Monitors to evaluate the efficacy of avian line markers and flight diverters, in consultation with the USFWS.

The MnDNR has also stated that a river crossing at Belle Plaine would appear to be the most protective of the Minnesota River when compared to a Le Sueur crossing.[40]

EFP staff concurs with USFWS recommendations as outlined in the June 10, 2010 letter and its attached summary document and recommends that the transmission line cross the lower Minnesota River at the Belle Plaine location. EFP staff also recommends a permit condition for the Belle Plaine river crossing relating to the configuration of the existing and new transmission structures. *See* proposed route permit section H.J.3. The applicants have evaluated a number of options for crossing at the Belle Plaine location.[41] EFP staff believes that a side-by-side H-frame configuration that would keep the conductors on a similar horizontal plane and near or below the existing vegetative canopy in the area would mitigate concerns regarding avian collisions. If this recommendation is accepted by the Commission, EFP staff suggests further evaluation of transmission structures that may be proposed for this crossing during final design and prior to construction.

B. North-South Connector Segment Examples[42]

The ALJ Report discusses the USFWS/MnDNR connector segment, which is one of four north-south connector segments that were analyzed in the DEIS. These connectors provide the Commission with a means to choose either the preferred or alternate route, or several combinations thereof, and they allow the Commission to approve a particular river crossing by choice, not by default. The Applicants' routes, as presented in the route permit application, do not allow for a choice of river crossings among the four crossing locations (Redwood Falls, Franklin, Belle Plaine, and Le Sueur). For example, if the initial preferred route were to be permitted, the Commission would be limited to choosing the Redwood Falls and the Le Sueur river crossings only. If the alternate route were to be chosen, the Commission would be limited to the Franklin and Belle Paine river crossings. Thus, with the new information about the Le Sueur river crossing, the only available option would be the complete Alternate Route. The addition of a north-south connector allows the Commission to choose river crossings that are not route-dependant, and in this case, allows the Commission to accept the ALJ's recommendation 2.A.(1a) in full or in part.

Four north-south connectors were evaluated in the DEIS (Example 1, Example 2, Example 3, and USFWS/MnDNR Route).[43] Data on all segments of the north-south connectors was also provided in Appendix C (Route Segments Evaluated) and Appendix E (Impacts Tables) of Applicants' route permit application.[44] Applicants ultimately rejected all four connectors and did not include them as segments of either the Preferred or Alternate Route presented in the application. However, in later testimony, Applicants discussed one of these connector segments with regard to the "Crossover Route," which is addressed in the ALJ Report. The ALJ's alternate recommendation 2.A.(1a) uses the USFWS/MnDNR connector to further modify the Modified Preferred Route, thus allowing for a river crossing at Belle Plaine.

[40] ALJ Report, Finding 119.
[41] *Id.*,, Finding 300.
[42] Ex. 23 at Appendix G (DEIS).
[43] Ex. 23 at Appendix G (DEIS).
[44] Ex. 2 (Application).

Although the DEIS contains analysis of these connectors, no party suggested using any of the other three north-south connector segments, and no comments were received either for or against Connector Examples 1 and 2. Thus, the ALJ Report does not address any routes using combinations of the north-south connectors 1, 2, or 3.[45] Perhaps because no party argued for or against Examples 1 and 2, the ALJ Report did not discuss them. Thus, there is no comparison in the record regarding the relative merits of using either North-South Connector Example 1 or North-South Connector Example 2. The ALJ Report also does not compare the USFWS/MnDNR North-South Connector segment to Example 1 and Example 2. However, any of the four north-south connectors could be permitted and would allow the Commission the ability to choose between the proposed crossings of the upper and lower Minnesota River.

In comparing the data of these four connector segments, EFP staff considers North-South Connector Example 2 to be the superior choice among the four north-south connectors.[46] The EFP staff's recommended route alternative is referred to as the Alternative Crossover Route and is discussed in the next section

C. Alternative Crossover Route

Applicants' witness Craig Poorker testified that if the Le Sueur river crossing is not permitted by the Commission, the Minnesota River crossing at Belle Plaine is a "reasonable alternative."[47] He further testified that if the Commission chooses the Belle Plaine river crossing option, Applicants prefer a hybrid route using the "USFWS/MnDNR" crossover or connector segment as the most appropriate route. He did not testify about the reasons for preferring this connector segment.[48] Applicants referred to this hybrid route as the "Crossover Route," as does the ALJ Report.[49] As noted above, the Crossover Route is the same as the ALJ's Recommendation 2.A.(1a), absent Alternative 6P-06, which is not relevant to this discussion as it is common to both alternatives under consideration. EFP staff analyzed four connector examples in the DEIS, including the "USFWS/MnDNR" connector segment, based on comments received from the USFWS and MnDNR during the scoping process.[50]

After reviewing the complete contested case record, the ALJ Report, exceptions, and USFWS/MnDNR recommendations, EFP staff further analyzed all connector segments and developed an alternative crossover route, which is a hybrid of the Crossover Route discussed in the ALJ Report, using the North-South Connector 2 instead of the USFWS/MnDNR Connector which is part of the Crossover Route.

EFP staff used data developed for the DEIS and the applicant's route permit application in developing this hybrid of the Modified Preferred Route using North-South Connector Example 2.

[45] Example 3 was discussed during hearings and less favored than the similar USFWS/MnDNR Connector Route which avoids the wetland complex northwest of the City of Arlington.
[46] Ex. 23 at Appendix G (DEIS).
[47] Ex. 140 at 7.
[48] Ex. 140 (Poorker Supplemental Testimony).
[49] Ex. 140 at 7, and Sch. 48 (map of crossover route).
[50] DNR Letter (4/30/09), filed 6/10/09, Doc. Id. 20096-38376-05 and USFWS Letter (4/30/09), filed 6/10/09, Doc. Id. 20096-38376-05.

EFP staff refers to this hybrid route herein as the "Alternative Crossover Route."[51] Like the ALJ's Recommendation 2.A.(1a), the Alternative Crossover Route crosses the Minnesota River at Belle Plaine. The analysis provided below compares the ALJ's Crossover Route using the Belle Plaine crossing and the USFWS/MnDNR Connector Segment with EFP staff's recommended "Alternative Crossover Route" using the North-South Connector 2 Example.

The Alternative Crossover Route would be approximately 240 miles long as compared to the approximate 247-mile length of the ALJ's Crossover Route. This route alternative follows the Modified Preferred Route until it turns north on County Highway 3 in Bismarck Township, Sibley County, and continues north along North-South Connector Example 2 until it connects with the Alternative Route at County Highway 10. From there, the Alternative Crossover Route continues to follow the Alternative Route until it connects with the Crossover Route at 220th Street at the north corner of the Northwest Section of the Northwest Quarter Section of Section 5 of Arlington Township. From its beginning off County Highway 19, the North-South Connector Example 2 between the Preferred Route and Alternate Route is approximately three miles long.

Application of Statutory and Rule Criteria to the Alternative Crossover Route

EFP staff analyzed comparable sections of the Crossover Route and the Alternative Crossover Route within Route Segment 4 as identified and evaluated in Section 7.4 of the Draft EIS. The difference in these two sections is the segment used to connect from the Applicants' Modified Preferred Route to the Applicants' Alternate Route, thereby allowing for a crossing of the Minnesota River at Belle Plaine (see figure *Crossover Route and Alternative Crossover Route within Segment 4* and figure *North/South Connector Comparison*). Table 1 summarizes the differences between these two segments using the same parameters as the DEIS.

It appears from the comparison that the two routes would mostly have similar impacts. The differences, albeit close, within the comparable sections are as follows:

- The Alternative Crossover segment (71 miles) is approximately seven miles shorter than the Crossover segment (78 miles). Therefore the route area and right-of-way area of the Alternative Crossover Segment would also be less.

- The Alternative Crossover segment would impact seven less houses from 0-500 feet than the Crossover segment.

- The Alternative Crossover segment would cross three fewer wetlands than the Crossover segment.

- The Alternative Crossover segment would cross one fewer streams/rivers than the Crossover segment and cross four more Public Water Inventory (PWI) streams than the Crossover Segment.

[51] See attached figure *Overview Map Permitted Route*.

- The Alternative Crossover segment has no known occurrences of threatened and endangered species and no occurrences of unique threatened endangered species within the proposed route, whereas the Crossover segment crosses two areas of recorded endangered species and two occurrences of unique threatened endangered species.

- The Alternative Crossover segment anticipated right-of-way would cross 132 fewer acres of prime farmland/prime farmland if drained/farmland of statewide importance than the Crossover segment.

Because the potential impacts identified for these two segments are relatively close, EFP staff focused on the differences in the specific connectors used by each segment. The Alternative Crossover Route uses the North-South Connector Example #2 and the Crossover Route uses the USFWS/MnDNR Connector; both were identified and evaluated in Appendix G of the DEIS.

When comparing just the north-south connectors identified above and in the DEIS, the differences are more apparent, as is summarized in the table below.[52]

Parameter	North-South Connector Example #2	USFWS/MnDNR Connector
Route Length	3 miles	11 miles
Corridor Sharing	100 % (road right-of-way)	88.2% (road right-of-way) including 1.2 miles of no sharing
Homes in Route	1	8
MCBS sites crossed by route	0	2

While these differences are not great when compared to the complete project, it nonetheless provides a number of factors for making a choice between the Alternative Crossover Route over the Crossover Route.

The EFP staff not only looked at the numerical data, but the anticipated right-of-way or centerline location of the two routes. In looking at the map of the USFWS/MnDNR Connector provided in Appendix G of the DEIS, it appears that the portion of the route that would run north-south between State Highway 5 and 220th Street is problematic.[53] The route in this area does not appear to follow any existing feature and would, depending upon final right-of-way placement, cross over one home and/or through three homesteads' front or back yards. The North-South Connector Example #2 would follow along County Highway 3 right-of-way for its entirety, potentially impacting no homesteads, depending upon final alignment.

[52] Ex. 23 at Appendix G (DEIS).
[53] Ex. 23 Appendix G at p. G-3 (DEIS).

The USFWS/MnDNR Connector would follow along State Highway 5 for approximately two and one-half miles. During the route permit review process and public hearings Mn/DOT provided testimony on portions of the proposed routes that would either parallel or cross state highway and interstate rights-of-way, identifying the feasibility and/or difficulties with issuing a Utility Permit for those highways.[54] The potential of a route that would parallel and cross over State Highway 5 was not discussed during the hearings or comments received, and, therefore, there is no information regarding the permitability of a high-voltage transmission line within or along this stretch of State Highway 5. Mn/DOT has not weighed in on the permitability of this segment.

Other impacts are similar for both the North-South Connector 2 and USFWS/MnDNR segments. With regard to recreational impacts, both routes segments will have similar impacts to WMAs, SNAs, WPAs, and state parks. As with the Crossover Route, there is no evidence that the Alternative Crossover Route will impact tourism, and flora and fauna.[55]

In addition to data supplied in the DEIS and Mn/DOT testimony, there were also members of the public who participated in the public hearing portion of the process through comments and testimony who oppose the USFWS/MnDNR Connector. Mr. Alvin R. Mueller, a landowner along that segment, provided extensive commentary opposing this connector segment. Mr. Mueller provided comment and testimony arguing against the USFWS/MnDNR Connector and the inability of landowners such as himself, who live along the USFWS/MnDNR Connector segment, to participate in this proceeding as an intervenor. Mr. Mueller is among the group of landowners whose property is affected by additional route alternatives identified in the Scoping Decision and addressed in the DEIS, who were notified by letter dated September 15, 2009 and mailed on September 18, 2009. Mr. Mueller stated that his ability to address issues involved with what would become the DEIS or to consider the benefit of intervention was unfairly precluded.[56]

Mr. Mueller also provided oral testimony at the Henderson Public Hearing, and follow up written comments to the ALJ in a letter dated February 5, 2010. Mr. Mueller criticized the terminology used for the "USFWS/Mn/DOT" Connector as unfairly biasing or preferential to a decision in favor of that Connector example over the other three, and as implying that this segment was being advocated by these agencies. Mr. Mueller, the owner of a family farm located in Section 5 of Arlington Township, expressed his concerns about the negative impacts of the USFWS/Mn/DOT connector route on his property and associated farming operations, as well on the area's overall environment including conservation lands, designated wetlands, the natural tree cover that forms a portion of the North boundary of the SW ¼ of Section 5, and the High Island Creek riverine system located in the S ½ of Section 5 and beyond. [57]

[54] ALJ Finding 329-347
[55] ALJ Report, at Finding 225.
[56] FEIS at 116, filed 1/26/10, Doc. Id. 20101-46444-03, 20101-46444-02, 20101-46444-01, 20101-46444-04, 20101-46444-05
[57] Id. at 117; Henderson Tr. at 50-69. Comment letter.

EFP staff believes that Mr. Mueller's concerns provide additional support for choosing an alternative connector segment and recommends the Alternative Crossover Route not only because it has fewer impacts than the Crossover Route, but also because the North-South Connector segment of the Alternative Crossover Route appears to have fewer impacts than the comparable North-South Connector segment of the Crossover Route, included in ALJ Recommendation 2.A.(1a).

Supplemental Findings of Fact for the Alternative Crossover Route

Additional findings of fact and conclusions are necessary for consideration of EFP staff's Alternative Crossover Route. EFP staff evaluated equal segments of the Crossover Route and the Alternative Crossover Route using data developed and utilized in the DEIS.[58,59] EFP staff considered all statutory and rule criteria as applied to the Alternative Crossover Route. The following new and amended findings reflect the EFP analysis comparing the Alternative Crossover Route to the Crossover Route:

> **[Supplemental Finding] 1.** Four North-South Connector Examples were evaluated in the DEIS.[60] The OES EFP staff used North-South Connector Example 2, analyzed in the DEIS, to develop a hybrid of the Crossover Route (the "Alternative Crossover Route").
>
> **2.** The EFP staff-proposed Alternative Crossover Route is approximately 240 miles long, which is approximately seven miles shorter than the Crossover Route. This route alternative follows the Crossover Route until it turns north on County Highway 3 in Bismarck Township, Sibley County, and then continues north along North-South Connector Route 2 until it connects with the Applicant's proposed Alternative Route at County Highway 10. From there, the Alternative Crossover Route continues to follow the Alternative Route until it connects with the Crossover Route at 220th Street at the North Corner of the Northwest Section of the NW ¼ of Section 5 of Arlington Township. From its beginning off County Highway 19, the North-South Connector 2 between the Preferred Route and Alternate Route is approximately three miles long.[61]
>
> **Segment 4 Sections of the Alternative Crossover Route and the Crossover Route**
>
> **3.** The Alternative Crossover Segment (71 miles) is approximately seven miles shorter than the Crossover Segment (78 miles). The total Route Area and right-of-way area required for the Alternative Crossover Segment are also less, with a corresponding decrease in the cost of construction for the Alternative Crossover Route as compared to the Crossover Route.

[58] Ex. 23 (DEIS)
[59] EFP Comments and Recommendations at IV.D. and appended Table 1.
[60] Ex. 23 at Appendix G (DEIS)
[61] EFP Comments and Recommendations at IV.E.

4. The Segment 4 of Alternative Crossover Route would impact seven fewer houses within 0-500 feet of the route centerline than Segment 4 of the Crossover Route.

5. The Alternative Crossover Segment would cross three fewer wetlands than the Crossover Segment.

6. The Alternative Crossover Segment has no known occurrences of threatened and endangered species and no occurrences of unique threatened endangered species within the proposed route, whereas the Crossover Segment crosses two areas of recorded endangered species and two occurrences of unique threatened endangered species.

7. The Alternative Crossover Segment anticipated right-of-way would cross 132 fewer acres of prime farmland/prime farmland if drained/farmland of statewide importance than the Crossover Segment.

8. The Alternative Crossover Segment and the Crossover Segment are similar in their impact on water quality and resources. The Alternative Crossover Segment would cross one more forested wetland than the Crossover Segment. While the Crossover Segment would cross 54 wetlands and 53 streams; the Alternative Crossover Segment would cross 53 wetlands and 52 streams.

9. Mn/DOT testimony and comments of Mr. Alvin Mueller, a landowner along the USFWS/MnDNR Connector route segment support the choice of the Alternative Crossover Route using North-South Connector Example #2.

10. Analysis of criteria demonstrate that other impacts are similar for both the Alternative Crossover Route Segment 4 and the Crossover Route Segment 4. With regard to recreational impacts, both route segments will have similar impacts to WMAs, SNAs, WPAs, and state parks as the Crossover Route. There is no evidence in the record that the Alternative Crossover Segment will impact tourism, and flora and fauna.[62]

11. The Alternative Crossover Segment and the Crossover Segment are nearly equal in their use or paralleling of existing rights-of-way. Both segments also nearly equally use or parallel existing transportation, pipeline and electrical transmission system rights-of-way.[63]

North-South Connector Segments

12. The North-South Connector Example 2 (3 miles) is approximately eight miles shorter than the Crossover Segment (11 miles).

[62] ALJ Report, at Finding 225.
[63] Ex. 23, App. G (DEIS).

13. The North-South Connector Example 2 segment parallels existing road rights-of-way approximately 100 percent of its length. The USFWS/MnDNR Connector uses or parallels approximately 88 percent of existing road right-of-way. The USFWS/MnDNR Connector segment would follow no features for approximately 1.2 miles.

14. The USFWS/MnDNR Connector crosses two MCBS Biodiversity sites, whereas the North-South Connector crosses no MCBS Biodiversity sites.

The Alternative Crossover Route and the Crossover Route

15. Because the Crossover Route and the Alternative Crossover Route share common segments of the Modified and Alternate Routes with the exception of DEIS Segment 4, the differences realized can be found in the comparison between the Alternative Crossover Segment and Crossover Route Segment and the North-South Connector 2 and the USFWS/MnDNR Connector.

16. The record establishes that the Alternative Crossover Route, a hybrid of the Modified Preferred Route using the North Connector Route Example 2 instead of the USFWS/DNR Crossover Route,[64] and its associated facilities, satisfies the route permit criteria set forth in Minn. Stat. § 216E.03, subd. 7, and Minn. R. 7850.4100.

D. Recommended Route Widths

Applicants initially requested a route width of 1,000 feet for the 345 kV transmission line, and where necessary, flexibility to increase the width up to 1.25 miles, centered on an anticipated alignment for the proposed route's centerline. The ALJ recommended a route width of 600 feet except for those locations identified in Applicants' Proposed Findings where Applicants are requesting a width of 1,000 feet up to 1.25 miles.[65]

EFP staff does not agree with the ALJ's finding 536 that the Applicants' proposed route width is consistent with prior route permits issued by the Commission.[66] The ALJ Report cites to just one other permit for this finding, and the specific route referenced is distinguishable from the circumstances present in this proceeding. In fact, the recommendation of a route width of 1,000 feet up to 1.25 miles is not consistent with other Route Permits issued by the Commission and does not allow the predictability required to minimize adverse human and environmental impacts when siting a high-voltage transmission line.

As the ALJ Report notes, the PPSA specifically directs the Commission to locate transmission lines in a manner that "minimize[s] adverse human and environmental impact 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."[67,68]

[64] Figure *Brookings-Hampton Permit Maps*.
[65] ALJ Report, Recommendation 2.A.(2).
[66] ALJ Finding 536.
[67] Minn. Stat. § 216E.02, subd. 1.

Although the Power Plant Siting Act (PPSA) allows for a variable route width of up to 1.25 miles, EFP staff believes that route widths nearing the maximum are excessive except in the rarest of cases, and that such route widths do not provide a reasonable degree of predictability for landowners when developing an appropriate route. One such instance where a route width approaches the maximum allowable width in this proceeding is the expanded route width of approximately 1.1 miles for the Modified Preferred Route at the Minnesota-South Dakota border where the transmission line would cross into Minnesota. A wider route designation in that area will enable Applicants' to work with the South Dakota permitting authorities to site the transmission line in an area that is permittable by both state agencies.

While the Applicants' reasonably claim that some flexibility is necessary during the construction phase of the project, the need for flexibility must be balanced with the reasonable degree of predictability that landowners deserve. To balance these competing needs, EFP staff recommends the following permit condition that provides predictability and also accommodates Applicants' desire for flexibility:

> The designated route identifies an alignment that minimizes the overall potential impacts relating to the factors identified in Minnesota Rule 7850.4100 and which was evaluated in the environmental review and permitting processes.
>
> As such, this permit anticipates that the actual right-of-way will generally conform to this proposed alignment unless changes are requested by individual landowners or unforeseen conditions are encountered, or are otherwise provided for by this permit.
>
> Route width variations outside the designated route may be allowed for the Permittee to overcome potential site specific constraints. These constraints may arise from any of the following:
>
> 1. Unforeseen circumstances encountered during the detailed engineering and design process.
>
> 2. Federal or state agency requirements.
>
> 3. Existing infrastructure within the transmission line route, including but not limited to roadways, railroads, natural gas and liquid pipelines, high voltage electric transmission lines, or sewer and water lines.
>
> 4. Planned infrastructure improvements identified by state agencies and local government units and made part of the evidentiary record during the contested case proceeding for this permit.

[68] ALJ Finding 532

> Any alignment modifications arising from these site specific constraints that would result in right-of-way placement outside the designated route shall be located to have comparable overall impacts relative to the factors in Minnesota Rule 7850.4100 as does the alignment identified in this permit and also shall be specifically identified in and approved as part of the Plan and Profile submitted pursuant to Part IV.A. of this permit.

EFP staff believes that a reduced route width of 600 feet in many locations will allow the Applicants adequate space to coordinate with landowners and state and federal agencies when developing a final alignment and design for any of the routes under consideration. These areas are where the Applicants have indicated in the route permit application and throughout the proceedings that the new transmission line would be following or sharing an existing feature, such as a road, utility corridor or section line.

EFP staff relayed these concerns to the Applicants, agreeing that some flexibility is necessary for locating the route during the construction phase of the project, but advising them such flexibility must be balanced with the landowners' and other permitting agencies' needs for predictability.[69] In response to these concerns, Applicants subsequently modified their requested route width for the Modified Preferred Route and Alternate Route to a width of 600 feet in those areas depicted on the 17 tile maps attached to Applicants' February 8, 2010 Letter to the ALJ.[70]

For the Modified Preferred Route, EFP staff agrees in large part with Applicants' revised route widths as depicted in the tile maps that Applicants provided to address EFP staff's concerns.[71] The one further narrowing that EFP staff recommends which is applicable to route alternatives before the Commission for consideration relates to Tile Map 9, described as follows:

> The portion of the Modified Preferred Route that would cross the Redwood River at Franklin (Lower Redwood Crossing), specifically the area between 340th Street and 630th Avenue in Camp Township, Redwood County.

EFP staff recommends a route width of 1,000 feet in this area rather than the approximately 1.2 miles feet requested by Applicants and recommended by the ALJ.

Based on the foregoing discussion and analysis, EFP staff recommends the following changes to the ALJ's findings and conclusions concerning designation of a route width:

> [**Finding of Fact] 542.** Applicants' request for a route width of 1,000 feet and where necessary up to 1.25 miles is ~~consistent with~~allowable under the PPSA, but is not entirely ~~and~~ appropriate given the circumstances of this Project ~~to allow coordination with landowners and state and federal agencies to develop a final alignment and design~~.

[69] ALJ Finding 541.
[70] *See* Applicant's February 8, 2010 Letter, filed 02/08/10, Doc. Id. 20102-46898-05.
[71] The large route width area north of the city of Lynd on the Alternate Route, and the large route width area that would cross the Minnesota River at Le Sueur on the Modified Preferred Route need not be addressed.

[**Finding of Fact] 543.** Applicants' amended request for a 600 foot-wide route width, except for those areas where they continue to request a width of 1,000 feet to 1.25 miles, for the Modified Preferred Route, whether or not modified by Alternate 6P-06, also is ~~consistent with~~allowable under the PPSA. With the exception of the increased route width requested by Applicants for crossing the Redwood River in Camp Township in Redwood County, the route widths depicted on Applicants' 17 Tile Maps represent a reasonable balancing of the Applicants' request for flexibility and a reasonable degree of predictability for landowners. For the Redwood River crossing depicted on Tile Map 9, Applicants' need for flexibility can be accommodated within a 1000 foot-wide route width designation.

[Conclusion] 11. The record demonstrates that it is appropriate for the Route Permit to provide the requested route width of 600 feet, except for those locations where Applicants are requesting a route width of 1, 000 feet or up to ~~1.25~~1.1 miles, as shown on ~~Attachment 2 to Applicants' Proposed Findings of Fact, Conclusions and Recommendations~~Tile Maps 1-17, with the further exception of the Redwood River crossing depicted on Tile Map 9, which should be limited to 1,000 feet.

EFP Staff also recommends rejecting the following findings:

[Finding of Fact] 536. The proposed route width is consistent with prior Route Permits issued by the Commission.

In addition, EFP staff agrees with the ALJ Finding No. 80, that should the Commission designate another route for the 345 kV transmission line, Applicants should be required to work with OES to narrow the route in a timely manner after the Commission approves a route.[72]

VI. EFP Staff Recommendations

EFP staff has reviewed the record in this case relative to the standards, criteria and factors to be considered in determining whether to issue a permit for a high-voltage transmission line set forth in the Power Plant Siting Act and applicable Commission rules. Minn. Stat. § 216E.03 and 216E.04.; Minn. R. 7850.4000. It has also taken into account the input of state and federal agencies related to the permitability of various portions of the alternative routes under consideration, pursuant to Minn. Stat. § 216E.10, subd. 3 (a) and Minn. Stat. § 216E.03, subd. 7 (b) (12).

In weighing the impacts of the alternative routes, staff was guided by the state's policy of choosing locations that minimize adverse human and environmental impacts while insuring continuing electric power system reliability and integrity (Power Plant Siting Act).

[72] ALJ Report at 80.

Based on this review, staff believes that the Modified Preferred Route, with an aerial crossing of the Minnesota River at Le Sueur is fatally flawed (ALJ recommendation 2.A. (1)). Staff also believes that the Alternative Crossover Route described in this briefing paper has fewer impacts than the Crossover Route (ALJ recommendation 2. A.(1a)).

Based on this review, EFP staff believes that the amended and supplemental findings of fact and conclusions recommended by staff in this briefing paper are warranted. Staff has prepared Findings of Fact, Conclusions of Law and Order that incorporate the ALJ report with supplemental findings addressing the Alternative Crossover Route, as well as corrections and clarifications.

EFP staff also has prepared a Route Permit with conditions, in accordance with Minn. Stat. § 216E.03 and Minn. Rule 7850.4600. The permit and conditions are based on the record and conditions of past permits issued by the Commission.

COMMISSION DECISION OPTIONS

A. Environmental impact statement adequacy determination

1. Find that the EIS meets the requirements of Minn. R. 7850.1500, subp. 10, in that it:

    A. Addresses the issues and alternatives raised in scoping to a reasonable extent considering the availability of information and the time limitations for considering the permit application;
    B. Provides responses to the timely substantive comments received during the draft environmental impact statement review process; and
    C. Was prepared in compliance with the procedures in parts 7850.1000 to 7850.5600.

2. Determine that the EIS is not adequate.

EFP staff recommendation: Option 1 A-C.

B. Exceptions to the ALJ's Report

1. Party Exceptions (NoCapX2020/UCAN)

    A. Adopt one or more of the NoCapX2020/UCAN recommended changes to the ALJ Report.
    B. Adopt none of the NoCapX2020/UCAN recommended changes to the ALJ Report.
    C. Take other action deemed more appropriate.

2. Theresa Ruhland Recommendations

    A. Adopt Ms. Ruhland's recommendation to accept the ALJ's alternative recommendation 2.A.(1a) as written.
    B. Find that Ms. Ruhland's recommendation is more appropriately addressed by adopting the EFP staff's recommended Alternative Crossover Route.
    C. Take other action deemed more appropriate.

3. Bimeda Recommendations

    A. Adopt one or more of the changes recommended by Bimeda, Inc.
    B. Find that there is no need to address the Bimeda recommendations since the ALJ's Recommendation 2.A.(1a) with the Minnesota River crossing at Le Sueur is no longer a viable alternative.
    C. Take other action deemed more appropriate.

4. Mark Katzenmeyer recommendations.

A. Adopt Mr. Katzenmeyer's recommendation to choose the river crossing at Belle Plaine as the better alternative because of the existing transmission line, other problems associated with the Le Sueur river crossing, the USFWS recommendations, the scenic highway, and input from Mn/DOT.
B. Find that there is no need to address Mr. Katzenmeyer's recommendations since the ALJ's Recommendation 2.A.(1a) with the Minnesota River crossing at Le Sueur is no longer a viable alternative.
C. Take other action deemed more appropriate

EFP staff recommendation: Option 1B, 2B, 3B and 4B

C. Adoption of Findings of Fact, Conclusions of Law and Order

1. Approve and adopt the attached EFP staff recommended Findings of Fact, Conclusions of Law and Recommendations for the Great River Energy and Xcel Energy 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota, and issue an Order granting a permit for Administration Law Judge's recommended route 2. A. (1) described as:

> The Modified Preferred Route, with an aerial crossing of the Minnesota River at Le Sueur, modified further by Alternative 6P-06 between Lake Marion and Hampton

2. Approve and adopt the attached EFP staff recommended Findings of Fact, Conclusions of Law and Recommendations for the Great River Energy and Xcel Energy 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota, and issue an Order granting a permit for Administration Law Judge's recommended route 2. A. (1a) described as:

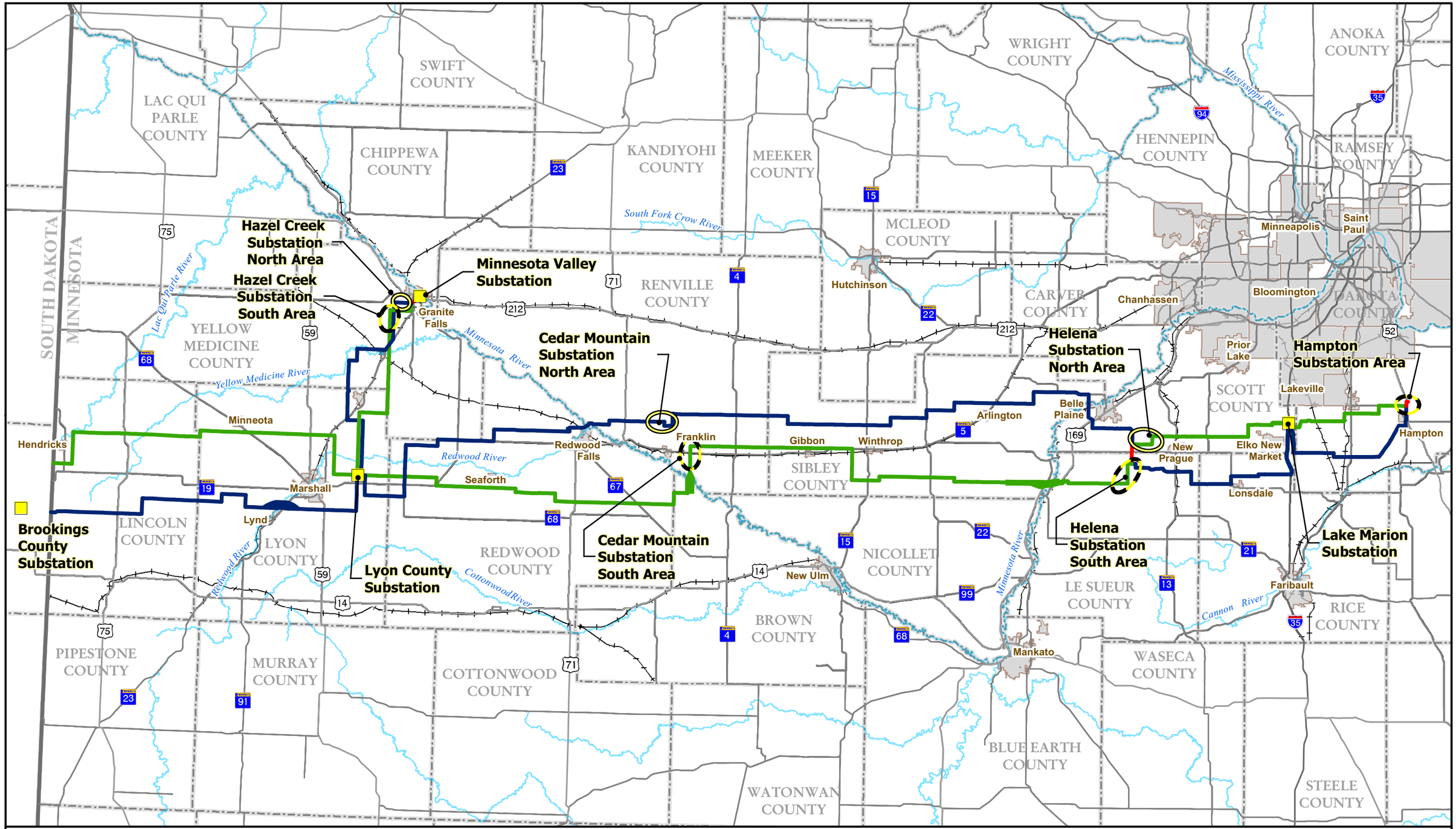
> The Modified Preferred Route, modified further by Alternative 6P-06, and modified further by the Crossover/Alternative Route between Sibley County and the Helena Substation, with an aerial crossing of the Minnesota River at Belle Plaine

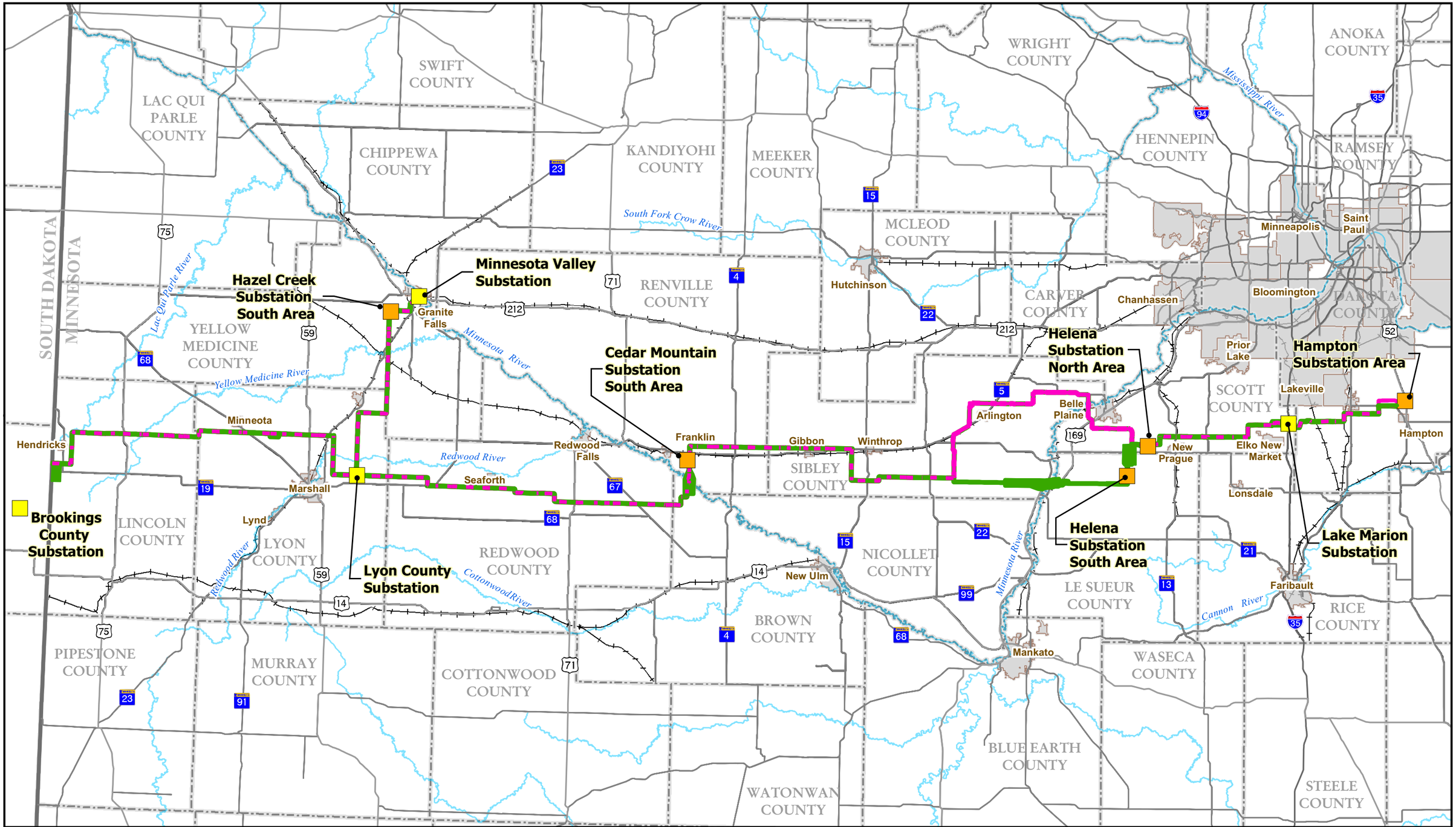
3. Approve and adopt the attached EFP staff recommended Findings of Fact and Conclusions of Law for the Great River Energy and Xcel Energy 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota, and issue an Order granting a route permit for the Alternative Crossover Route described as:

> The Modified Preferred Route, modified further by Alternative 6P-06, and modified further by the North-South Connector Example 2/Alternative Route between Sibley County and the Helena Substation, with an aerial crossing of the Minnesota River at Belle Plaine

4. Make some other decision deemed more appropriate.

EFP staff recommendation: Option 3


Hazel Creek Substation North Area
Hazel Creek Substation South Area
Minnesota Valley Substation
Cedar Mountain Substation North Area
Cedar Mountain Substation South Area
Lyon County Substation
Brookings County Substation
Helena Substation North Area
Helena Substation South Area
Hampton Substation Area
Lake Marion Substation
SWIFT COUNTY
LAC QUI PARLE COUNTY
CHIPPEWA COUNTY
KANDIYOHI COUNTY
MEEKER COUNTY
WRIGHT COUNTY
ANOKA COUNTY
HENNEPIN COUNTY
RAMSEY COUNTY
MCLEOD COUNTY
RENVILLE COUNTY
CARVER COUNTY
DAKOTA COUNTY
SCOTT COUNTY
SIBLEY COUNTY
YELLOW MEDICINE COUNTY
LINCOLN COUNTY
LYON COUNTY
REDWOOD COUNTY
NICOLLET COUNTY
LE SUEUR COUNTY
RICE COUNTY
BROWN COUNTY
PIPESTONE COUNTY
MURRAY COUNTY
COTTONWOOD COUNTY
WATONWAN COUNTY
BLUE EARTH COUNTY
WASECA COUNTY
STEELE COUNTY
SOUTH DAKOTA
MINNESOTA
Granite Falls
Hutchinson
Minneapolis
Saint Paul
Bloomington
Chanhassen
Prior Lake
Lakeville
Hampton
Elko New Market
Lonsdale
New Prague
Belle Plaine
Arlington
Franklin
Gibbon
Winthrop
Redwood Falls
Seaforth
Marshall
Minneota
Hendricks
Lynd
New Ulm
Mankato
Faribault
Lac Qui Parle River
Yellow Medicine River
Minnesota River
Redwood River
Cottonwood River
South Fork Crow River
Mississippi River
Cannon River
Project Substations
Preferred Substation Area
Alternate Substation Area
Routes
Preferred
Alternate
Both Preferred & Alternate
0 5 10
Miles
Brookings-Hampton Route Maps
PUC Docket Number ET2/TL-08-1474
Overview Map
Applicants' Preferred and Alternate Routes



Brookings-Hampton Route Maps
PUC Docket Number ET2/TL-08-1474

Overview Map
Applicants' Modified Preferred and Crossover Routes

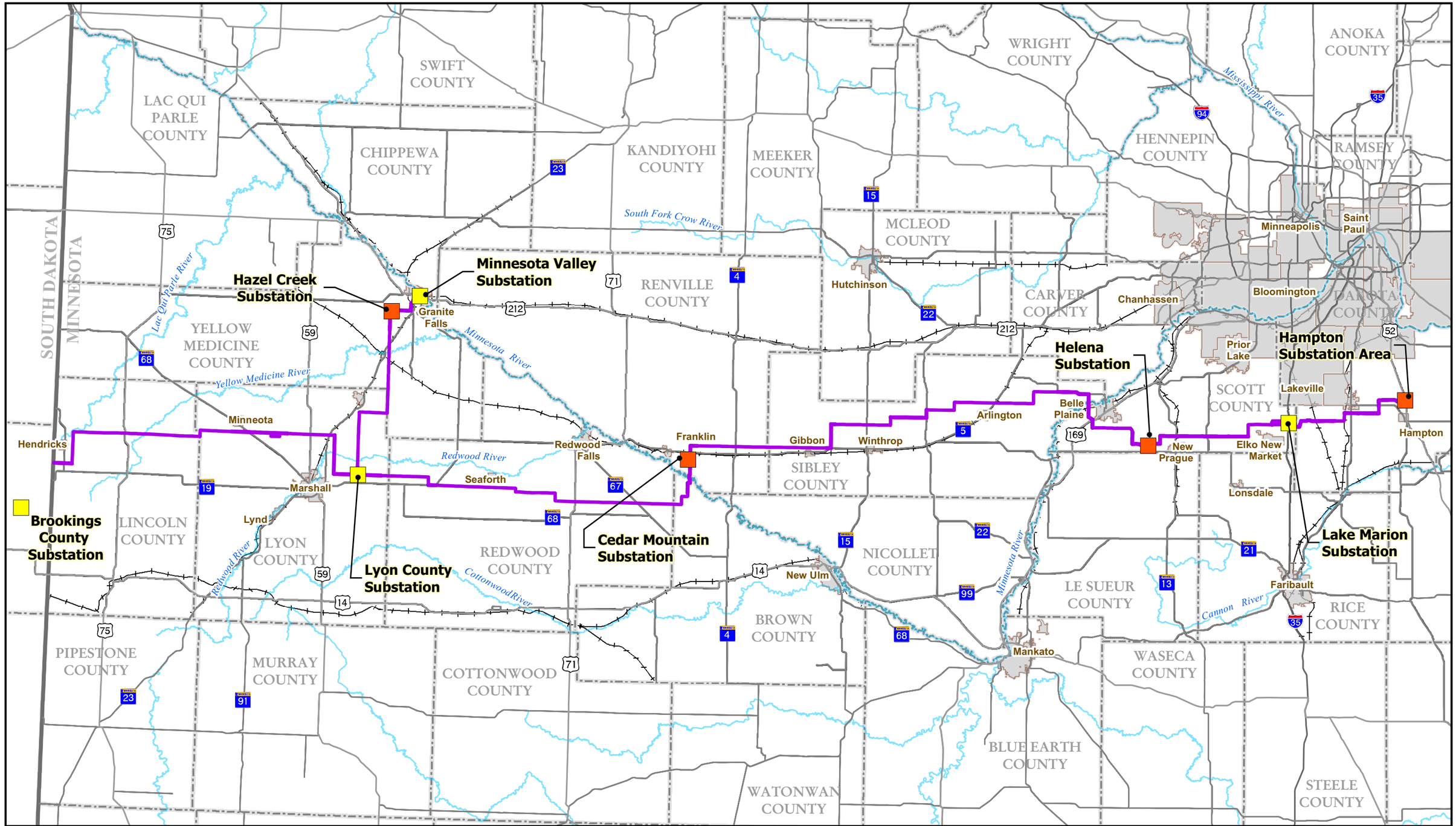

Brookings County Substation
Hazel Creek Substation
Minnesota Valley Substation
Lyon County Substation
Cedar Mountain Substation
Helena Substation
Hampton Substation Area
Lake Marion Substation
Hendricks
Minneota
Marshall
Lynd
Granite Falls
Hutchinson
Franklin
Redwood Falls
Seaforth
Gibbon
Winthrop
Arlington
Belle Plaine
New Prague
Lakeville
Hampton
Elko New Market
Lonsdale
Minneapolis
Saint Paul
Bloomington
Chanhassen
Prior Lake
New Ulm
Mankato
Faribault
SOUTH DAKOTA
MINNESOTA
LAC QUI PARLE COUNTY
SWIFT COUNTY
CHIPPEWA COUNTY
KANDIYOHI COUNTY
MEEKER COUNTY
WRIGHT COUNTY
ANOKA COUNTY
HENNEPIN COUNTY
RAMSEY COUNTY
MCLEOD COUNTY
RENVILLE COUNTY
CARVER COUNTY
DAKOTA COUNTY
SCOTT COUNTY
YELLOW MEDICINE COUNTY
LINCOLN COUNTY
LYON COUNTY
REDWOOD COUNTY
SIBLEY COUNTY
NICOLLET COUNTY
LE SUEUR COUNTY
RICE COUNTY
WASECA COUNTY
BROWN COUNTY
COTTONWOOD COUNTY
MURRAY COUNTY
PIPESTONE COUNTY
BLUE EARTH COUNTY
WATONWAN COUNTY
STEELE COUNTY
Lac Qui Parle River
Yellow Medicine River
Minnesota River
South Fork Crow River
Redwood River
Cottonwood River
Mississippi River
Cannon River
Brookings-Hampton Route Maps
PUC Docket Number ET2/TL-08-1474
Existing Substation
Permitted Substation
Permitted Route
0 5 10
Miles
Overview Map
Permitted Route

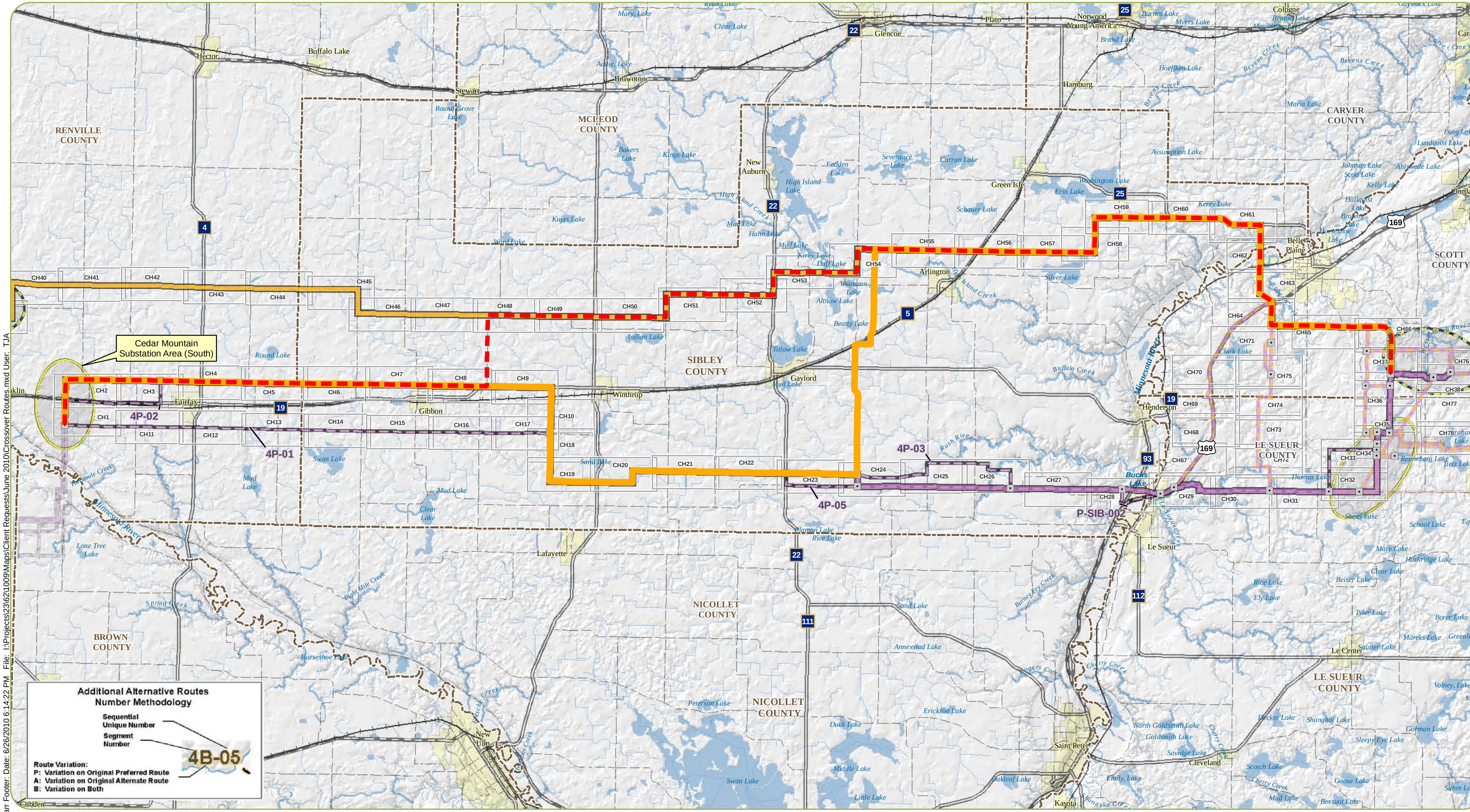
TABLE 1
ROUTE SEGMENT 4
ALTERNATIVE CROSSOVER/CROSSOVER AND NORTH-SOUTH CONNECTOR SUMMARY

Parameter	Units	Route Segment 4 - Cedar Mountain Substation to Helena North Substation		North-South Connector Segments	
		Alternative Crossover Route	**Crossover Route**	**North-South Connector #2**	**USFWS/MnDNR Connector**
Route Length	Miles	71.0	78.4	23.7	31.1
Route Area[1]	Acres	8,608	9,503	2787	3757
Right-of-way Area[2]	Acres	1,291	1,425	432	566
CORRIDOR SHARING					
Corridor Sharing (Road)	Miles	46.5	51.8	---	---
Corridor Sharing (Transmission Line)	Miles	2.8	2.8	---	---
Corridor Sharing (Railroad)	Miles	0.0	1.9	---	---
Corridor Sharing (Pipeline)	Miles	0.0	0.0	---	---
Corridor Sharing (Field Lines)	Miles	19.8	20.0	---	---
No Corridor Sharing	Miles	2.0	1.9	---	---
Total Corridor Sharing	Miles	69.1	76.5	---	---
HOMES					
0-75 ft from Route Centerline	Count	1	1	0	0
76 - 150 ft from Route Centerline	Count	9	9	1	1
151 - 300 ft from Route Centerline	Count	27	32	2	7
301 - 500 ft from Route Centerline	Count	33	35	8	10
Total	Count	70	77	11	18
WETLANDS					
Number of Wetlands Crossed	Count	43	46	6	9
Number of Forested Wetlands Crossed	Count	9	8	1	0

TABLE 1
ROUTE SEGMENT 4
ALTERNATIVE CROSSOVER/CROSSOVER AND NORTH-SOUTH CONNECTOR SUMMARY

Parameter	Units	Route Segment 4 - Cedar Mountain Substation to Helena North Substation		North-South Connector Segments	
		Alternative Crossover Route	**Crossover Route**	**North-South Connector #2**	**USFWS/MnDNR Connector**
STREAMS/RIVERS					
Number of Streams/Rivers Crossed by Route Centerline	Count	52	53	19	20
Number of PWI Streams Crossed by Route CL	Count	22	18	11	7
ENVIRONMENTAL					
Number of MCBS Biodiversity Sites Crossed (right-of-way)	Count	2	4	0	2
Number of MCBS Biodiversity Sites Crossed (Route)	Count	2	4	0	2
Number of WMAs in Route	Count	2	2	0	0
USFWS Lands and Easements within 1 Mile	Count	4	4	0	0
T & E Species within Route (occurrences)	Count	1	3	0	2
Unique T & E Species within Route	Count	1	3	0	2
Number of Archaeological Sites within 1 Mile	Count	11	14	2	5
Number of Historical Sites within 1 Mile	Count	36	37	7	8
PRIME FARMLAND					
Prime Farmland within Right-of-way	Acres	401	397	123	119
Prime Farmland if Drained within the Right-of-way	Acres	735	855	297	416
Farmland of Statewide Importance within the Right-of-way	Acres	102	119	11	28
Prime Farmland, Prime Farmland if Drained, Farmland of Statewide Importance	Acres	1,238	1,371	431	563

Notes:
Data compiled for the DEIS was used for route segment comparison.
[1]Assumed route width 1000 ft.
[2]Assumed right-of-way Width 150 ft.



SL1 Appendix A Map Index

0 1.5 3 6 Miles

0 2.5 5 10 Kilometers

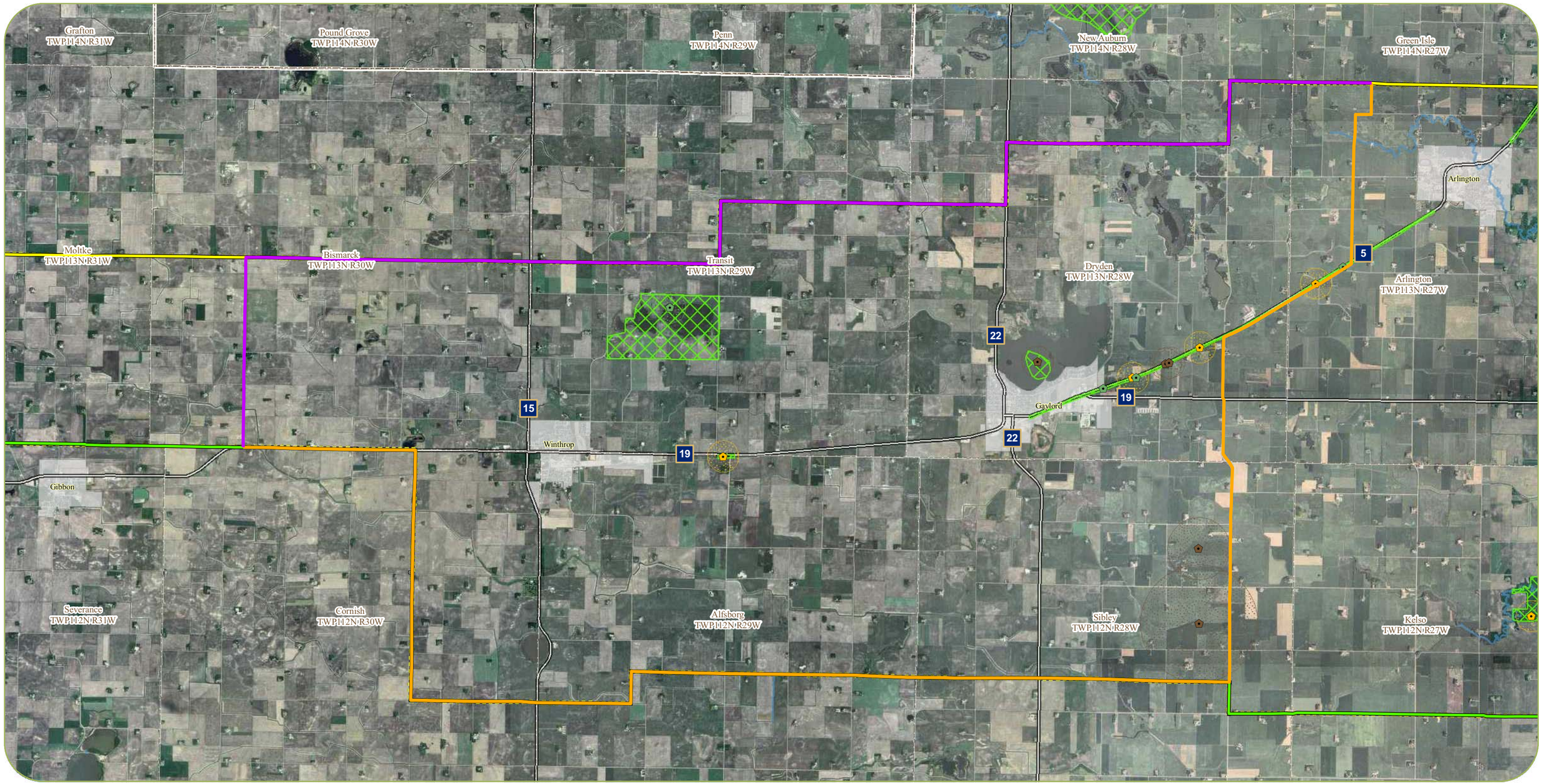
For detailed maps refer to Appendix A
Refer to Appendix B for information on data sources

Alternative Crossover Route
Crossover Route

Original Alignments
Preferred Route
Alternate Route
Additional Alternative Routes
Variation on Preferred Route
Variation on Alternate Route
Variation on Both

Project Substations
Proposed Substation Areas
Preferred
Alternate
County Boundaries
Tribal Land

June 2010
Crossover Routes



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Preferred Route
Alternate Route
Alternative Crossover Route
Crossover Route
Public Land Survey Township
County Boundaries
Municipality Boundaries

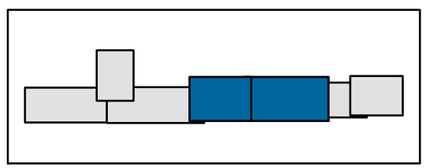
MCBS Biodiversity Significance
Moderate Significance
High Significance
Outstanding Significance

MN DNR Natural Heritage
Botanical
Ecological
Zoological
Botanical
Ecological
Zoological

0 0.75 1.5 3 Miles

0 1.5 3 6 Kilometers

Comparison of North/South Connector Routes



BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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

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.

ISSUE DATE: July ___, 2010

DOCKET NO. ET2/TL-08-1474

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER ISSUING AN HVTL ROUTE PERMIT TO GREAT RIVER ENERGY AND XCEL ENERGY FOR A 345 kV TRANSMISSION LINE FROM BROOKINGS COUNTY, SOUTH DAKOTA TO HAMPTON, MINNESOTA

The above-captioned matter came before the Minnesota Public Utilities Commission ("Commission") on July 15, 20010, acting on an application by Great River Energy and Xcel Energy for a route permit to construct a new, 237 to 262-mile transmission line and associated facilities in Lincoln, Lyon, Yellow Medicine, Chippewa, Redwood, Brown, Renville, Sibley, Le Sueur, Scott, Rice, and Dakota counties, Minnesota.

STATEMENT OF ISSUE

Should the Minnesota Public Utilities Commission find that the environmental impact statement and the record adequately address the issues identified in the scoping decision? Should the Minnesota Public Utilities Commission issue a route permit identifying a specific route and permit conditions for the proposed Brookings to Hampton 345 kV transmission line project?

Based upon all of the proceedings herein, the Commission makes the following:

FINDINGS OF FACT

The Commission adopts the April 22, 2010, Administrative Law Judge's Findings of Fact, Conclusions and Recommendation for the Brookings to Hampton Transmission Project related to PUC Docket No. ET-2/TL-08-1474, and the April 30, 2010 Amendments to Findings of Fact, Conclusions, and Recommendation, with the following modifications:

Finding 38 is amended as follows to correctly reflect that the Final Environmental Impact Statement (FEIS) was not published in the EQB Monitor; and that only the notice of such was so published:

> 38. On February 8, 2010, notice of availability of the FEIS was published in the EQB Monitor.[1]

Finding 59 is amended as follows to correctly reflect numbering of Route Alternative 5P-02 in the DEIS, which was referred to in the Scoping Decision as P-SCT-002:

> 59. The third route modification, identified as ~~P-SCT-002~~ 5P-02 in the DEIS (also ~~r~~renumbered as 5P-02 on maps used at the Hearings), is located between the Helena Substation and the Lake Marion Substation at the intersection of Aberdeen Avenue and 270th Street.[2] The Modified Preferred Route continues east for one mile to Delmar Avenue. At Delmar Avenue, the Modified Preferred Route continues north one mile until it joins the Preferred Route at 260th Street.

Finding 83 is amended to add new information available concerning the Applicants' delay of construction as contained in Xcel Energy's recent filing in the related CapX 2020 Certificate of Need proceeding (Docket No. ET-2/CN-08-1115):

> 83. Applicants expect to begin construction of the Project in the fourth quarter of 2010 and estimate that the Project will be completed by the third quarter of 2013. Applicants filed a letter in Docket No. ET2/CN-08-1115 on May 18, 2010, requesting a change in the originally proposed project start date to the second quarter of 2015.[3]

Finding 131 is amended to clarify that the number of additional route segments and alignment alternatives was further refined during preparation of the DEIS, and is thus not the same as was stated in the Scoping Decision:

> 131. On June 30, 2009, OES issued its Scoping Decision for the EIS. The Scoping Decision identified the topics to be covered in the Project EIS: Regulatory Framework; Project engineering and design; Project construction; and Human and environmental resources impacted by the project and each proposed route alternative. The Scoping Decision also determined that the EIS would address 47 of the proposed route alternatives. Upon further refinement during the DEIS preparation, four additional alternative route segments were discovered (51 total) and five of the alignment alternatives were found to be duplicates (reducing the total from 26 to 21).[4]

Finding 153 is amended to clarify the meaning of "displacement" with regard to the Administrative Law Judge's review and conclusions of Criterion A concerning displacement of homes, and permit conditions to minimized effects on human settlement:

---

[1] Notice of Availability of FEIS - EQB Monitor, filed 02/25/10, Doc. Id. 20102-47454-02.
[2] Ex. 102 at pp. 15-17 (Poorker Direct).
[3] Applicants. May 17, 2010 Letter to Commission Requesting a Change in Proposed Construction Date, filed May 18, 2010, Docket ET-2, E-002, et al./CN-06-1115, Doc. Id. 20105-50557-02.
[4] Ex. 23 (DEIS).

153. For purposes of this proceeding, displacement of a residence or business was defined to occur when a structure is located within the 150 foot right-of-way or 75 feet on each side of the proposed transmission centerline.

Finding 282 is amended to include additional information with which to support the ALJ's conclusions and EFP staff's suggested permit conditions concerning design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generation capacity:

282. For the proposed new substation sites, Applicants will acquire approximately 40 acres to allow for future transmission line interconnections. For the proposed new substation sites, the record supports the following new substation locations, which were outlined by the Applicants' witness, Mr. Craig Poorker:[5]

- The new Hazel Creek substation will be located at the southeast corner of the intersection of 520th Street (County Road B3) and 260th Avenue in section 18 of Minnesota Falls Township[6]
- The new Cedar Mountain Substation will be located at the northwest corner of the intersection of County Road 3 and 640th Avenue in Camp Township.[7]
- The new Helena Substation will be located at the southeast corner of the intersection of 231st Avenue and 320th Street (County Road 28) in Derrynane Township.[8]
- The proposed Hampton Substation North site will be located on the west side of Highway 52 near 215th Street on the north side of 215th Street[9] or the proposed Hampton South site would be located on the south side of 215th Street. The record demonstrates that the Hampton North Substation site would be better located for any route chosen, as it would minimize the distance when connecting to the Prairie Island – Blue Lake 345 kV line.[10]

Finding 542 is amended to reflect that route widths of 1,000 feet and up to 1.25 miles are allowable under the Power Plant Siting Act depending on the circumstances at hand.

542. Applicants' request for a route width of 1,000 feet and where necessary up to 1.25 miles is ~~consistent with~~allowable under the PPSA, but is not entirely ~~and~~ appropriate given the circumstances of this Project ~~to allow coordination with landowners and state and federal agencies to develop a final alignment and design~~.

[5] Ex. 102 at pp. 21-25 (Poorker Direct).
[6] Ex. 102 at Schedule 8 (Poorker Direct).
[7] Ex. 102 at Schedule 9 (Poorker Direct).
[8] Ex. 102 at Schedule 11 (Poorker Direct).
[9] Ex. 102 at Schedule 13 at p. 1 (Poorker Direct).
[10] Ex. 23 (DEIS).

Finding 543 is amended to reflect that the route widths designated by the Commission shall be as reflected in the 17 Tile Maps included in the Applicants' letter to the ALJ dated February 8, 2010, except for the area of the Redwood River crossing which is narrowed to 1000 feet:

> 543. Applicants' amended request for a 600 foot-wide route width, except for those areas where they continue to request a width of 1,000 feet to 1.25 miles, for the Modified Preferred Route, whether or not modified by Alternate 6P-06~~, also~~ is ~~consistent with~~allowable under the PPSA. With the exception of the increased route width requested by Applicants for crossing the Redwood River in Camp Township in Redwood County, the route widths depicted on Applicants' 17 Tile Maps represent a reasonable balancing of the Applicants' request for flexibility and a reasonable degree of predictability for landowners. For the Redwood River crossing depicted on Tile Map 9, Applicants' need for flexibility can be accommodated within a 1000 foot-wide route width designation.

Based on the record in this proceeding, the Commission does not adopt the following findings of fact:

> 536. The proposed route width is consistent with prior Route Permits issued by the Commission.

SUPPLEMENTAL FINDINGS OF FACT

Based on the analysis presented by Energy Facility Permitting staff, the Commission adopts additional findings below supporting the designation of the proposed Alternative Crossover Route, which includes Alternative 6P-6 as recommended by the Administrative Law Judge:

> **[Supplemental Finding] 1.** Four North-South Connector Examples were evaluated in the DEIS.[11] The OES EFP staff used North-South Connector Example 2, analyzed in the DEIS, to develop a hybrid of the Crossover Route (the "Alternative Crossover Route").
>
> **2.** The EFP staff-proposed Alternative Crossover Route is approximately 240 miles long, which is approximately seven miles shorter than the Crossover Route. This route alternative follows the Crossover Route until it turns north on County Highway 3 in Bismarck Township, Sibley County, and then continues north along North-South Connector Route 2 until it connects with the Applicant's proposed Alternative Route at County Highway 10.

[11] Ex. 23 at Appendix G (DEIS)

From there, the Alternative Crossover Route continues to follow the Alternative Route until it connects with the Crossover Route at 220th Street at the North Corner of the Northwest Section of the NW ¼ of Section 5 of Arlington Township. From its beginning off County Highway 19, the North-South Connector 2 between the Preferred Route and Alternate Route is approximately three miles long.

Segment 4 Sections of the Alternative Crossover Route and the Crossover Route

3. The Alternative Crossover Segment (71 miles) is approximately seven miles shorter than the Crossover Segment (78 miles). The total Route Area and right-of-way area required for the Alternative Crossover Segment are also less, with a corresponding decrease in the cost of construction for the Alternative Crossover Route as compared to the Crossover Route.

4. The Segment 4 of Alternative Crossover Route would impact seven fewer houses within 0-500 feet of the route centerline than Segment 4 of the Crossover Route.

5. The Alternative Crossover Segment would cross three fewer wetlands than the Crossover Segment.

6. The Alternative Crossover Segment has no known occurrences of threatened and endangered species and no occurrences of unique threatened endangered species within the proposed route, whereas the Crossover Segment crosses two areas of recorded endangered species and two occurrences of unique threatened endangered species.

7. The Alternative Crossover Segment anticipated right-of-way would cross 132 fewer acres of prime farmland/prime farmland if drained/farmland of statewide importance than the Crossover Segment.

8. The Alternative Crossover Segment and the Crossover Segment are similar in their impact on water quality and resources. The Alternative Crossover Segment would cross one more forested wetland than the Crossover Segment. While the Crossover Segment would cross 54 wetlands and 53 streams; the Alternative Crossover Segment would cross 53 wetlands and 52 streams.

9. MnDOT testimony and comments of Mr. Alvin Mueller, a landowner along the USFWS/MnDNR Connector route segment support the choice of the Alternative Crossover Route using North-South Connector Example #2.

10. Analysis of criteria demonstrate that other impacts are similar for both the Alternative Crossover Route Segment 4 and the Crossover Route Segment 4.

With regard to recreational impacts, both route segments will have similar impacts to WMAs, SNAs, WPAs, and state parks as the Crossover Route. There is no evidence in the record that the Alternative Crossover Segment will impact tourism, and flora and fauna.[12]

11. The Alternative Crossover Segment and the Crossover Segment are nearly equal in their use or paralleling of existing rights-of-way. Both segments also nearly equally use or parallel existing transportation, pipeline and electrical transmission system rights-of-way.[13]

North-South Connector Segments

12. The North-South Connector Example 2 (3 miles) is approximately eight miles shorter than the Crossover Segment (11 miles).

13. The North-South Connector Example 2 segment parallels existing road rights-of-way approximately 100 percent of its length. The USFWS/MnDNR Connector uses or parallels approximately 88 percent of existing road right-of-way. The USFWS/MnDNR Connector segment would follow no features for approximately 1.2 miles.

14. The USFWS/MnDNR Connector crosses two MCBS Biodiversity sites, whereas the North-South Connector crosses no MCBS Biodiversity sites.

The Alternative Crossover Route and the Crossover Route

15. Because the Crossover Route and the Alternative Crossover Route share common segments of the Modified and Alternate Routes with the exception of DEIS Segment 4, the differences realized can be found in the comparison between the Alternative Crossover Segment and Crossover Route Segment and the North-South Connector 2 and the USFWS/MnDNR Connector.

16. The record establishes that the Alternative Crossover Route, a hybrid of the Modified Preferred Route using the North Connector Route Example 2 instead of the USFWS/DNR Crossover Route,[14] and its associated facilities, satisfies the route permit criteria set forth in Minn. Stat. § 216E.03, subd. 7, and Minn. R. 7850.4100.

[12] ALJ Report, at Finding 225.
[13] Ex. 23, App. G (DEIS).
[14] Comments Recommendations, figure *North/South Connector Comparison*.

CONCLUSIONS OF LAW

Conclusion 9, concluding that the Modified Preferred Route, as further revised by Alternative 6P-06 in the Hampton area and as further revised by the Bimeda Adjustment, is the best alternative for the 345 kV transmission line between Brookings county Substation and Hampton Substation, is not accepted.

Conclusion 10, concluding that it is appropriate to grant a Route Permit for the 345 kV transmission line and associated facilities along the Modified Preferred Route, modified by Alternative 6P-06 and further modified by the Bimeda Adjustment, is not accepted.

Conclusion 11 is amended to limit the Redwood River crossing on Tile Map 9 to 1,000 feet:

> 11. The record demonstrates that it is appropriate for the Route Permit to provide the requested route width of 600 feet, except for those locations where Applicants are requesting a route width of 1, 000 feet or up to ~~1.25~~1.1 miles, as shown on ~~Attachment 2 to Applicants' Proposed Findings of Fact, Conclusions and Recommendations~~Tile Maps 1-17, with the further exception of the Redwood River crossing depicted on Tile Map 9, which should be limited to 1,000 feet.

The Commission adopts the following additional conclusions:

> 17. The record establishes that the five Alignment Alternatives evaluated in the DEIS and identified in Finding 398, satisfy the route permit criteria set forth in Minnesota Statute § 216E.03, subd. 7 and Minnesota Rule 7850.4100.
>
> 18. The conditions included in the route permit are reasonable and appropriate.

ORDER

Based on the Findings of Fact and Conclusions of Law modified herein and the entire record of this proceeding, the Commission hereby makes the following Order:

1. The findings, conclusions and recommendations contained in the Administrative Law Judge's April 22, 2010 Findings of Fact, Conclusions and Recommendation, and April 30, 2010 Amended Findings of Fact, Conclusions and Recommendation are adopted except as inconsistent with this Order or otherwise specified herein.

2. Specifically, the Commission declines to adopt Findings 536 and 542 and Conclusions 9 and 10 of the April 22, 2010 ALJ Report.

3. The Commission hereby grants the Applicants a Route Permit, in the form attached, to construct the high voltage transmission line requested between Brookings County, South Dakota and Hampton, Minnesota along the Alternative Crossover Route, including Alternative 6P-06.

BY ORDER OF THE COMMISSION

_____

Burl W. Haar,
Executive Secretary

(S E A L)

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STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

ROUTE PERMIT FOR CONSTRUCTION OF A HIGH-VOLTAGE TRANSMISSION LINE AND ASSOCIATED FACILITIES IN

LINCOLN, LYON, YELLOW MEDICINE, CHIPPEWA, REDWOOD, BROWN, RENVILLE, SIBLEY, LE SUEUR, SCOTT, AND DAKOTA COUNTIES

ISSUED TO GREAT RIVER ENERGY AND NORTHERN STATES POWER COMPANY

PUC DOCKET No. ET2/TL-08-1474

In accordance with the requirements of Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850, this route permit is hereby issued to:

GREAT RIVER ENERGY AND NORTHERN STATES POWER COMPANY

Great River Energy and Northern States Power Company, d/b/a Xcel Energy, are authorized by this route permit to construct the 240-mile segment located within the State of Minnesota, of a new 345 kilovolt (kV) high-voltage transmission line from a new Hampton Substation in Dakota County, Minnesota, to the Brookings Substation in Brookings County, South Dakota.

The transmission line and associated facilities shall be built within the route identified in this permit, as portrayed on the official route maps, and in compliance with the conditions specified in this permit.

Approved and adopted this _____ day of July 2010

BY ORDER OF THE COMMISSION

_____

Burl W. Haar,
Executive Secretary

I. ROUTE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this route permit to Great River Energy and Xcel Energy (Permittees) pursuant to Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850. This permit authorizes the Permittees to construct approximately 240 miles of new 345 kV transmission line and associated facilities in Lincoln, Lyon, Yellow Medicine, Chippewa, Redwood, Brown, Renville, Sibley, Le Sueur, Scott, and Dakota counties, Minnesota.

II. PROJECT DESCRIPTION

The Permittees are authorized to construct a project comprising an approximate 240-mile transmission line and associated facilities as evaluated in the Environmental Impact Statement and described below.

A. High-Voltage Transmission Line

The route includes six route segments totaling approximately 240 miles, constructed between (1) the Brookings County substation near White, South Dakota, and a new Hampton substation near Hampton, Minnesota and (2) the Lyon County substation near Marshall, Minnesota, and the Minnesota Valley substation near Granite Falls, Minnesota.

1. Brookings County Substation to Lyon County Substation

The transmission line will originate at the Brookings County Substation, near White, South Dakota, and extend approximately four to eight miles to the Minnesota border. Minnesota permitting authority begins as this segment crosses the Minnesota border passing through Lincoln and Lyon counties for approximately 50 miles to the existing Lyon County Substation near Marshall, Minnesota. This segment will be constructed and operated as a 345 kV single-circuit on double-circuit structures.

2. Lyon County Substation to Hazel Creek Substation to Minnesota Valley Substation

This segment is approximately 28 miles long passing through Lyon, Yellow Medicine, and Chippewa counties, and will replace the existing Lyon County to Minnesota Valley 115 kV transmission line. This segment will be constructed and operated as a 345 kV single-circuit on double-circuit structures, with the exception of the segment of transmission line running from the newly proposed Hazel Creek Substation to the existing Minnesota Valley Substation, which will initially be operated at 230 kV.

3. Lyon County Substation to Cedar Mountain Substation

This segment is approximately 51 miles long passing through Lyon, Redwood, Brown, and Renville counties. This segment will be constructed and operated as a double-circuit 345 kV on double-circuit structures.

4. Cedar Mountain Substation to Helena Substation

This segment is approximately 71 miles long passing through Renville, Sibley, and Scott counties. This segment will be constructed and operated as a double-circuit 345 kV on double-circuit structures.

5. Helena Substation to Lake Marion Substation

Passing through Scott County, this section is approximately 20 miles in length. Similar to the first two segments this stretch of the route would also be constructed and operated as a 345 kV single-circuit on double-circuit structures.

6. Lake Marion Substation to Hampton Substation

This segment will connect the Lake Marion Substation to the final termination point, the newly proposed Hampton Substation. This segment is approximately 20 miles in length passing through Scott and Dakota counties. This route segment will be constructed and operated as a 345 kV single-circuit on double-circuit structures.

B. Substations

The project includes the construction of four new substations (Hazel Creek, Cedar Mountain, Helena, and Hampton) and the expansion of and upgrades to three existing substations (Lyon County, Minnesota Valley, and Lake Marion). The location and description of the substations are as follows:

1. Hazel Creek Substation

The new Hazel Creek substation will be located at the southeast corner of the intersection of 520th Street (County Road B3) and 260th Avenue in section 18 of Minnesota Falls Township. The substation fenced and graded area will be approximately 10 to 12 acres. Equipment to be installed includes 345 kV equipment (one 345 kV breaker and a half-yard with nine breaker positions and five breakers with one new 345 kV (336 MVA) transformer and one future 345 kV transformer position), 230 kV equipment (a 230 kV yard with nine breaker positions and five breakers, one new 230 kV transformer, and one future 230 kV transformer position), and reactive support on the 115 kV yard. The substation will include the associated line switches, foundations, steel structures and control panels. The substation yard will require graded access roads.

2. Cedar Mountain Substation

The new Cedar Mountain Substation will be located at the northwest corner of the intersection of County Road 3 and 640th Avenue in Camp Township. The substation site will consist of five to eight acres of land, fenced and graded. The substation will be designed and constructed with a 345 kV breaker and a half-yard with nine breaker positions and five breakers, one 345 kV transformer (448 MVA) and one future transformer position. A 115 kV breaker and a half-yard will be constructed with six to nine breaker positions and two breakers and a 115 kV bus with circuit breakers and reactive support. The new substation will require line switches, a control house, relay panels, foundations, steel structures, and switches. The substation yard will require graded access roads.

3. Helena Substation

The new Helena Substation will be located at the along West 270th Street between Church Avenue and Aberdeen Avenue in Belle Plaine Township. The substation fenced and graded area will be approximately five to eight acres. The substation will initially be designed and constructed with one 345 kV breaker and a half-yard with nine breaker positions and five breakers. The new substation will require line switches, a control house, relay panels, foundations, and steel structures. The substation yard will require graded access roads. The substation will include sufficient space for a future 115 kV substation yard and a future 345 kV transformer. The Helena Substation will also connect with the existing Wilmarth – Blue Lake 345 kV transmission line.

4. Hampton Substation

The Hampton Substation will be located on the west side of Highway 52 near 215th Street on the north side of 215th Street. The substation fenced and graded area will be approximately five to eight acres. The substation will be designed and constructed with one 345 kV breaker and a half-yard with nine breaker positions and five breakers. The new substation will require line switches, a control house, relay panels, foundations, and steel structures. The substation yard will require graded access roads. The Hampton Substation will be designed to connect with the existing Prairie Island – Blue Lake 345 kV transmission line. The Prairie Island – Blue Lake 345 kV transmission line will be split prior to the connection point, creating two transmission lines.

5. Lyon County Substation

The existing Lyon County 115/69 kV Substation will be modified by adding four to six acres of fenced and graded substation area and associated equipment. The substation expansion is proposed to extend to the north and east, no additional land acquisition will be required.

The substation expansion will upgrade the system with 345 kV equipment, including one 345 kV breaker and a half-yard with nine breaker positions and five breakers. One new 345 kV transformer (448 MVA), one future 345 kV transformer position and associated line switches, foundations, steel structures, and control panels will be installed to integrate this transformer into the existing equipment. The existing 115 kV yard will be expanded with two additional breakers and a total of six breaker positions. Two circuit breakers and capacitor banks will be installed.

6. Minnesota Valley Substation

Additions to the existing Minnesota Valley Substation will include a 230 kV breaker and a half-yard with nine breaker positions and five breakers and the associated foundations, steel structures and control panels. Additional land will not be required to accommodate the upgraded facilities.

7. Lake Marion Substation

The Project will require an expansion to the south of the existing Lake Marion Substation of five to eight acres of fenced and graded substation area to house necessary equipment. The equipment will include a 345 kV breaker and a half-yard with six breaker positions and three breakers, one new 345 kV transformer (448 MVA) and one 345 kV transformer position. The expansion will also include expansion of the 115 kV yard to breaker and a half configuration with a total of twelve breaker positions and five breakers, and a 115 kV bus with circuit breakers and capacitor banks. The construction will include the associated line switches, foundations, steel structures and control panels.

8. Franklin Substation

The Project will require an expansion to the north of the existing Franklin Substation, which will consist of two to four acres of fenced and graded substation area to house necessary equipment. The equipment will include a new 115kV breaker-and-a-half yard with nine breaker positions, five breakers installed, and provisions for additional breakers and future reactive support. The construction will include the associated line switches, foundations, steel structures, equipment enclosures, and control panels.

C. Interconnections and Associated Facilities

The project will include a short transmission line connector (approximately one-half mile) between the existing Wilmarth – Blue Lake 345 kV line and the new Helena Substation; and a short transmission line connector (approximately one-half mile) between the existing Prairie Island – Blue Lake 345 kV line and the new Hampton Substation.

An approximate five-mile 115 kV transmission line will be constructed between the Cedar Mountain Substation and Franklin Substation and expansion of and modifications to the Franklin Substation to accommodate the new 115 kV transmission line facilities.

D. Structures

The transmission line will be supported by single pole, galvanized or self-weathering steel double-circuit structures for the majority of the 345 kV line portions of the Project. For the 345 kV line sections where only one circuit (three phases) is proposed to be initially installed, Permitees will place the second set of davit arms that will be used to support the second 345 kV circuit on these structures during the initial installation. The following table details specifics on the various structure types as presented in the route permit application.

Line Type	Structure Type	Structure Material	ROW Width (feet)	Structure Height (feet)	Structure Base Diameter (inches)	Foundation Diameter (feet)	Span Between Structures (feet)	Pole to Pole Span on Single H-Frame Structure (feet)
345/345 kV Double-Circuit	Single Pole Davit Arm	Steel	150	130-175	36-48 (tangent structures) 48-72 (angle structures)	6-12	750-1,100	N/A
345/345 kV Double-Circuit	H-Frame	Steel	150-180	105-125	30-42 (tangent structures)	5.5-9	750-1,100	27
115 kV	Horizontal Post	Wood	100	65-90	20-25 (tangent structures)	N/A	300-400	N/A
	Horizontal Post	Steel	100	65-90	18-24 (tangent structures)	2.5-3.5	300-400	N/A
345/345/115 kV Triple-Circuit	H-Frame	Steel	150-180	120-160	40-65 (tangent structures)	4.5-6.5	400-700	27
345/345/69 kV Triple-Circuit	H-Frame	Steel	150-180	120-160	40-65 (tangent structures)	4.5-6.5	400-700	27

Specialty structures not listed above may be required in consultation with the USFWS and MnDNR. Permittees will work with the USFWS, MnDNR, and the Commission when designing specialty structures for the Minnesota River crossings to ensure an appropriate crossing of these river areas and when considering the sensitive nature of these areas.

In areas where existing distribution/transmission lines are present, new structures will be designed to support the underbuild of existing distribution lines, or the Permitees will work with the utility owner to bury the existing lines, thereby allowing the use of existing alignments where feasible and will share existing road rights-of-way to the extent that such actions do not violate sound engineering principles or system reliability criteria.

Transmission lines shall be equipped with protective devices (breakers and relays located where transmission lines connect to substations) to safeguard the public in the event of an accident or if the structure or conductor falls to the ground. Associated Facilities will be properly fenced and accessible only by authorized personnel.

E. Conductors

Each phase of the 345 kV line will consist of bundled conductors composed of two 954 kcmil 54/7 Cardinal Aluminum Conductor Steel Supported (ACSS) cables or conductors of comparable capacity. The same conductor and bundled configuration is being proposed for all the 345 kV single-circuit and double-circuit transmission line sections. Drake 795 ACSS conductor will be used for the 115 kV line between the Cedar Mountain Substation and Franklin Substation.

Two shield wires will be strung above the conductors to prevent damage from lightning strikes. These shield wires are typically less than one inch in diameter and will include fiber optic cables, which allow a path for substation protection equipment to communicate with equipment at other terminals on the transmission line.

III. DESIGNATED ROUTE

The approved route is shown on the official route maps attached to this permit and further designated as follows:

A. Route Width and Alignment

The variable width of the designated route will be limited to between 600 feet to 1.1 miles as depicted on the attached route maps. The final alignment (i.e., permanent and maintained rights-of-way) will be located within this designated route unless otherwise authorized below. This width will provide the Permittees with the flexibility to do minor adjustments of the specific alignment or right-of-way to accommodate landowner requests and unforeseen conditions.

The designated route identifies an alignment that minimizes the overall potential impacts relating to the factors identified in Minnesota Rule 7850.4100 and which was evaluated in the environmental review and permitting processes. As such, this permit anticipates that the actual right-of-way will generally conform to this proposed alignment unless changes are requested by individual landowners or unforeseen conditions are encountered, or are otherwise provided for by this permit.

Route width variations outside the designated route may be allowed for the Permittees to overcome potential site specific constraints. These constraints may arise from any of the following:

1. Unforeseen circumstances encountered during the detailed engineering and design process.

2. Federal or state agency requirements.

3. Existing infrastructure within the transmission line route, including but not limited to roadways, railroads, natural gas and liquid pipelines, high voltage electric transmission lines, or sewer and water lines.

4. Planned infrastructure improvements identified by state agencies and local government units and made part of the evidentiary record during the contested case proceeding for this permit.

Any alignment modifications arising from these site specific constraints that would result in right-of-way placement outside the designated route shall be located to have comparable overall impacts relative to the factors in Minnesota Rule 7850.4100 as does the alignment identified in this permit and also shall be specifically identified in and approved as part of the Plan and Profile submitted pursuant to Part IV.A. of this permit.

B. Right-of-Way Placement

Where the transmission line route parallels existing highway and other road rights-of-way, the transmission line ROW shall occupy and utilize the existing right-of-way to the maximum extent possible, consistent with the criteria in Minnesota Rule 7850.4100, the other requirements of this permit and the requirements for highways under the jurisdiction of the Minnesota Department of Transportation (Mn/DOT), in accordance with Mn/DOT rules, policies, and procedures for accommodating utilities in trunk highway rights-of-way.

C. Right-of-Way Width

The 345 kV transmission line will be built primarily with single pole structures, which will typically require a 150 feet right-of-way. Where specialty structures are required for long spans or in environmentally sensitive areas, up to 180 feet of right-of-way may be employed. The 115 kV transmission line will require an 80 foot right-of-way.

When the proposed transmission line is adjacent to a roadway it shall share the existing road right-of-way and an easement of lesser width may be required from the landowner depending on road configuration, structure requirements consistent with local, county, and state policies and procedures or agreements.

When the transmission line is placed cross-country across private land, an easement for the entire right-of-way (150 to 180 foot width) shall be acquired from the affected landowner(s). Permittees shall locate the poles as close to property division lines as reasonably possible and in cooperation with landowners.

IV. PERMIT CONDITIONS

The Permittees shall comply with the following conditions during construction of the transmission line and associated facilities and the life of this permit.

A. Plan and Profile

At least 30 calendar days before right-of-way preparation for construction begins on any segment or portion of the project, the Permittees shall provide the Commission with a plan and profile of the right-of-way and the specifications and drawings for right-of-way preparation, construction, cleanup, and restoration for the transmission line. The documentation shall include maps depicting the plan and profile including the right-of-way and alignment in relation to the route and alignment approved per the permit.

The Permittees may not commence construction until the 30 days has expired or until the Commission has advised the Permittees in writing that it has completed its review of the documents and determined that the planned construction is consistent with this permit. If the Permittees intend to make any significant changes in its plan and profile or the specifications and drawings after submission to the Commission, the Permittees shall notify the Commission at least five days before implementing the changes. No changes shall be made that would be in violation of any of the terms of this permit.

B. Construction Practices

1. Application

The Permittees shall follow those specific construction practices and material specifications described in the Great River Energy and Xcel Energy Application to the Commission for a Route Permit, dated December 29, 2008, and as described in the environmental impact statement and findings of fact, unless this permit establishes a different requirement, in which case this permit shall prevail.

2. Field Representative

At least 10 days prior to commencing construction, the Permittees shall advise the Commission in writing of the person or persons designated to be the field representative for the Permittees with the responsibility to oversee compliance with the conditions of this permit during construction.

The field representative's address, phone number, and emergency phone number shall be provided to the Commission and shall be made available to affected landowners, residents, public officials and other interested persons. The Permittees may change the field representative at any time upon written notice to the Commission.

3. Local Governments

During construction, The Permitees shall minimize any disruption to public services or public utilities. To the extent disruptions to public services occur, these would be temporary and the Permitees will work to restore service promptly. Where any impacts to utilities have the potential to occur, Permitees will work with both landowners and local agencies to determine the most appropriate pole placement.

The Permittees shall cooperate with county and city road authorities to develop appropriate signage and traffic management during construction. Conductors and overhead wire stringing operations will use guard structures to eliminate potential delays. When appropriate, lead vehicles will accompany the movement of heavy equipment. Traffic control barriers and warning devices will be used when appropriate.

4. Cleanup

All waste and scrap that is the product of construction shall be removed from the area and properly disposed of upon completion of each task. Personal litter, including bottles, cans, and paper from construction activities shall be removed on a daily basis.

5. Noise

Construction and routine maintenance activities will be limited to daytime working hours to ensure nighttime noise level standards will not be exceeded.

6. Vegetation Removal in the Right-of-Way

The Permittees shall minimize the number of trees to be removed in selecting the right-of-way. As part of construction, low growing brush or tree species are allowable within and at the outer limits of the easement area. Taller tree species that endanger the safe and reliable operation of the transmission facility need to be removed. To the extent practical, low growing vegetation that will not pose a threat to the transmission facility or impede construction should remain in the easement area.

The Permittees shall provide to the Commission in writing and prior to any removal, proper cause should they be required to remove existing mature trees and tree groves that serve as wind breaks or living snow fences.

7. Aesthetics

The Permittees will consider input pertaining to visual impacts from landowners or land management agencies prior to final location of structures, rights-of-way, and other areas with the potential for visual disturbance. Care will be used to preserve the natural landscape and prevent any unnecessary destruction of the natural surroundings in the vicinity of the project during construction and maintenance.

New structures will be designed to support the existing transmission and distribution lines, thereby allowing the use of existing alignments and will share existing road rights-of-way to the extent that such actions do not violate sound engineering principles or system reliability criteria.

Structures will be placed at the maximum feasible distance from intersecting roads, highway, or trail crossings and could cross roads to minimize or avoid impacts. The applicants work with landowners to identify issues related to the transmission line such as distance from existing structures, tree clearing, and other aesthetic concerns.

8. Erosion Control

The Permittees shall follow requirements outlined in the attached Agriculture Impact Mitigation Plan (AIMP) developed for this project to control erosion, weeds, water from other fields, and manage soils to continue the original status of the field.

The Permittees shall implement reasonable measures to minimize runoff during construction and shall promptly plant or seed, erect silt fences, and/or use erosion control blankets in non-agricultural areas that were disturbed where structures are installed. Contours will be graded as required so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation, provide for proper drainage, and prevent erosion. All areas disturbed during construction of the facilities will be returned to their pre-construction condition.

Larger disturbed areas of one acre or more (proposed substation sites) will be regulated by a National Pollution Discharge Elimination System (NPDES) permit and Stormwater Pollution Prevention Plan prepared for the project.

Standard erosion control measures outlined in Minnesota Pollution Control Agency guidance and best management practices regarding sediment control practice during construction include protecting storm drain inlets, use of silt fences, protecting exposed soil, immediately stabilizing restored soil, controlling temporary soil stockpiles, and controlling vehicle tracking.

9. Wetlands and Water Resources

Minimal grading of areas around pole locations may be required to accommodate construction vehicles and equipment. The Permittees will use wooden mats or the DURA-BASE® composite mat system or construction during frozen conditions to minimize disturbance and compaction of wetlands and riparian areas during construction. Soil excavated from the wetlands and riparian areas will be contained and not placed back into the wetland or riparian area. Silt fencing or other erosion control measures will be used to prevent sedimentation when working near wetlands and watercourses. Areas disturbed by construction activities will be restored to pre-construction conditions (soil horizons, contours, vegetation, etc.).

10. Temporary Work Space

The Permittees shall limit temporary easements to special construction access needs and additional staging or lay-down areas required outside of the authorized right-of-way. Space should be selected to limit the removal and impacts to vegetation.

Temporary lay down areas outside of the authorized transmission line right-of-way will be obtained from affected landowners through rental agreements and are not provided for in this permit

Temporary driveways may be constructed between the roadway and the structures to minimize impact by using the shortest route possible. Construction mats may also be used to minimize impacts on access paths and construction areas.

11. Restoration

The Permittees shall restore the right-of-way, temporary work spaces, access roads, abandoned right-of-way, and other private lands affected by construction of the transmission line. As necessary, areas will be reseeded with a seed mix recommended by the local DNR management and that is certified to be free of noxious weeds. Restoration within the right-of-way must be compatible with the safe operation, maintenance, and inspection of the transmission line. Within 60 days after completion of all restoration activities, the Permittees shall advise the Commission in writing of the completion of such activities. The Permittees shall compensate landowners for any yard/landscape, crop, soil compaction, drain tile, or other damages that may occur during construction.

12. Notice of Permit

The Permittees shall inform all employees, contractors, and other persons involved in the transmission line construction of the terms and conditions of this permit.

C. Periodic Status Reports

Upon request, the Permittees shall report to the Commission on progress regarding finalization of the route, design of structures, and construction of the transmission line. The Permittees need not report more frequently than weekly.

D. Complaint Procedure

Prior to the start of construction, the Permittees shall submit to the Commission, the procedures that will be used to receive and respond to complaints. The procedures shall be in accordance with the requirements set forth in the complaint procedures attached to this permit.

E. Notification to Landowners

The Permittees shall provide all affected landowners with a copy of this permit and the complaints procedures at the time of the first contact with the landowners after issuance of this permit.

The Permittees shall contact landowners prior to entering the property or conducting maintenance along the route and avoid maintenance practices, particularly the use of fertilizer, herbicides, or pesticides, inconsistent with the landowner's or tenant's use of the land (e.g. organic certified farms).

The Permittees shall work with landowners to locate the high-voltage transmission lines to minimize the loss of agricultural land, forest, and wetlands, and to avoid homes and farmsteads. This may include sharing existing road or other utility rights-of-way to the greatest extent possible.

F. Completion of Construction

1. Notification to Commission

At least three days before the line is to be placed into service, the Permittees shall notify the Commission of the date on which the line will be placed into service and the date on which construction was complete.

2. As-Builts

The Permittees shall submit copies of all the final as-built plans and specifications developed during the project.

3. GPS Data

Within 60 days after completion of construction, the Permittees shall submit to the Commission, in the format requested by the Commission, geo-spatial information (GIS compatible maps, GPS coordinates, associated database of characteristics, etc.) for all structures associated with the transmission lines, each switch, and each substation connected.

G. Electrical Performance Standards.

1. Grounding

The Permittees shall design, construct, and operate the transmission line in a manner that the maximum induced steady-state short-circuit current shall be limited to five milliamperes, root mean square (rms) alternating current between the ground and any non-stationary object within the right-of-way, including but not limited to large motor vehicles and agricultural equipment. All fixed metallic objects on or off the right-of-way, except electric fences that parallel or cross the right-of-way, shall be grounded to the extent necessary to limit the induced short circuit current between ground and the object so as not to exceed one milliampere rms under steady state conditions of the transmission line and to comply with the ground fault conditions specified in the National Electric Safety Code (NESC). Permittees shall address and rectify any stray voltage problems that arise during transmission line operation.

2. Electric Field

The transmission line shall be designed, constructed, and operated in such a manner that the electric field measured one meter above ground level immediately below the transmission line shall not exceed 8.0 kV/m rms.

3. Interference with Communication Devices

If interference with radio or television, satellite, wireless internet, GPS-based agriculture navigation systems or other communication devices is caused by the presence or operation of the transmission line, the Permittees shall take whatever action is prudently feasible to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the line.

H. Other Requirements.

1. Applicable Codes

The Permittees shall comply with applicable requirements of the NESC including clearances to ground, clearance to crossing utilities, clearance to buildings, right-of-way widths, erecting power poles, and stringing of transmission line conductors. The transmission line facility shall also meet the North American Electric Reliability Corporation's (NERC) reliability standards

2. Other Permits

The Permittees shall comply with all applicable state rules and statutes. The Permittees shall obtain all required local, state and federal permits for the project and comply with the conditions of these permits. A list of the required permits is included in the route permit application and the environmental impact statement. The Permittees shall submit a copy of such permits to the Commission upon request.

3. Pre-emption

Pursuant to Minnesota Statutes 216E.10, subdivisions 1 and 2, this route permit shall be the sole route approval required to be obtained by the Permittees and this permit shall supersede and preempt all zoning, building, or land use rules, regulations, or ordinances promulgated by regional, county, local and special purpose government.

I. Delay in Construction

If the Permittees have not commenced construction or improvement of the route within four years after the date of issuance of this permit, the Commission shall consider suspension of the permit in accordance with Minnesota Rule 7850.4700.

J. Special Conditions

Applicants shall provide a report to the Commission as part of the Plan and Profile submission that describes the actions taken and mitigative measures developed regarding the following Special Conditions.

1. Alignment Alternatives

The five alignment alternatives identified below fall within the 1,000 foot requested route width. All the alignments were analyzed in the Environmental Impact Statement and provide one or more mitigations to the impacts potentially realized should a transmission line be constructed in these areas.

The Permittees will work with landowners in these areas and other areas to develop the most appropriate alignment to the extent that such actions do not violate sound engineering principles or system reliability criteria.

- The transmission alignment would follow along the north side of 275th Street in section 5 of New Avon Township.

- The transmission alignment would follow along the north side of County Road 12 through section 2 of Granite Rock Township.

- The transmission alignment would follow along the north side of County Road 74/660th Avenue from 470th Street to County Highway 4 just north of the city of Fairfax.

- The transmission alignment would follow along the south side of County Road 74/660th Avenue from 490th Street to County Highway 27/500th Street in sections 3 and 4 of Cairo Township.

- The transmission alignment would follow along the south side of County Road 74/660th Avenue at a point approximately 5,500 feet west of County Road 22 to County Road 22 in section 5 of Severance Township.

2. Archaeological and Historic Resources

The Permittees shall make every effort to avoid impacts to identified archaeological and historic resources when installing the high voltage transmission line on the approved route. In the event that an impact would occur, the applicants will consult with State Historic Preservation Office (SHPO) and invited consulting parties. Where feasible, avoidance of the resource is required.

In cooperation with SHPO, the applicants shall conduct a phase 1 survey of areas within the project that are known or have been reported as historic and/or archaeologically significant sites prior to commencing construction activities. Should the construction plans for the proposed project have the potential of disturbing known but unidentified historic, archaeological, or burial areas, monitoring by qualified personnel would be reasonable.

In the event that a resource is encountered, the SHPO should be contacted and consulted; the nature of the resource should be identified; and a determination should be made on the eligibility for listing in the NRHP.

Permittees shall work with Native American tribes and other state and federal permitting or land management agencies to assist in the development of avoidance, minimization or treatment measures.

3. Avian Concerns

The Permittees will evaluate mitigative measures in areas of the project where the chance of avian collision or electrocution is higher, specifically the areas where the route will span the Minnesota River.

The Permittees shall, in cooperation with the U.S. Fish and Wildlife Service (USFWS) and the Minnesota Department of Natural Resources (DNR), identified areas where bird flight diverters will be incorporated into the transmission line design to prevent avian collisions attributed to visibility issues.

Due to the areas importance to bald eagles and other raptors, Permittees standard transmission design shall incorporate adequate spacing of conductor(s) and grounding devices in accordance with Avian Power Line Interaction Committee (APLIC) standards to eliminate the risk of electrocution to raptors with larger wingspans that may simultaneously come in contact with a conductor and grounding devices.

Permittees shall work with the USFWS to ensure construction activities are scheduled so as not to disturb or impact normal eagle breeding, feeding, or sheltering behavior. Permittees shall consult with the USFWS to ensure the project conforms with the requirements of the Bald and Golden Eagle Protection Act in consultation with the USFWS.

4. Rare and Unique Resources

The DNR indicated occurrences of Blanding's turtles near the project area. The Blanding's turtle is considered a species in greatest need of conservation in Minnesota. Mitigation measures for potential impacts to the Blanding's turtle and its habitat shall include measures and recommendations outlined in the *Minnesota DNR Division of Ecological Resources Environmental Review Fact Sheet Series. Blanding's Turtle* (attached). Construction and maintenance personnel will be made aware of the Blanding's turtle and their habitat during pre-construction meetings in an effort to minimize possible disturbance.

5. Scenic By-Ways

For the alignment crossing U.S. Highway 75 - The King of Trails and County Highway 5 – The Minnesota River Valley Scenic Byway, the Permittees shall consult with Mn/DOT Office of Environmental Services, the King of Trails Coalition, and the Minnesota River Valley Alliance regarding methods to minimize and prevent damage to vegetation along these scenic byways.

Methods may include preserving the natural and cultural landscape and using design and construction techniques and procedures to prevent unnecessary destruction, scarring, or defacing of vegetation in the right-of-way, minimizing the number of trees to be removed, and installing vegetative buffers to limit visual impacts to the extent that such actions do not violate sound engineering principles or system reliability criteria.

V. PERMIT AMENDMENT

The permit conditions in Section IV may be amended at any time by the Commission. Any person may request an amendment of the conditions of this permit by submitting a request to the Commission in writing describing the amendment sought and the reasons for the amendment. The Commission will mail notice of receipt of the request to the Permittees. The Commission may amend the conditions after affording the Permittees and interested persons such process as is required.

VI. TRANSFER OF PERMIT

The Permittees may request at any time that the Commission transfer this permit to another person or entity. The Permittees shall provide the name and description of the person or entity to whom the permit is requested to be transferred, the reasons for the transfer, a description of the facilities affected, and the proposed effective date of the transfer.

The person to whom the permit is to be transferred shall provide the Commission with such information as the Commission shall require to determine whether the new Permittees can comply with the conditions of the permit. The Commission may authorize transfer of the permit after affording the Permittees, the new Permittees, and interested persons such process as is required.

VII. REVOCATION OR SUSPENSION OF THE PERMIT

The Commission may initiate action to revoke or suspend this permit at any time. The Commission shall act in accordance with the requirements of Minnesota Rules part 7850.5100 to revoke or suspend the permit.

MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLIANCE FILING PROCEDURE
FOR PERMITTED ENERGY FACILITIES

1. Purpose

To establish a uniform and timely method of submitting information required by the Commission energy facility permits.

2. Scope and Applicability

This procedure encompasses all compliance filings required by permit.

3. Definitions

Compliance Filing – A sending (filing) of information to the Commission, where the information is required by a Commission site or route permit.

4. Responsibilities

A) The Permittees shall eFile all compliance filings with Dr. Burl Haar, Executive Secretary, Public Utilities Commission, through the Department of Commerce (DOC) eDocket system. The system is located on the DOC website: https://www.edockets.state.mn.us/EFiling/home.jsp

General instructions are provided on the website. Permittees must register on the website to eFile documents.

B) All filings must have a cover sheet that includes:
1) Date
2) Name of submitter / Permittees
3) Type of Permit (Site or Route)
4) Project Location
5) Project Docket Number
6) Permit Section Under Which the Filing is Made
7) Short Description of the Filing

Filings that are graphic intensive (e.g., maps, plan and profile) must, in addition to being eFiled, be submitted as paper copies and on CD. Copies and CDs should be sent to: 1) Dr. Burl W. Haar, Executive Secretary, Minnesota Public Utilities Commission, 121 7th Place East, Suite 350, St. Paul, MN, 55101-2147, and 2) Department of Commerce, Energy Facility Permitting, 85 7th Place East, Suite 500, St. Paul, MN, 55101-2198.

PERMIT COMPLIANCE FILINGS[1]

PERMITTEES: Great River Energy and Xcel Energy
PERMIT TYPE: HVTL Route Permit
PROJECT LOCATION: Lincoln, Lyon, Yellow Medicine, Chippewa, Redwood, Brown, Renville, Sibley, Le Sueur, Scott, and Dakota counties
PUC DOCKET NUMBER: ET2/TL-08-1474

Filing Number	Permit Section	Description	Due Date
1	Section IV.B.2	Contact information for field representative	10 days prior to construction
2	Section IV.A.	Plan and profile of right-of-way	30 days before ROW preparation or construction
3	Section IV.F	Notice of completion and date of placement in service	Three days prior to energizing
4	Section IV.F.3	Provide As-built and GPS information	Within 60 days of construction

[1] This compilation of permit compliance filings is provided for the convenience of the permittees and the Commission. However, it is not a substitute for the permit; the language of the permit controls.

MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLAINT HANDLING PROCEDURES FOR
HIGH-VOLTAGE TRANSMISSION LINES

A. Purpose

To establish a uniform and timely method of reporting complaints received by the Permittees concerning Permit conditions for site preparation, construction, cleanup and restoration, operation and resolution of such complaints.

B. Scope

This document describes complaint reporting procedures and frequency.

C. Applicability

The procedures shall be used for all complaints received by the Permittees and all complaints received by the Commission under Minnesota Rule 7829.1500 or 7829.1700 relevant to this Permit.

D. Definitions

Complaint: A verbal or written statement presented to the Permittees by a person expressing dissatisfaction or concern regarding site preparation, cleanup or restoration or other route and associated facilities permit conditions. Complaints do not include requests, inquiries, questions or general comments.

Substantial Complaint: A written complaint alleging a violation of a specific Route Permit condition that, if substantiated, could result in Permit modification or suspension pursuant to the applicable regulations.

Unresolved Complaint: A complaint which, despite the good faith efforts of the Permittees and a person(s), remains to both or one of the parties unresolved or unsatisfactorily resolved.

Person: An individual, partnership, joint venture, private or public corporation, association, firm, public service company, cooperative, political subdivision, municipal corporation, government agency, public utility district, or any other entity, public or private, however organized.

E. Complaint Documentation and Processing

1. The Permittees shall document all complaints by maintaining a record of all applicable information concerning the complaint, including the following:

    a. Name of complainant, address, phone number, and e-mail address.
    b. Precise property description or parcel number.
    c. Name of Permittees representative receiving Complaint and date of receipt.
    d. Nature of Complaint and the applicable Site Permit conditions(s).
    e. Activities undertaken to resolve the Complaint.
    f. Final disposition of the Complaint.

2. The Permittees shall designate an individual to summarize Complaints for the Commission. This person's name, phone number and e-mail address shall accompany all complaint submittals.

3. A Person presenting the Complaint should to the extent possible, include the following information in their communications:

    a. Name, address, phone number, and e-mail address.
    b. Date
    c. Tract or parcel
    d. Whether the complaint relates to (1) a route permit matter, or (2) a compliance issue.

F. Reporting Requirements

The Permittees shall report all complaints to the Commission according to the following schedule:

Immediate Reports: All substantial complaints shall be reported to the Commission the same day received, or on the following working day for complaints received after working hours. Such reports are to be directed to High-Voltage Transmission Line Permit Compliance, 1-800-657-3794, or by e-mail to: DOC.energypermitcompliance@state.mn.us, or voice messages are acceptable.

Monthly Reports: By the 15th of each month, a summary of all complaints, including substantial complaints received or resolved during the preceding month, shall be Filed to Dr. Burl W. Haar, Executive Secretary, Public Utilities Commission, using the Minnesota Department of Commerce eDocket system (see eFiling instructions attached to this permit).

If no Complaints were received during the preceding month, the Permittees shall submit (eFile) a summary indicating that no complaints were received.

G. Complaints Received by the Commission or Office of Energy Security

Complaints received directly by the Commission from aggrieved persons regarding site preparation, construction, cleanup, restoration, operation and maintenance shall be promptly sent to the Permittees.

H. Commission Process for Unresolved Complaints

Initial Screening: Commission staff shall perform an initial evaluation of unresolved Complaints submitted to the Commission. Complaints raising substantial High-Voltage Transmission Line Permit issues shall be processed and resolved by the Commission. Staff shall notify Permittees and appropriate person(s) if it determines that the Complaint is a Substantial Complaint. With respect to such Complaints, each party shall submit a written summary of its position to the Commission no later than ten days after receipt of the Staff notification. Staff shall present Briefing Papers to the Commission, which shall resolve the Complaint within twenty days of submission of the Briefing Papers.

I. Permittees Contacts for Complaints

Mailing Address: Complaints filed by mail shall be sent to:

Dan Lesher
Great River Energy
12300 Elm Creek Boulevard
Maple Grove, MN 55369

Telephone: (763) 445-5975

Email: dlesher@grenergy.com

AGRICULTURAL IMPACT MITIGATION PLAN

CapX2020 345 kV Electric Transmission Projects in Minnesota

CapX2020

June 2009

AGRICULTURAL IMPACT MITIGATION PLAN

CapX2020

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AGRICULTURAL IMPACT MITIGATION PLAN

CapX2020

Purpose

This Agricultural Impact Mitigation Plan ("AIMP" or 'the plan') was developed by Northern States Power Company, a Minnesota corporation and wholly-owned subsidiary of Xcel Energy Inc., and Great River Energy, a Minnesota generation and transmission cooperative (together, referred to as "the Utilities"), representing the CapX2020 utility consortium and with the Minnesota Department of Agriculture ("MDA"). The overall objective of this AIMP is to identify measures the Utilities will take to avoid, mitigate, repair and/or provide compensation for impacts that may result from 345 kV electric transmission line construction of the CapX2020 projects on Agricultural Land in Minnesota.

CapX2020 ("CapX2020") is a joint initiative of 11 transmission-owning utilities in Minnesota and the surrounding region. The purpose of CapX2020 is to study, develop, permit and construct electric transmission infrastructure as needed to implement long-term and cost-effective solutions for customers to meet the growth in energy use expected by the year 2020. The three CapX2020 projects included in this AIMP are described as:

1) the 345 kV transmission line from Brookings County, South Dakota to Hampton, Minnesota;

2) the 345 kV transmission line from Monticello, Minnesota to St. Cloud to the Fargo area, North Dakota; and

3) the 345 kV transmission line from Hampton, Minnesota to Rochester to La Crosse, Wisconsin.

Collectively, these three transmission lines are referred to as the "CapX2020 Projects".

The construction standards and policies in this plan apply only to construction activities occurring partially or wholly on privately owned Agricultural Land. The measures do not apply to construction activities occurring entirely on public rights-of-way, railroad rights-of-way, publicly owned land, or private land that is not Agricultural Land. The Utilities will, however, adhere to the same construction standards relating to the repair of agricultural tile (Item No. 3 in the AIMP) when Tiles are encountered on public highway rights-of-way, railroad rights-of-way, or publicly or privately owned land.

Appendix B of this AIMP applies only to Organic Agricultural Land as described in the National Organic Program Rules, 7 CFR Parts 205.100, 205.202, and 205.101.

Unless the Easement or other agreement, regardless of nature, between the Utilities and the Landowner or Tenant specifically provides to the contrary, the mitigative actions specified in the construction standards and policies set forth in this AIMP will be implemented in accordance with the General Provisions.

General Provisions

The mitigative actions are subject to change by Landowners or Tenants, provided such changes are negotiated with and acceptable to the Utilities.

Certain provisions of this AIMP require the Utilities to consult with the Landowner and Tenant of a property. The Utilities will engage in a good faith effort to secure the agreement of both Landowner and Tenant in such cases.

Unless otherwise specified, the Utilities will retain qualified contractors to execute mitigative actions. However, the Utilities may negotiate with Landowners or Tenants to carry out the mitigative actions that Landowners or Tenants wish to perform themselves.

Mitigative actions employed by the Utilities pursuant to this AIMP, unless otherwise specified in this AIMP or in an Easement or other agreement negotiated with an individual Landowner or Tenant, will be implemented within 45 days following completion of Final Clean-up on an affected property, weather permitting, or unless otherwise delayed by mutual agreement between Landowner or Tenant and Utility. Temporary repairs will be made by the Utilities during construction as needed to minimize the risk of additional property damage or interference with the Landowner's or Tenant's access to or use of the property that may result from an extended time period to implement mitigative actions.

The Utilities will implement the mitigative actions contained in this AIMP to the extent that they do not conflict with the requirements of any applicable federal and/or state rules and regulations and other permits and approvals that are obtained by the Utilities for the project or they are not determined to be unenforceable by reason of other requirements of federal and state permits issued for the project. To the extent a mitigative action required by this agreement is determined to be unenforceable in the future due to requirements of other federal or state permits issued for the project, the Utilities will so inform the Landowner or Tenant and will work with them to develop a reasonable alternative mitigative action.

Prior to the construction of the transmission line, the Utilities will provide each Landowner and Tenant with a telephone number and address which can be used to contact the Utilities, both during and following the completion of construction, regarding the agricultural impact mitigation work which is performed on their property or other construction-related matter. If the contact information changes at any time before completion of Final Clean-up and/or after the completion of construction, the Utilities will provide the Landowner and Tenant with updated contact information. The Utilities will respond to Landowner and Tenant telephone calls and correspondence within a reasonable time.

The Utilities will use good faith efforts to obtain a written acknowledgement of completion from each Landowner and Tenant upon the completion of Final Clean-up on their respective property.

If any provision of this AIMP is held to be unenforceable, no other provision will be affected by that holding, and the remainder of the AIMP will be interpreted as if it did not contain the unenforceable provision.

Mitigative Actions

The Utilities will reasonably restore or compensate Landowners and/or Tenants, as appropriate, for damages caused by the Utilities as a result of transmission line construction, and as outlined in this plan. The decision to restore land or compensate Landowners will be made by the Utilities after discussion with the Landowner or Tenant.

1. Pole Placement

During the design of the project, the Utilities' engineering, land rights and permitting staff will work together to address pole placement issues. Utilities' staff will work with Landowners on pole placement. When the preliminary design is complete, the land rights agents will review the staked pole locations with the Landowners.

2. Soil and Rock Removal for Bored Holes

Any excess soil and rock will be removed from the site unless otherwise requested by the Landowner.

3. Damaged and Adversely Affected Tile

The Utilities will contact affected Landowners or Tenants for their knowledge of Tile locations prior to the transmission line's installation. Utilities will make every attempt to probe for Tile if the Landowner does not know if Tile is located in the proposed pole location. Tile that is damaged, cut, or removed as a result of this probe will be immediately repaired. The repair will be reported to the Inspector.

If Tile is damaged by the transmission line installation, the Tile will be repaired in a manner that restores the Tile's operating condition at the point of repair. If Tiles on or adjacent to the transmission line's construction area are adversely affected by the construction of the transmission line, the Utilities will take such actions as are necessary to restore the functioning of the Tile, including the relocation, reconfiguration, and replacement of the existing Tile. The affected Landowner or Tenant may elect to negotiate a fair settlement with the Utilities for the Landowner or Tenant to undertake the responsibility for repair, relocation, reconfiguration, or replacement of the damaged Tile. In the event the Landowner or Tenant chooses to undertake the responsibility for repair, relocation, reconfiguration, or replacement of the damaged Tile, the Utilities will not be responsible for correcting Tile repairs after completion of the transmission line (the Utilities are responsible for correcting Tile repairs after completion of the transmission line, provided the repairs were made by the Utilities or their agents or designees).

Where the damaged Tile is repaired by the Utilities, the following standards and policies will apply to the Title repair:

A. Tiles will be repaired with materials of the same or better quality as that which was damaged.

B. If water is flowing through a damaged Tile, temporary repairs will be promptly installed and maintained until such time that permanent repairs can be made.

C. Before completing permanent Tile repairs, Tiles will be examined within the work area to check for Tile that might have been damaged by construction equipment. If Tiles are found to be damaged, they will be repaired so they operate as well after construction as before construction began.

D. The Utilities will make efforts to complete permanent Tile repairs within a reasonable timeframe after Final Clean-up, taking into account weather and soil conditions.

E. Following completion of the Final Clean-up and damage settlement, the Utilities will be responsible for correcting and repairing Tile breaks, or other damages to Tile systems that are discovered on the Right-of-Way to the extent that such breaks are the result of transmission line construction. These damages are usually discovered after the first significant rain event. The Utilities will not be responsible for Tile repairs the Utilities have paid the Landowner or Tenant to perform.

4. Installation of Additional Tiles

The Utilities will be responsible for installing such additional Tile and other drainage measures as are necessary to properly drain wet areas on the Right-of-Way caused by the construction of the transmission line.

5. Construction Debris

Construction-related debris and material which are not an integral part of the transmission line, and which have been placed there by the Utilities, will be removed from the Landowner's property at the Utilities' cost. Such material to be removed would include excess construction materials or litter generated by the construction crews.

6. Compaction, Rutting, Fertilization, Liming, and Soil Restoration

A. Compaction will be alleviated as needed on Cropland traversed by construction equipment. Cropland that has been compacted will be plowed using appropriate deep-tillage and draft equipment. Alleviation of compaction of the topsoil will be performed during suitable weather conditions, and must not be performed when weather conditions have caused the soil to become so wet that activity to alleviate compaction would damage the future production capacity of the land as determined by the Agricultural Monitor.

B. The Utilities will restore rutted land to as near as practical to its pre-construction condition.

C. If there is a dispute between the Landowner or Tenant and the Utilities as to what areas need to be ripped or chiseled, the depth at which compacted areas should be

ripped or chiseled, or the necessity or rates of lime, fertilizer, and organic material application, the Agricultural Monitor's opinion will be considered by the Utilities.

7. Damaged Soil Conservation Practices

Soil conservation practices such as terraces and grassed waterways which are damaged by the transmission line's construction, will be restored to their pre-construction condition.

8. Weed Control

On land which is owned by Utilities for substation facilities, the Utilities will work with Landowners if requested on weed control activities outside of the substations with the intent to not allow the spread of weeds onto adjacent Agricultural Land. Any weed control spraying will be in accordance with State of Minnesota regulations.

9. Irrigation Systems

A. If the transmission line and/or temporary work areas intersect an operational (or soon to be operational) spray irrigation system, the Utilities will establish with the Landowner or Tenant, an acceptable amount of time the irrigation system may be out of service.

B. If, as a result of the transmission line construction activities, an irrigation system interruption results in crop damages, either on the Right-of-Way or off the Right-of-Way, compensation of Landowners and/or Tenants, as appropriate, will be determined as described in section 11 of this AIMP.

C. If it is feasible and mutually acceptable to the Utilities and the Landowner or Tenant, temporary measures will be implemented to allow an irrigation system to continue to operate across land on which the transmission line is also being constructed. Utilities will work with the Landowner or Tenant to identify a preferable construction time.

10. Temporary Roads

The location of temporary roads to be used for construction purposes will be discussed with the Landowner or Tenant.

A. The temporary roads will be designed so as to not impede proper drainage and will be built to mitigate soil erosion on or near the temporary roads.

B. Upon abandonment, temporary roads may be left intact through mutual agreement of the Landowner or Tenant and the Utilities unless otherwise restricted by federal, state or local regulations.

C. If a temporary road is to be removed, the Agricultural Land upon which the temporary road is constructed will be returned to its previous use and restored to equivalent condition as existed prior to their construction.

11. Construction in Wet Conditions

If it is necessary to construct during wet conditions, and if the Agricultural Monitor believes conditions are too wet for continued construction, damages which may result from such construction will be paid for by the Utilities and/or appropriate restoration will be conducted. Compensation for Landowners and/or Tenants, as appropriate, will be determined as described in section 12 of this AIMP.

12. Procedures for Determining Construction-Related Damages and Providing Compensation

A. The Utilities will develop and put into place a procedure for the processing of anticipated Landowners' or Tenants' claims for construction-related damages. The procedure will be intended to standardize and minimize Landowner and Tenant concerns in the recovery of damages, to provide a degree of certainty and predictability for Landowners, Tenants and the Utilities, and to foster good relationships among the Utilities, Landowners and their Tenants over the long term.

B. Negotiations between the Utilities and any affected Landowner or Tenant will be voluntary in nature and no party is obligated to follow any particular method for computing the amount of loss for which compensation is sought or paid. The compensation offered is only an offer to settle, and the offer shall not be introduced in any proceeding brought by the Landowner or Tenant to establish the amount of damages the Utilities must pay. In the event the Utilities and a Landowner or Tenant are unable to reach an agreement on the amount of damages, the Landowner or Tenant may seek recourse through mediation.

13. Advance Notice of Access to Private Property

The Utilities will endeavor to provide the Landowner and/or Tenant advanced notice before beginning construction on the property. Prior notice will consist of a personal contact, email, letter or a telephone contact, whereby the Landowner and the Tenant are informed of the Utilities' intent to access the land.

14. Role and Responsibilities of Agricultural Monitor

The Agricultural Monitor will be retained and funded by the Utilities, but will report directly to the MDA. The primary function of the Agricultural Monitor will be to audit the Utilities' compliance with this AIMP. The Agricultural Monitor will not have the authority to direct construction activities and will not have authority to stop construction. The Agricultural Monitor will notify the Utilities' Inspector if he/she believes a compliance issue has been identified. The Agricultural Monitor will have full access to Agricultural Land crossed by the CapX2020 projects and will have the option of

attending meetings where construction on Agricultural Land is discussed. Specific duties of the Agricultural Monitor will include, but are not limited to the following:

1. Participate in preconstruction training activities sponsored by the Utilities.

2. Monitor construction and restoration activities on Agricultural Land for compliance with provisions of this AIMP.

3. Report instances of noncompliance to the Utilities Inspector.

4. Prepare regular compliance reports and submit to MDA, as requested by the MDA.

5. Act as liaison between Landowners and Tenants and MDA, if necessary.

6. Maintain a written log of communications from Landowners and/or Tenants regarding compliance with this AIMP. Report Landowner complaints to the Utilities Inspector and/or Right-of-Way representative.

7. In disputes between Utilities and a Landowner and/or Tenant over restoration, determine if agricultural restoration is reasonably adequate in consultation with the Utilities Inspector.

15. Qualifications and Selection of Agricultural Monitor

The Agricultural Monitor will have a bachelor's degree in agronomy, soil science or equivalent work experience. The Agricultural Monitor will have demonstrated practical experience with pipeline or electric transmission line construction and restoration on Agricultural Land. Final selection of the Agricultural Monitor will be a joint decision between the MDA and the Utilities.

16. Role of the Utilities Inspector

The Utilities Inspector will:

1. Be full-time member of the Utilities inspection team.

2. Be responsible for verifying the Utilities compliance with provisions of this AIMP during construction.

3. Work collaboratively with other Utilities Inspectors, Right-of-Way agents, and the Agricultural Monitor in achieving compliance with this AIMP.

4. Observe construction activities on Agricultural Land on a regular basis.

5. Have the authority to stop construction activities that are determined to be out of compliance with provisions of this AIMP.

6. Document instances of noncompliance and work with construction personnel to identify and implement appropriate corrective actions as needed.

7. Provide construction personnel with training on provisions of this AIMP before construction begins.

8. Provide construction personnel with field training on specific topics as needed.

Appendix A: **Definitions**

Agricultural Land	Land that is actively managed for cropland, hayland, or pasture, and land in government set-aside programs.
Agricultural Monitor	Monitor retained and funded by the Utilities, reporting directly to the Minnesota Department of Agriculture ("MDA") and responsible for auditing the Utilities' compliance with provisions of this AIMP.
Cropland	Land actively managed for growing row crops, small grains, or hay.
Easement	The agreement(s) and/or interest in privately owned Agricultural Land held by the Utilities by virtue of which it has the right to construct, operate and maintain the transmission line together with such other rights and obligations as may be set forth in such agreement.
Final Clean-up	Transmission line activity that occurs after the power line has been constructed. Final Clean-up activities include but are not limited to: removal of construction debris, de-compaction of soil as required, installation of permanent erosion control structures, final grading, and restoration of fences and required reseeding. Once Final Clean-up is finished, Landowners will be contacted to settle all damage issues and will be provided a form to sign confirming final settlement.
Landowner	Person(s) holding legal title to Agricultural Land on the transmission line route from whom the Utilities is seeking, or has obtained, a temporary or permanent Easement, or their representatives.
Non-Agricultural Land	Any land that is not "Agricultural Land" as defined above.
Right-of-Way	The Agricultural Land included in permanent and temporary Easements which the Utilities acquires for the purpose of constructing, operating and maintaining the transmission line.
Tenant	Any Person lawfully renting or sharing land for agricultural production which makes up the "Right-of-Way" as defined in this AIMP.
Tile	Artificial subsurface drainage system.
Topsoil	The uppermost horizon (layer) of the soil, typically with the darkest color and highest content of organic matter.
Utilities Inspector	Full-time on-site inspector retained by the Utilities to verify compliance with requirements of this AIMP during construction of the transmission line. The Inspector will have demonstrated experience with transmission line construction on Agricultural Land.

Appendix B: Mitigative Actions for Organic Agricultural Land

Introduction

The Utilities recognize that Organic Agricultural Land is a unique feature of the landscape and will treat this land with the same level of care as other sensitive environmental features. This Appendix identifies mitigation measures that apply specifically to farms that are Organic Certified or farms that are in active transition to become Organic Certified, and is intended to address the unique management and certification requirements of these operations. All protections provided in the Agricultural Impact Mitigation Plan will also be provided to Organic Agricultural Land in addition to the provisions of this Appendix.

The provisions of this Appendix will apply to Organic Agricultural Land for which the Landowner or Tenant has provided to the Utilities a true, correct and current version of the Organic System Plan within 60 days after the signing of the Easement for such land or 60 days after the issuance of a Route Permit to the Utilities by the PUC, whichever is sooner, or, in the event the Easement is signed later than 60 days after the issuance of the Route Permit. The provisions of this Appendix are applicable when the Organic System Plan is provided to the Utilities at the time of the signing of the Easement.

Organic System Plan

The Utilities recognize the importance of the individualized Organic System Plan (OSP) to the Organic Certification process. The Utilities will work with the Landowner or Tenant, the Landowner or Tenant's Certifying Agent, and/or a mutually acceptable third-party Organic consultant to identify site-specific construction practices that will minimize the potential for Decertification as a result of construction activities. Possible practices may include, but are not limited to: equipment cleaning, planting a deep-rooted cover crop in lieu of mechanical decompaction, applications of composted manure or rock phosphate, preventing the introduction of disease vectors from tobacco use, restoration and replacement of beneficial bird and insect habitat, maintenance of organic buffer zones, use of organic seeds for any cover crop, or similar measures. The Utilities recognizes that Organic System Plans are proprietary in nature and will respect the need for confidentiality.

Prohibited Substances

The Utilities will avoid the application of Prohibited Substances onto Organic Agricultural Land. No herbicides, pesticides, fertilizers or seed will be applied unless requested and approved by the Landowner. Likewise, no refueling, fuel or lubricant storage or routine equipment maintenance will be allowed on Organic Agricultural Land. Equipment will be checked prior to entry to make sure that fuel, hydraulic and lubrication systems are in good working order before working on Organic Agricultural Land. If Prohibited Substances are used on land adjacent to Organic Agricultural Land, these substances will be used in such a way as to prevent them from entering Organic Agricultural Land.

Temporary Road Impacts

Topsoil and subsoil layers that are removed during construction on Organic Agricultural Land for temporary road impacts will be stored separately and replaced in the proper sequence after the transmission line is installed. Unless otherwise specified in the site-specific plan described above, the Utilities will not use this soil for other purposes, including creating access ramps at road crossings. No topsoil or subsoil (other than incidental amounts) may be removed from Organic Agricultural Land. Likewise, Organic Agricultural Land will not be used for storage of soil from non-Organic Agricultural Land.

Erosion Control

On Organic Agricultural Land, the Utilities will, to the extent feasible, implement erosion control methods consistent with the Landowner or Tenant's Organic System Plan. On land adjacent to Organic Agricultural Land, the Utilities' erosion control procedures will be designed so that sediment from adjacent non-Organic Agricultural Land will not flow along the Right-of-Way and be deposited on Organic Agricultural Land. Treated lumber, non-organic hay bales, non-approved metal fence posts, etc. will not be used in erosion control on Organic Agricultural Land.

Weed Control

On Organic Agricultural Land, the Utilities will, to the extent feasible, implement weed control methods consistent with the Landowner's or Tenant's Organic System Plan. Prohibited Substances will not be used in weed control on Organic Agricultural Land. In addition, the Utilities will not use Prohibited Substances in weed control on land adjacent to Organic Agricultural Land in such a way as to allow these materials to drift onto Organic Agricultural Land.

Monitoring

In addition to the responsibilities of the Agricultural Monitor described in the AIMP, the following will apply:

A. The Agricultural Monitor will monitor construction and restoration activities on Organic Agricultural Land for compliance with the provisions of this appendix and will document any activities that may result in Decertification.

B. Instances of non-compliance will be documented according to Independent Organic Inspectors Association protocol consistent with the Landowner's Organic System Plan, and will be made available to the MDA, the Landowner, the Tenant, the Landowner's or Tenant's Certifying Agent, the Utilities Inspector and to the Utilities.

If the Agricultural Monitor is responsible for monitoring activities on Organic Agricultural Land, he/she will be trained, at the Utilities' expense, in organic inspection, by the Independent Organic Inspectors Association, unless the Agricultural Monitor received such training during the previous three years.

Compensation for Construction Damages

The settlement of damages will be based on crop yield and/or crop quality determination and the need for additional restoration measures. Unless the Landowner or Tenant of Organic Agricultural Land and Company agree otherwise, at the Utilities expense, a mutually agreed upon professional agronomist will make crop yield determinations, and the Minnesota Department of Agriculture Fruit and Vegetable Inspection Unit will make crop quality determinations. If the crop yield and/or crop quality determinations indicate the need for soil testing, the testing will be conducted by a commercial laboratory that is properly certified to conduct the necessary tests and is mutually agreeable to the Utilities and the Landowner or Tenant. Field work for soil testing will be conducted by a Professional Soil Scientist or Professional Engineer licensed by the State of Minnesota. The Utilities will be responsible for the cost of sampling, testing and additional restoration activities, if needed. Landowners or Tenants may elect to settle damages with the Utilities in advance of construction on a mutually acceptable basis or to settle after construction based on a mutually agreeable determination of actual damages.

Compensation for Damages Due to Decertification

Should any portion of Organic Agricultural Land be Decertified as a result of construction activities, the settlement of damages will be based on the difference between revenue generated from the land affected before Decertification and after Decertification so long as a good faith effort is made by the Landowner or Tenant to regain Certification.

Definitions

Unless otherwise provided to the contrary in this Appendix, capitalized terms used in this Appendix shall have the meanings provided below and in the AIMP. In the event of a conflict between this Appendix and the AIMP with respect to definitions, the definition provided in this Appendix will prevail but only to the extent such conflicting terms are used in this Appendix. The definition provided for the defined words used herein shall apply to all forms of the words.

Apply	To intentionally or inadvertently spread or distribute any substance onto the exposed surface of the soil.
Certifying Agent	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.2.
Decertified or Decertification	Loss of Organic Certification.
Organic Agricultural Land	Farms or portions thereof described in 7 CFR Parts 205.100, 205.202, and 205.101.
Organic Buffer Zone	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.2.
Organic Certification or Organic Certified	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.100 and 7 CFR Part 205.101.
Organic System Plan	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.2.
Prohibited Substance	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.600 through 7 CFR 205.605 using the criteria provided in 7 USC 6517 and 7 USC 6518.

Environmental Review Fact Sheet Series

Endangered, Threatened, and Special Concern Species of Minnesota

Blanding's Turtle

(*Emydoidea blandingii*)

Minnesota Status:	Threatened	State Rank[1]:	S2
Federal Status:	none	Global Rank[1]:	G4

HABITAT USE

Blanding's turtles need both wetland and upland habitats to complete their life cycle. The types of wetlands used include ponds, marshes, shrub swamps, bogs, and ditches and streams with slow-moving water. In Minnesota, Blanding's turtles are primarily marsh and pond inhabitants. Calm, shallow water bodies (Type 1-3 wetlands) with mud bottoms and abundant aquatic vegetation (e.g., cattails, water lilies) are preferred, and extensive marshes bordering rivers provide excellent habitat. Small temporary wetlands (those that dry up in the late summer or fall) are frequently used in spring and summer -- these fishless pools are amphibian and invertebrate breeding habitat, which provides an important food source for Blanding's turtles. Also, the warmer water of these shallower areas probably aids in the development of eggs within the female turtle. Nesting occurs in open (grassy or brushy) sandy uplands, often some distance from water bodies. Frequently, nesting occurs in traditional nesting grounds on undeveloped land. Blanding's turtles have also been known to nest successfully on residential property (especially in low density housing situations), and to utilize disturbed areas such as farm fields, gardens, under power lines, and road shoulders (especially of dirt roads). Although Blanding's turtles may travel through woodlots during their seasonal movements, shady areas (including forests and lawns with shade trees) are not used for nesting. Wetlands with deeper water are needed in times of drought, and during the winter. Blanding's turtles overwinter in the muddy bottoms of deeper marshes and ponds, or other water bodies where they are protected from freezing.

LIFE HISTORY

Individuals emerge from overwintering and begin basking in late March or early April on warm, sunny days. The increase in body temperature which occurs during basking is necessary for egg development within the female turtle. Nesting in Minnesota typically occurs during June, and females are most active in late afternoon and at dusk. Nesting can occur as much as a mile from wetlands. The nest is dug by the female in an open sandy area and 6-15 eggs are laid. The female turtle returns to the marsh within 24 hours of laying eggs. After a development period of approximately two months, hatchlings leave the nest from mid-August through early-October. Nesting females and hatchlings are often at risk of being killed while crossing roads between wetlands and nesting areas. In addition to movements associated with nesting, all ages and both sexes move between wetlands from April through November. These movements peak in June and July and again in September and October as turtles move to and from overwintering sites. In late autumn (typically November), Blanding's turtles bury themselves in the substrate (the mud at the bottom) of deeper wetlands to overwinter.

IMPACTS / THREATS / CAUSES OF DECLINE

- loss of wetland habitat through drainage or flooding (converting wetlands into ponds or lakes)
- loss of upland habitat through development or conversion to agriculture
- human disturbance, including collection for the pet trade* and road kills during seasonal movements
- increase in predator populations (skunks, raccoons, etc.) which prey on nests and young

*It is illegal to possess this threatened species.

RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS

These recommendations apply to typical construction projects and general land use within Blanding's turtle habitat, and are provided to help local governments, developers, contractors, and homeowners minimize or avoid detrimental impacts to Blanding's turtle populations. **List 1** describes minimum measures which we recommend to prevent harm to Blanding's turtles during construction or other work within Blanding's turtle habitat. **List 2** contains recommendations which offer even greater protection for Blanding's turtles populations; this list should be used *in addition to the first list* in areas which are known to be of state-wide importance to Blanding's turtles (contact the DNR's Natural Heritage and Nongame Research Program if you wish to determine if your project or home is in one of these areas), or in any other area where greater protection for Blanding's turtles is desired.

List 1. Recommendations for all areas inhabited by Blanding's turtles.	**List 2. *Additional* recommendations for areas known to be of state-wide importance to Blanding's turtles.**
GENERAL	
A flyer with an illustration of a Blanding's turtle should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.	Turtle crossing signs can be installed adjacent to road-crossing areas used by Blanding's turtles to increase public awareness and reduce road kills.
Turtles which are in imminent danger should be moved, by hand, out of harms way. Turtles which are not in imminent danger should be left undisturbed.	Workers in the area should be aware that Blanding's turtles nest in June, generally after 4pm, and should be advised to minimize disturbance if turtles are seen.
If a Blanding's turtle nests in your yard, do not disturb the nest.	If you would like to provide more protection for a Blanding's turtle nest on your property, see "Protecting Blanding's Turtle Nests" on page 3 of this fact sheet.
Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.	Construction in potential nesting areas should be limited to the period between September 15 and June 1 (this is the time when activity of adults and hatchlings in upland areas is at a minimum).
WETLANDS	
Small, vegetated temporary wetlands (Types 2 & 3) should not be dredged, deepened, filled, or converted to storm water retention basins (these wetlands provide important habitat during spring and summer).	Shallow portions of wetlands should not be disturbed during prime basking time (mid morning to mid- afternoon in May and June). A wide buffer should be left along the shore to minimize human activity near wetlands (basking Blanding's turtles are more easily disturbed than other turtle species).
Wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.	Wetlands should be protected from road, lawn, and other chemical run-off by a vegetated buffer strip at least 50' wide. This area should be left unmowed and in a natural condition.
ROADS	
Roads should be kept to minimum standards on widths and lanes (this reduces road kills by slowing traffic and reducing the distance turtles need to cross).	Tunnels should be considered in areas with concentrations of turtle crossings (more than 10 turtles per year per 100 meters of road), and in areas of lower density if the level of road use would make a safe crossing impossible for turtles. Contact your DNR Regional Nongame Specialist for further information on wildlife tunnels.
Roads should be ditched, not curbed or below grade. If curbs must be used, 4 inch high curbs at a 3:1 slope are preferred (Blanding's turtles have great difficulty climbing traditional curbs; curbs and below grade roads trap turtles on the road and can cause road kills).	Roads should be ditched, not curbed or below grade.

ROADS cont.	
Culverts between wetland areas, or between wetland areas and nesting areas, should be 36 inches or greater in diameter, and elliptical or flat-bottomed.	Road placement should avoid separating wetlands from adjacent upland nesting sites, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details).
Wetland crossings should be bridged, or include raised roadways with culverts which are 36 in or greater in diameter and flat-bottomed or elliptical (raised roadways discourage turtles from leaving the wetland to bask on roads).	Road placement should avoid bisecting wetlands, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details). This is especially important for roads with more than 2 lanes.
Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.	Roads crossing streams should be bridged.
UTILITIES	
Utility access and maintenance roads should be kept to a minimum (this reduces road-kill potential).	
Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.	
LANDSCAPING AND VEGETATION MANAGEMENT	
Terrain should be left with as much natural contour as possible.	As much natural landscape as possible should be preserved (installation of sod or wood chips, paving, and planting of trees within nesting habitat can make that habitat unusable to nesting Blanding's turtles).
Graded areas should be revegetated with native grasses and forbs (some non-natives form dense patches through which it is difficult for turtles to travel).	Open space should include some areas at higher elevations for nesting. These areas should be retained in native vegetation, and should be connected to wetlands by a wide corridor of native vegetation.
Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).	Ditches and utility access roads should not be mowed or managed through use of chemicals. If vegetation management is required, it should be done mechanically, as infrequently as possible, and fall through spring (mowing can kill turtles present during mowing, and makes it easier for predators to locate turtles crossing roads).

Protecting Blanding's Turtle Nests: Most predation on turtle nests occurs within 48 hours after the eggs are laid. After this time, the scent is gone from the nest and it is more difficult for predators to locate the nest. Nests more than a week old probably do not need additional protection, unless they are in a particularly vulnerable spot, such as a yard where pets may disturb the nest. Turtle nests can be protected from predators and other disturbance by covering them with a piece of wire fencing (such as chicken wire), secured to the ground with stakes or rocks. The piece of fencing should measure at least 2 ft. x 2 ft., and should be of medium sized mesh (openings should be about 2 in. x 2 in.). It is ***very important*** that the fencing be **removed before August 1st** so the young turtles can escape from the nest when they hatch!

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CAUTION

BLANDING'S TURTLES

MAY BE ENCOUNTERED IN THIS AREA

The unique and rare Blanding's turtle has been found in this area. Blanding's turtles are state-listed as Threatened and are protected under Minnesota Statute 84.095, Protection of Threatened and Endangered Species. Please be careful of turtles on roads and in construction sites. For additional information on turtles, or to report a Blanding's turtle sighting, contact the DNR Nongame Specialist nearest you: Bemidji (218-308-2641); Grand Rapids (218-327-4518); New Ulm (507-359-6033); Rochester (507-280-5070); or St. Paul (651-259-5764).

DESCRIPTION: The Blanding's turtle is a medium to large turtle (5 to 10 inches) with a black or dark blue, dome-shaped shell with muted yellow spots and bars. The bottom of the shell is hinged across the front third, enabling the turtle to pull the front edge of the lower shell firmly against the top shell to provide additional protection when threatened. The head, legs, and tail are dark brown or blue-gray with small dots of light brown or yellow. A distinctive field mark is the bright yellow chin and neck.

BLANDING'S TURTLES DO NOT MAKE GOOD PETS
IT IS ILLEGAL TO KEEP THIS THREATENED SPECIES IN CAPTIVITY

SUMMARY OF RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS TO BLANDING'S TURTLE POPULATIONS

(see Blanding's Turtle Fact Sheet for full recommendations)

- This flyer should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.
- Turtles that are in imminent danger should be moved, by hand, out of harms way. Turtles that are not in imminent danger should be left undisturbed to continue their travel among wetlands and/or nest sites.
- If a Blanding's turtle nests in your yard, do not disturb the nest and do not allow pets near the nest.
- Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.
- Small, vegetated temporary wetlands should not be dredged, deepened, or filled.
- All wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.
- Roads should be kept to minimum standards on widths and lanes.
- Roads should be ditched, not curbed or below grade. If curbs must be used, 4" high curbs at a 3:1 slope are preferred.
- Culverts under roads crossing wetland areas, between wetland areas, or between wetland and nesting areas should be at least 36 in. diameter and flat-bottomed or elliptical.
- Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.
- Utility access and maintenance roads should be kept to a minimum.
- Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.
- Terrain should be left with as much natural contour as possible.
- Graded areas should be revegetated with native grasses and forbs.
- Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).

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