

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
FOR THE PUBLIC UTILITIES COMMISSION

In the Matter of the Application for a
Route Permit for the Fargo to St. Cloud
345 kV Transmission Line Project

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**FINDINGS OF FACT,
CONCLUSIONS AND
RECOMMENDATION**

This matter was assigned to Administrative Law Judge Beverly Jones Heydinger (ALJ) to conduct a contested case hearing on the application by Xcel Energy and Great River Energy for a route permit for the Fargo to St. Cloud 345kV Transmission Line Project.

Between November 16, 2010, and December 3, 2010, twelve public hearings were held in ten communities. An evidentiary hearing was held on December 6, 2010, and continued on December 7 through 10 and December 15, 2010, at the office of the Public Utilities Commission (Commission) in St. Paul, Minnesota.

The parties filed post-hearing submissions. The hearing record closed on April 4, 2011, upon receipt of the Office of Energy Security's response to a letter from the ALJ.

Appearances: Lisa M. Agrimonti, Michael Krikava and Elizabeth Brama, Briggs and Morgan, P.A., appeared on behalf of the Applicants, Northern States Power Company (Xcel Energy) and Great River Energy.

Carol A. Overland, Attorney at Law, appeared on behalf of NoCapX2020 (NoCapX), United Citizens Action Network (U-CAN) and North Route Citizens Alliance (NoRCA), collectively referred to as NoRCA.

Michael J. Ford and Cally R. Kjellber, Quinlivan & Hughes, P.A., and Richard L. Pemberton, Stephen F. Rufer, H. Morrison Kershner, and Chad R. Felstul, Pemberton, Sorlie, Rufer & Kershner, P.L.L.P., appeared on behalf of St. John's Abbey and University, (St. John's).

Gerald W. Von Korff and John C. Kolb, Rinke Noonan, Attorneys at Law, appeared on behalf of Avon Township.

Karen Finstad Hammel, Assistant Attorney General, and David Birkholz, State Permit Manager, appeared on behalf of the Department of Commerce – Office of Energy Security, Energy Facility Permitting (OES).

David Seykora attended on behalf of the Minnesota Department of Transportation (MnDOT).

Bret Eknes and Bob Cupit, Commission staff, were present on behalf of the Commission.

STATEMENT OF THE ISSUES

Should the Commission issue a route permit to Applicants and, if so, for which of the routes under consideration and under what conditions?

The ALJ recommends that the Commission issue a route permit as follows, subject to the conditions set forth in this report:

North Dakota to Alexandria Segment: Modified Preferred Route, with Option 13 and Option 2B.

Alexandria to Sauk Centre Segment: Modified Preferred Route. In the event that an alignment cannot be placed to avoid the Sauk Centre Airport and 12th Street in Sauk Centre, the Modified Preferred Route should be followed from Alexandria to Option 6 and then to Route A.

Sauk Centre to St. Cloud Segment: Route G with Option 11 and the E-5 segment of Option 12.

Based on the information in the Route Permit Application to the Commission, the contested case hearing record, including public comments and exhibits, and the Environmental Impact Statement, the Administrative Law Judge makes the following:

FINDINGS OF FACT

The Permit Application

1. On October 1, 2009, the Applicants jointly applied for a Route Permit to construct a 345 kV transmission line and associated system connections from Fargo, North Dakota, to St. Cloud Minnesota (the Project), to further develop the transmission system reliability, enhance community service and increase generation outlet capability.¹
2. The Commission issued a Certificate of Need for the Project in May 2009.²
3. The Applicant stated that the length of the Preferred Route, from the Bison Substation near Fargo, North Dakota, to the Quarry Substation, near St. Cloud,

¹ Ex. 1a at 1-1 (Application).

² Order Granting Certificates of Need with Conditions, *In the Matter of the Application of Great River Energy, Northern States Power Co. (d/b/a/ Xcel Energy) and others for Certificates of Need for the CapX 345-kV Transmission Project*, Docket No. ET-2,E-002. *et al*; CN-06-1115 (May 22, 2009, as modified Aug. 9, 2009).

Minnesota, would be approximately 211 miles long, with a total Project cost for the North Dakota and Minnesota portions combined of \$260.0 million (\$2009). Its alternative route, Route A, would enter Minnesota farther south of the Bison Substation. Route A would be approximately 250 miles long, with a total Project cost of \$308.9 million.³ The Modified Preferred Route would cross into Minnesota slightly farther south than the Preferred Route set forth in the Application.

4. For purposes of analysis, the route was divided into three segments: from North Dakota to Alexandria, from Alexandria to Sauk Centre, and from Sauk Centre to St. Cloud.

The Parties

5. Xcel Energy, a wholly owned subsidiary of Xcel Energy, Inc. is a Minnesota corporation headquartered in Minneapolis, Minnesota. It provides electricity and natural gas services to Minnesota customers. Great River Energy, headquartered in Maple Grove, Minnesota, is a not-for-profit electric cooperative that owns and operates high voltage transmission lines (HVTL) in Minnesota and provides wholesale electric service to distribution cooperatives in Minnesota and Wisconsin.⁴

6. NoCapX, U-CAN and NoRCA have joined together in this proceeding. NoCapX seeks to assure that the record is fully developed concerning each route option, the capacity of the transmission lines and related amperage and electromagnetic fields, and dissemination of the Draft Environmental Impact Statement to the public. U-CAN seeks to assure that landowners are well-informed about the proceedings and have sufficient information to effectively participate. NoRCA members are concerned about the proliferation of transmission lines and the impact of route selection on the environment.

7. St. John's owns 2,740 acres of land that would be impacted by some of the route options. It lies within the boundaries of the Avon Hills Initiative, a 50,000-acre area of rolling, wooded landscape that is intended to preserve the character and ecology of the Avon Hills area. St. John's provides hiking and ski trails, and several of its buildings are registered on the National Register of Historic Places. Its natural setting plays an important part in fulfilling its mission as both a university and abbey.

8. Avon Township is located 15 miles northwest of St. Cloud in Stearns County. The Avon Hills region, which is identified in the Stearns County Comprehensive Plan as a priority area for natural resource protection, is located within the Township and would be affected by the Applicants' preferred route and other route options.

³ Ex. 1a (Application) at 6-6.

⁴ Ex. 1a (Application) at 1-1.

Summary of the Position of the Parties

9. For the segment of the route from North Dakota to Alexandria, the Applicants prefer the Modified Preferred Route with Option 13, an expanded route width that allows the Applicants to avoid the Lesmeister Flying Service. No party opposed the selection of the Modified Preferred Route with Option 13 or offered evidence that Route A, the only alternative for this segment, was a more prudent and feasible alternative.

10. For the segment of the route from Alexandria to Sauk Centre, the Applicants prefer the Modified Preferred Route. No party opposed the selection of the Modified Preferred Route or offered evidence that Route A, the only alternative for this segment, was a more prudent and feasible alternative. However, MnDOT and the City of Sauk Centre are concerned about the alignment of the Modified Preferred Route in the area of the Sauk Centre Airport.

11. For the segment of the route from Sauk Centre to St. Cloud, the Applicants prefer the Modified Preferred Route. In its Post-Hearing Brief, Applicants also supported Route E, with three modifications: AS-4, a widening of the route near Albany to accommodate future expansion of Wells Concrete; Option 11, to reduce the impact on residences and a glacial moraine near the border of St. Joseph and Collegeville Townships; and Segment E-5 of Option 12, which would allow for an alternate path to connect Route E to the Quarry Substation.

12. In their Reply Brief, the Applicants stated that the impact of Route E and Route G was quite similar, if not equal, that both routes satisfy the routing criteria and are constructible, and both routes are reasonable alternatives to the Modified Preferred Route. However, they restated their preference for the Modified Preferred Route, or Route E with the identified modifications.

13. Avon Township and St. John's assert that Route G with Option 11 is a prudent and feasible alternative to the Modified Preferred Route and better meets the routing criteria. They also assert that Route E with Option 11 is superior to the Modified Preferred Route. In addition, St. John's affirmatively opposes the selection of either Route C or Route D.

14. NoRCA prefers either Route G or Route E with Option 11, and asserts that both are prudent and feasible alternatives to the Modified Preferred Route.

15. No party advocated for the selection of Routes A, B, C, D, F or H, but some members of the public favored Route C and Route D, as more fully set forth in the Summary of Public Comment, largely because these alternatives more closely follow I-94 between Sauk Centre and St. Cloud.

State Agencies

16. Pursuant to Minn. Stat. § 216E.10, subd. 3, several state agencies were given the opportunity to participate in the routing proceeding. MnDOT and the DNR

submitted comments at several points, and representatives testified at the evidentiary hearing.

17. MnDOT fully reviewed the proposed Project. Its primary areas of concern are: siting in the vicinity of four airports; the significant impact of construction along highways and, in particular, traffic disruption on I-94; the high number of proposed I-94 crossings; the siting limitations through areas classified by MnDOT as scenic easements or used as a Safety Rest Area, and the potential impact that underground construction on Route D could have on highway construction, operation and maintenance.⁵

18. The Minnesota Department of Natural Resources (DNR) offered comments addressing the impact of the route alternatives on lands it own and manages, the impact of the route alternatives on the environment, and mitigation. It requested that the Applicants avoid identified high bird-use areas and migration corridors, state managed resources and federally owned or managed resources, and the placement of lines between these areas. Recognizing that the route selection must take into account several criteria, the DNR recommended selection of Route A for the North Dakota to Alexandria segment, and the Modified Preferred Route from Alexandria to Sauk Centre.⁶ It recommended selection of Route D or Route G from Sauk Centre to St. Cloud.⁷

19. Both MnDOT and DNR recommended conditions on the permit to mitigate the Project's impact.

20. OES fully participated in the public hearings and evidentiary hearings to assure that the Environmental Impact Statement was complete and responded to issues raised in the course of the proceeding.

Procedural Findings

21. On October 1, 2009, Xcel Energy and Great River Energy, the Applicants, filed an application for a route permit for a 345 kilovolt (kV) transmission line from Fargo, North Dakota to St. Cloud, running 169 to 180 miles within the State of Minnesota, depending on the route selected. On November 23, 2009, the Commission referred the matter to the Office of Administrative Hearings for a contested case proceeding, and directed OES to conduct an environmental review according to the procedures set forth in Minn. Rules, Parts 7850.1700 to 7850.2600. The Commission also authorized OES to name a public advisor.⁸

22. On March 31, 2010, the ALJ issued a Notice of Prehearing Conference.

⁵ Ex. 41 (MnDOT Comments to DEIS); Tr. Vol. 4 at 77-80 (Seykora).

⁶ Ex. 43 (Letters to David Birkholz from Jamie Schrenzel, DNR Environmental Review Unit, Oct. 18, 2010 and Feb. 11, 2011). The DNR was unable to fully evaluate the North Dakota to Alexandria segment because the DEIS did not include environmental information about the North Dakota portion of the alternatives.

⁷ Ex. 51 (Letter to ALJ from Jamie Schrenzel, DNR Environmental Review Unit, Dec. 14, 2010).

⁸ Notice and Order for Hearing Under Minnesota Rules Chapter 1405, November 23, 2009.

23. A Prehearing Conference was held on May 18, 2010. On May 25, 2010, the ALJ issued a Prehearing Order, establishing the schedule and procedures for intervention, prefiled testimony, hearing and other matters related to the contested case proceeding. The deadline for intervention was October 8, 2010.

24. Pursuant to Minn. Stat. § 216E.03, subd. 9, the Commission is directed to process an application for a Route Permit within one year from the date upon which the Commission finds that application complete, and the deadline may be extended for good cause. The Applicants agreed to the schedule set at the Prehearing Conference, recognizing that, due to the length of the proposed route and the complexity of the Project, a final decision would not be reached within one year from the date that the application was deemed complete.

25. Also on May 25, 2010, the ALJ sent a letter and copy of the Prehearing Order to representatives of the following Minnesota state agencies: Department of Agriculture, Board of Water and Soil Resources, Department of Natural Resources and Pollution Control Agency, notifying them of the proceeding and the requirements of Minn. Stat. § 216E.10, subd. 3.

26. On September 4, 2010, NoCapX, U-CAN and NoRCA filed a Petition to Intervene. The Petition was deficient and an Amended Petition for Intervention was filed on September 24, 2010. An Order Granting Intervention to NoCapX202, United Citizens Action Group and North Route Citizens Alliance was issued on November 6, 2010. The three groups will be referred to collectively as NoRCA.

27. On October 7, 2010, Petitions to Intervene were filed on behalf of St. John's and Avon Township. An Order Granting Intervention to Avon Township and St. John's Abbey-University and Amending the Prehearing Order was filed on October 13, 2010.

28. On October 13 and 14, 2010, Applicants prefiled the Direct Testimony of Darrin Lahr and Gerald Chezik. On October 29, 2010, Avon Township, St. John's and NoRCA prefiled Direct Testimony.

29. OES published notice of the contested case proceeding, including the dates, times and places of the public hearings, in legal newspapers of general circulation.⁹

30. OES sent notice of the contested case to persons on the project contact list maintained by the Commission on October 25, 2010.¹⁰

31. On November 1, 2011, OES sent notice of the contested case proceeding to local government officials.¹¹

⁹ Ex. 27.

¹⁰ Ex. 25a.

¹¹ Ex. 26.

32. On November 17, 2010, the Applicants filed Rebuttal Testimony of Darrin Lahr; St. John's and Avon Township filed Rebuttal Testimony of Kim Chapman.

33. On November 30, 2010, the Applicants filed Surrebuttal Testimony of Darrin Lahr, Daniel Kline and Dr. Peter Valberg. On December 3, 2010, NoRCA filed an objection to the Surrebuttal Testimony of Darrin Lahr, Dr. Peter Valberg and Motion to Strike, and Objection and Motion to Strike Direct Testimony of Darrin Lahr. The motions were denied on the record on December 6, 2010.¹² However, the related prefiled testimony of Dr. David O. Carpenter, and his cross-examination on the record in a prior proceeding before the Commission, were admitted into evidence.¹³

34. Public hearings were held as follows:

November 16, 2010 – Barnesville and Fergus Falls

November 17, 2010 – Breckenridge and Elbow Lake

November 18, 2010 – Alexandria¹⁴

November 30, 2010 – Sauk Centre and Melrose

December 1, 2010 – Albany and Cold Spring

December 2, 2010 – St. Joseph

35. The evidentiary hearing was held on December 6 through December 10, 2010, and December 15, 2010, at the Commission. In addition to the witnesses whose testimony was prefiled, David Birkholz testified on behalf of OES; David Seykora testified on behalf of MnDOT, and Jamie Schrenzel testified on behalf of the DNR.

36. The deadline for receipt of public comment was January 5, 2011. All written comments were reviewed and filed by the Office of Administrative Hearings with the Department of Commerce e-docket system. The public comments are summarized in **Appendix A** to this report.

37. Also on January 5, 2011, comments were received from the Applicants, MnDOT, the Federal Aviation Administration (FAA) and City of Sauk Centre concerning the routing near the Sauk Centre airport. Those comments were filed with the e-docket system and were added as exhibits to the hearing record.¹⁵

38. The Applicants filed their initial post-hearing brief on January 28, 2011; responsive briefs were filed by NoRCA, Avon Township and St. John's on February 18, 2011; the Applicants' reply brief and the OES Comments were filed on March 4, 2011.

¹² Tr. Vol. 1 at 142-145.

¹³ Exs. 49 and 50.

¹⁴ ALJ Steve Mihalchick presided at the public hearings in Alexandria.

¹⁵ Exs. 55, 56, 57 and 58.

39. On March 23, 2011, the ALJ requested information from the Applicants and OES concerning apparent discrepancies in the information provided by them concerning the number of residences within 500 feet of the Modified Preferred Route in the North Dakota to Alexandria segment of the route.¹⁶

40. By letter dated April 4, 2011, OES responded, clarifying information in the record concerning the location of residences in this segment.¹⁷

Applicants' Required Notice

41. Minnesota statutes and rules require the Applicants to provide notice to public and local governments at certain stages of the Route Permit process.¹⁸

42. On June 29, 2009, and June 30, 2009, the Applicants mailed letters to local governments within the Project area.¹⁹ On October 1, 2009, the Applicants mailed notice to landowners whose property was within or adjacent to proposed or alternative routes and substations sites, and to persons on other mailing lists maintained by the Commission.²⁰

43. Applicants sent copies of the Application to public libraries within the Project area.²¹

44. Between October 1, 2009, and October 6, 2009, the Applicants published notice of the Application in newspapers throughout the Project Area.²²

45. The Applicants gave notice to landowners affected by Option 13 to the Modified Preferred Route on October 20, 2010.²³

Preparation of the Environmental Impact Statement

46. Minnesota statutes and rules require preparation of an Environmental Impact Statement (EIS) for the proposed project.²⁴

47. The scoping process is the first step in developing an EIS. OES "shall provide the public with an opportunity to participate in the development of the scope of

¹⁶ eDocket Doc. No. 20113-60562-01 (eFiled Mar. 23, 2011).

¹⁷ eDocket Doc. No. 20114-60984-01 (eFiled Apr. 4, 2011).

¹⁸ Minn. Stat. § 216E.03, subds. 3a and 4; Minn. R. 7850.2100, subps. 2, 3 and 4.

¹⁹ Minn. Stat. § 216E.03, subd. 3a; Ex. 1c (Application) at Appx. I.2.

²⁰ Minn. Stat. § 216E.03, subd. 4; Minn. R. 7850.2100, subps. 2(A) and 2(C); Affidavit of Mailing, eDocket Doc. No. 20111-58942-01 (eFiled Jan. 27, 2011).

²¹ Minn. Stat. § 216E.03, subd. 4; Affidavit of Mailing, eDocket Doc. No. 200912-44552-01 (eFiled Dec. 1, 2009).

²² Minn. R. 7850.2100, subp. 4; Affidavit of Publication, eDocket Doc. No. 201011-56932-01 (eFiled Nov. 30, 2010); Ex. 54.

²³ Ex. 52.

²⁴ Minn. R. 7850.2500, subp. 1; Minn. Stat. § 216E.03, subd. 5.

the [EIS] by holding a public meeting and by soliciting public comments.” During the scoping process, alternative routes may be suggested for evaluation in the EIS.²⁵

48. The scoping process “must be used to reduce the scope and bulk of an [EIS] by identifying the potentially significant issues and alternatives requiring analysis and establishing the detail into which the issues will be analyzed.”²⁶

49. At the conclusion of the scoping process, OES must issue a scoping decision that addresses the following: 1) the issues to be addressed in the EIS; 2) the alternative sites and routes to be addressed in the EIS; and 3) the schedule for completion of the EIS.²⁷

50. On December 21, 2009, OES issued a Notice of Public Information and Environmental Impact Statement (EIS) Scoping Meetings to provide information to the public about the Proposed Project. The purpose of the Scoping Meetings was to receive public comment and input on the draft route permit issued by the Commission, and to take public comment and input on the EIS. The public was invited to review the Application, learn more about the Commission review process, offer comments and ask questions.²⁸

51. Between January 19, 2010, and January 28, 2010, OES held 12 Public Information and EIS Scoping meetings at six different locations in the Project area.²⁹

52. OES appointed an Advisory Task Force (ATF) to develop alternative routes that would be considered for the Sauk Centre to St. Cloud segment of the route. The ATF met three times to identify potential alternative routes. On March 22, 2010, OES filed the ATF Report, which recommended six additional routes for this segment, including one with an underground section.³⁰

53. Public comments regarding the scope of the EIS were accepted by OES until February 12, 2010.³¹

54. On April 15, 2010, OES issued its EIS Scoping Decision, responding to the public comments on the scope of the EIS and setting forth the alternatives to be addressed. The EIS Scoping Decision specified that an analysis of the potential environmental and socio-economic impacts of certain routes, including those proposed by the Applicants and identified by the ATF, would be performed.³² OES issued an

²⁵ Minn. R. 7850.2500, subps. 1 and 2.

²⁶ Minn. R. 7850.2500, subp. 4.

²⁷ Minn. R. 7850.2500, subp. 4.

²⁸ Exs. 14, 15a.

²⁹ Ex. 16A; Ex. 18 at 3 (EIS Scoping Decision).

³⁰ Ex. 17 (ATF Report).

³¹ Ex. 18 at 3 (EIS Scoping Decision).

³² Ex. 18 (EIS Scoping Decision).

Amended Scoping Decision on July 25, 2010, incorporating some alternatives requested by Applicants on June 28, 2010.³³

55. On September 2, 2010, OES issued the Draft EIS (DEIS) and notice of availability of the DEIS for the proposed project.³⁴

56. OES held eight public hearings on the DEIS from September 27 through September 30, 2010, in seven different locations.³⁵

57. Minnesota Rules require OES to “respond to timely substantive comments received on the [DEIS] consistent with the scoping decision and prepare the final [EIS].” OES may “attach to the [DEIS] the comments received and its response to comments without preparing a separate document.”³⁶

58. On January 7, 2011, OES issued the final EIS (FEIS), including its response to the comments received.³⁷

Description of the Proposed Project

59. The total length of the Proposed Project is approximately 211 to 250 miles. The estimated length is calculated from the planning engineers’ recommended location for a new Fargo, North Dakota, area substation (Bison Substation), to the site of the new Quarry Substation west of St. Cloud, which was sited in a separate proceeding.³⁸

60. The Minnesota portion of the Proposed Project will be approximately 151 to 189 miles long, extending from the Red River along the Minnesota and North Dakota border between Clay and Wilkin counties, to the existing Alexandria Switching Station located south of Alexandria and then to the new Quarry Substation.³⁹ The North Dakota portion of the Proposed Project from the Bison Substation to the Red River will be approximately 31 to 81 miles, depending on the route selected. Selection of Route A will result in a longer transmission line in North Dakota than the Preferred Route.⁴⁰

61. On December 30, 2010, the Applicants filed a Certificate of Corridor Compatibility with the North Dakota Public Services Commission.⁴¹

³³ Ex. 21 (Amended Scoping Decision).

³⁴ Exs. 22a, 22b, 23a, 23b, 24a, and 24b.

³⁵ Ex. 23a, 24a, and 24b.

³⁶ Minn. R. 7850.2500, subp. 9.

³⁷ FEIS, eDocket Doc. Nos. 20111-58289-01 through 20111-5829-07 and 20111-58294-01 through 20111-58294-08 (filed Jan. 7, 2011).

³⁸ Ex. 1a (Application) at ES-2; Ex. 2 at 6 (Lahr Direct); Order, *In the Matter of the Application of a Route Permit for the Monticello to St. Cloud 345 kV Transmission Line Project*, PUC No. E-002/TL-09-246 (July 12, 2010).

³⁹ Ex. 2 at 6 (Lahr Direct).

⁴⁰ Ex. 1a (Application) at ES-2.

⁴¹ Ex. 1a (Application) at ES-2.

62. The Applicants' process for developing and selecting route alternatives, including their Preferred Route, and for selecting a potential alignment within each alternative, is set forth in the Application.⁴² The Applicants submitted a Preferred Route and Route A, extending from the Quarry Substation near St. Cloud to the Red River, Minnesota's border with North Dakota. Although the Applicants considered many alternative route segments, they based their selection of the Preferred Route and Route A on the high level of right-of-way sharing or corridor sharing along existing linear features, lower associated crossing of sensitive areas and for the potential to minimize the impact to existing residential and agricultural areas.⁴³ The Applicants also developed five alternative segments to their Preferred Route, to take into account site-specific considerations that could warrant deviation from the Preferred Route.⁴⁴ The Preferred Route Segment Alternatives were renamed in the DEIS, and one of them, Preferred Route Segment Alternative 1, was identified in the DEIS as Route E, from Sauk Centre to St. Cloud.⁴⁵

63. The Project connects to the Bison Substation in North Dakota and two substations in Minnesota, the Quarry Substation and Alexandria Switching Station.

64. The new Quarry Substation, which is being constructed as part of the Monticello to St. Cloud 345 kV transmission line project, will be modified to accommodate the addition of this Project.⁴⁶

65. The Project will also require modifications to the existing Alexandria Switching Station to accommodate this Project and to provide support to the underlying 115 kV transmission system. Expansion will include 345 kV and 115 kV equipment, such as switches, a transformer, control panels, and circuit breakers, and the additional foundations and structures to accommodate them. The graded and fenced area occupied by the substation will be enlarged. AS-3, which has been incorporated into the Modified Preferred Route, includes about 4.3 acres for the expansion, and would be required for either the Modified Preferred Route or Route A.⁴⁷

66. The estimated cost of the Project in Minnesota is approximately \$250 million for the Modified Preferred Route and approximately \$290 million for Route A. Other alternatives are comparable to the Modified Preferred Route, except that the costs for Route B and Route D are significantly higher if underground segments are included. Costs of each route segment will be set forth below.⁴⁸

⁴² Ex. 1a (Application) at Section 4.0.

⁴³ Ex. 1a (Application) at 4-13 – 14 and Section 6.

⁴⁴ Ex. 1a (Application) at ES-7, 5-7 – 5-12.

⁴⁵ Ex. 18 at 13, 16 (EIS Scoping Decision).

⁴⁶ Order, *In the Matter of the Application of a Route Permit for the Monticello to St. Cloud 345 kV Transmission Line Project*, PUC No. E-002/TL-09-246 (July 12, 2010); Ex. 1a (Application) at 3-5.

⁴⁷ Ex. 1a (Application) at 2-14, 3-5; Ex. 2 at 10, 11 (Lahr Direct).

⁴⁸ Ex. 3 at 10 (Chezik Direct).

Criteria for Route Permit

67. The Power Plant Siting Act requires that route permit determinations “be guided by the state’s goals to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the state’s electric energy security through efficient, cost-effective power supply and electric transmission infrastructure.”⁴⁹

68. Under the Act, the Commission and ALJ must be guided by the following responsibilities, procedures and considerations:

- (1) evaluation of research and investigations relating to the effects on land, water and air resources of large electric power generating plants and high voltage transmission lines and the effects of water and air discharges and electric and magnetic fields resulting from such facilities on public health and welfare, vegetation, animals, materials and aesthetic values, including baseline studies, predictive modeling, and evaluation of new or improved methods for minimizing adverse impacts of water and air discharges and other matters pertaining to the effects of power plants on the water and air environment;
- (2) environmental evaluation of sites and routes proposed for future development and expansion and their relationship to the land, water, air and human resources of the state;
- (3) evaluation of the effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental effects;
- (4) evaluation of the potential for beneficial uses of waste energy from proposed large electric power generating plants;⁵⁰
- (5) analysis of the direct and indirect economic impact of proposed sites and routes including, but not limited to, productive agricultural land lost or impaired;
- (6) evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site and route be accepted;
- (7) evaluation of alternatives to the Applicant’s proposed site or route proposed pursuant to Section 216E.03, subdivisions 1 and 2;
- (8) evaluation of potential routes that would use or parallel existing railroad and highway rights-of-way;

⁴⁹ Minn. Stat. § 216E.03, subd. 7.

⁵⁰ This subfactor is inapplicable because Applicant has not applied for a route permit for a large electric generating plant.

- (9) evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;
- (10) evaluation of future needs for additional high voltage transmission lines in the same general area as any proposed route, and the advisability of ordering the construction of structures capable of expansion in transmission capacity through multiple circuiting or design modifications;
- (11) evaluation of irreversible and irretrievable commitments of resources should the proposed site or route be approved; and
- (12) when appropriate, consideration of problems raised by other state and federal agencies and local entities.⁵¹

69. In addition to the Power Plant Siting Act, Minn. R. 7850.4000 provides that no route permit may be issued in violation of site selection criteria and standards found in Minnesota Statutes or Public Utilities Commission Rules. Power line permits must be consistent with state goals to minimize environmental impact and conflicts with human settlement and other land use. The Commission and ALJ are governed by Minn. R. 7850.4100, which provides for the following factors to be considered when determining whether to issue a route permit for a high voltage transmission line:

- A. effects on human settlement, including, but not limited to, displacement, noise, aesthetics, cultural values, recreation, and public services;
- B. effects on public health and safety;
- C. effects on land-based economies, including, but not limited to, agriculture, forestry, tourism, and mining;
- D. effects on archaeological and historic resources;
- E. effects on the natural environment, including effects on air and water quality resources and flora and fauna;
- F. effects on rare and unique natural resources;
- G. application of design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity;
- H. use or paralleling of existing rights-of-way, survey lines, natural division lines, and agricultural field boundaries;
- I. use of existing large electric power generating plant sites;⁵²

⁵¹ Minn. Stat. § 216E.03, subd. 7.

- J. use of existing transportation, pipeline, and electrical transmission systems or rights-of-way;
- K. electrical system reliability;
- L. costs of constructing, operating, and maintaining the facility which are dependent on design and route;
- M. adverse human and natural environmental effects which cannot be avoided; and
- N. irreversible and irretrievable commitments of resources.⁵³

70. State agencies are required to consider environmental factors before making decisions, including the routing of high voltage transmission lines, that potentially have significant environmental effect, and shall not make a decision that is likely to cause pollution, impairment, or destruction of a natural resource so long as there is a feasible and prudent alternative consistent with the public health, safety and welfare.⁵⁴

71. It is the State's policy to recognize the impact of human activity on the natural environment, and the need to balance development with restoring and maintaining environmental quality, and to attempt to make decisions that create and maintain conditions under which human beings and nature can exist in productive harmony while fulfilling the social, economic, and other requirements of present and future generations.⁵⁵

Application of the Routing Criteria to the Project as a Whole

72. There is sufficient evidence in the record for the ALJ to assess the proposed routes and alternatives using the criteria set out above.

73. The application of various design considerations, electrical system reliability, costs of operating and maintaining the facility, and some health effects do not vary by route alternative. Those that vary will be addressed under each route segment.

⁵² This criterion is inapplicable because the Applicant has not applied for a permit for a large electric generating plant.

⁵³ Minn. R. 7850.4100.

⁵⁴ Minn. Stat. § 116D.04, subd. 6; *People for Environmental Enlightenment and Responsibility, Inc. (PEER) v. Environmental Quality Council*, 266 N.W. 858, 864 (Minn. 1978).

⁵⁵ Minn. Stat. § 166D.02, subds. 1 and 2.

Structure Type and Spans

74. The Commission must evaluate future needs for additional high-voltage transmission lines in the same general area and the advisability of ordering the construction of structures capable of expansion in transmission capacity.⁵⁶

75. The Commission must also consider the application of design options that “maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission....”⁵⁷

76. For this Project, the Commission previously approved the construction of double-circuit-capable structures to allow for future transmission expansion. Both sets of davit arms will be installed on the structures, but only one circuit will be installed for this Project. The second position will be available for a future additional circuit, in the event that the Commission grants a second certificate of need.⁵⁸

77. The proposed structures will primarily include single-pole, double-circuit capable, self-weathering or galvanized steel structures that will range in height between 130 and 175 feet, typically placed on a concrete foundation. Site-specific conditions may require special structures. For example, shorter structures may be needed in the area surrounding the Sauk Centre Airport and modified foundations may be needed because of shallow groundwater levels near Melrose.⁵⁹ H-frame structures, dead-end structures and angle structures may also be needed, depending upon the conditions presented.⁶⁰

78. The span length between structures will typically range from 600 to 1,000 feet, depending on site-specific considerations.⁶¹

79. At interstate crossings and where site conditions may make it prudent to do so, the Applicants propose stringing three additional bundled conductors (i.e., both circuits) during construction of this Project. This will prevent disrupting traffic at highway crossings and disturbance of sensitive areas at a later date if the Commission approves installation of a second circuit. For this Project, the second set of conductors will be tied to the first set to act as a single circuit, with no change to the transmission capacity.⁶²

80. The Commission granted the Applicants permission to string the additional conductors at highway crossings and in sensitive areas for the 345 kV transmission line

⁵⁶ Minn. Stat. § 216E.03, subd. 7 (b).

⁵⁷ Minn. R. 7850.4100 G.

⁵⁸ Ex. 1a (Application) at ES-2; FEIS at 3-1; see Order Granting Certificates of Need With Conditions, *In the Matter of the Application of Great River Energy, Northern States Power Co. (d/b/a/ Xcel Energy) and others for Certificates of Need for the CapX 345-kV Transmission Project*, Docket No. ET-2,E-002. *et al*, CN-06-1115 (May 22, 2009, as modified Aug. 9, 2009).

⁵⁹ Ex. 1a (Application) at 3-1.

⁶⁰ Ex. 3 at 6 (Chezik Direct).

⁶¹ Ex. 1a (Application) at ES-2; FEIS at 3-1.

⁶² Ex. 3 at 6-7 (Chezik Direct); Ex. 1a (Application) at 3-4; Vol. 1 at 28-47 (Chezik).

from Monticello to St. Cloud, and the Applicants seek the same approval in this proceeding.⁶³

81. MnDOT supports a condition on the Route Permit that would require Applicants to string both circuits at the I-94 crossings.⁶⁴

82. The transmission line is made up of three phases, each one consisting of a pair of 954,000 circular mills (954 kcmil, approximately 1.2 inches in diameter) 54/7 Cardinal Aluminum Conductor Steel Supported (ACSS) cables or conductors of comparable capacity, "bundled conductors." One bundled conductor is installed on each of three davit arms. For the Proposed Project, the bundled conductors will be strung in a vertical configuration, with one bundled conductor per davit arm on one side of the structure.

83. Shield wires will be installed and will include fiber optic cable to allow substation protection equipment to communicate with equipment at other terminals on the transmission line.⁶⁵

84. The Applicants' proposed structure type and spans are designed to meet future needs for high voltage transmission lines and the proposed design will maximize energy efficiency, mitigate environmental effects and accommodate expansion of transmission.

Electrical System Reliability

85. In selecting a route the Commission must consider the effect on electrical system reliability.⁶⁶

86. The Project has been approved by the Commission for construction with double-circuit-capable structures, with a single circuit to be strung initially, and with the capability of adding a second circuit if subsequently approved by the Commission. The reliability of the Project was fully evaluated in the Certificate of Need proceeding.⁶⁷

87. When developing the route segments, the Applicants analyzed the possibility of co-locating portions of the Project on the same structures as existing facilities, but concluded that doing so was not feasible because of reliability, safety, and the need for the line to be double-circuit compatible. Applicants applied the reliability criteria established by North American Electric Reliability Corporation (NERC). In some instances, where it was possible to parallel existing transmission lines, and the parallel

⁶³ Ex. 3 at 6-7 (Chezik Direct); Order, *In the Matter of the Application of a Route Permit for the Monticello to St. Cloud 345 kV Transmission Line Project*, PUC No. E-002/TL-09-246 (July 12, 2010).

⁶⁴ Tr. Vol. 4 at 94-95 (Seykora).

⁶⁵ Ex. 3 at 7 (Chezik).

⁶⁶ Minn. R. 7800.4100 K.

⁶⁷ Order Granting Certificates of Need with Conditions, *In the Matter of the Application of Great River Energy, Northern States Power Co. (d/b/a/ Xcel Energy) and others for Certificates of Need for the CapX 345-kV Transmission Project*, Docket No. ET-2,E-002. *et al*; CN-06-1115 (May 22, 2009, as modified Aug. 9, 2009).

lines would not unduly decrease the system's overall reliability, parallel placements were incorporated into the proposed routes.⁶⁸

88. Because of reliability and safety concerns, the Applicants do not propose adding an existing circuit as a third circuit to these facilities. Triple-circuit structures pose additional maintenance safety concerns for workers, which may require de-energizing the line. Triple-circuit construction is occasionally employed for a short distance to minimize the potential for significant human or environmental impact and minimize the need for new right-of-way.⁶⁹

89. The transmission line will be designed to meet or surpass all relevant state and local codes, National Electric Safety Code (NESC), NERC requirements and the Applicants' standards.⁷⁰

90. There is no evidence that any of the route alternatives will have a detrimental effect on the reliability of the electrical system.

Route Width and Right-of-Way

91. The Power Plant Siting Act authorizes the Commission to designate a route with a variable width of up to 1.25 miles.⁷¹

92. The "route width" is the width included in the Route Permit to allow the Applicants to vary the alignment of the transmission line placement to accommodate construction and location-specific conditions. For the Applicants' Preferred Route, the Route Alternatives and Route Segment Alternatives, the Applicants have identified a route width ranging from approximately 400 feet to 1.25 miles, but generally 1,000 feet in width.⁷²

93. The Applicants are seeking route widths greater than 1,000 feet in several areas. Many of the broader route widths are intended to accommodate interstate freeway exchanges.⁷³

94. In some areas, the Applicants request a route width less than 1,000 feet, primarily to avoid lands held in fee by the USFWS, which will not permit an overhead transmission line. In these locations, the Applicants request a route width of 400 feet.⁷⁴

95. It is not clear in the record which of the route width deviations the Applicants are still seeking.

⁶⁸ Ex. 1a (Application) at 3-25.

⁶⁹ Ex. 1a (Application) at 3-26.

⁷⁰ Ex. 1a (Application) at 3-3.

⁷¹ Minn. Stat. §§ 216E.01, subd. 8; 216E.02, subd. 1.

⁷² Ex. 1a (Application) at ES-2-3 and 2-6.

⁷³ Ex. 22A, DEIS at 1-31, Table 1.5-1.

⁷⁴ Ex. 22A, DEIS at 1-34, Table 1.5-2.

96. The "right-of-way" is the distance on each side of the center line of the final alignment that is necessary for the Applicants to access the transmission line for repair and maintenance. For overhead lines, the right-of-way assures sufficient clearance from the transmission line to trees, buildings and other objects, and takes into account the lateral movement of the transmission lines due to the wind. Adequate right-of-way also allows for safe tree maintenance.

97. For underground lines, the right-of-way requirements allow for construction and maintenance of the concrete duct and splice vaults within which the transmission lines are installed. In addition, the clearance limits the planting of vegetation that could interfere with installation or maintenance. Some activities and installations are allowed within the right-of-way.⁷⁵

98. For the type of pole structures the Applicants plan to use, the transmission line will require a 150-foot right-of-way in most locations. In some instances, the Applicants may be able to share rights-of-way. For example, when running parallel to a road, the Applicants typically place the poles 20 to 25 feet off the existing road right-of-way, on the adjacent property.⁷⁶ With this pole placement, the transmission line shares the existing right-of-way, reducing the size of the easement required from the adjoining landowner. Similar sharing may be possible with railroads and utilities.⁷⁷ In the event that a second circuit is added to the double-circuit capable pole structures at a later date, the Applicants do not anticipate that they would need to seek additional right-of-way.⁷⁸

Construction

99. Typical construction techniques are set forth in the Application.⁷⁹ For this project, Applicants are proposing to use helicopters to install conductors and some hardware and have met with MnDOT and the Minnesota State Patrol to discuss the feasibility of this approach along highways, including I-94. Also, Applicants are proposing to use implosive connectors to join conductors and dead-end hardware rather than using hydraulic splices. Implosive connectors use controlled detonation to fuse the conductors and hardware together. The process creates noise equivalent to a clap of thunder or commercial fireworks, lasting only an instant. The process improves the strength and quality of the connections that can be a potential failure point along the line. It also takes less time to install than hydraulically-compressed connectors, and reduces the number of areas required for set-up, which also reduces the amount of ground disturbance along the route.⁸⁰

100. Much of the Modified Preferred Route, and some other Route alternatives between Sauk Centre and St. Cloud, will run along I-94. Construction along an

⁷⁵ Ex. 22A, DEIS at 4-6.

⁷⁶ Ex. 1a (Application) at 3-3 - 3-4; Ex. 22A, DEIS at 7-62.

⁷⁷ Ex. 1a (Application) at 3-3 - 3-4.

⁷⁸ Ex. 1a (Application) at 3-5.

⁷⁹ Ex. 1a (Application) at 3-7 - 3-15.

⁸⁰ Ex. 3 at 8 (Chezik Direct).

interstate highway presents many challenges because of the high volume of high-speed traffic. Construction activities, including use of helicopters to string the conductors and the use of explosives for splicing, may distract drivers.⁸¹

101. Highway crossings present additional challenges. In addition to the interference with traffic during construction and highway maintenance, crossings may restrict future development of overpasses, interchanges or additional lanes, and increase the cost to the Trunk Highway Fund of such improvements. Of special concern, MnDOT noted that there could be 20 interstate highway crossings along the Modified Preferred Route between Barnesville and Alexandria, and four crossings within a mile and a half of Sauk Centre.⁸²

102. MnDOT generally prohibits installation of utilities within Safety Rest Areas. Selection of a route along I-94 may restrict the available options for the location of future safety rest areas or require additional cost to relocate the transmission lines.⁸³

103. MnDOT has a Utility Accommodation Policy, with specific provisions that govern placement of utilities along an interstate highway. Typically, MnDOT requires that the poles and davit arms are outside the interstate freeway right-of-way so that the utility's maintenance equipment does not need to enter the freeway right-of-way. The utility may be able to share some highway right-of-way because line blow-out into the right-of-way poses fewer risks to the highway operation.⁸⁴

104. MnDOT recommends that a condition be placed on the Route Permit to require that the Applicants coordinate with MnDOT, local highway authorities, the State Patrol and other appropriate agencies to manage the safe flow of traffic throughout construction.⁸⁵

105. Each type of roadway has a "clear zone" requirement. Transmission poles must be located a sufficient distance from the edge of the traveled roadway so that they will not be a safety hazard. The safety zone may vary with the level of traffic, surrounding topography and the road speed. Typical roadway maintenance, such as mowing, refuse removal, sign replacement and inspections, can take place in proximity to the transmission line, but larger projects, including overpass or bridge repair, repaving and road improvements, may require larger equipment and greater clearance.⁸⁶

106. Interstate 94 is a designated "super haul corridor," which allows for higher height and weight limits than standard roadways. MnDOT must assure that the location of the transmission line preserves these characteristics of the corridor.⁸⁷

⁸¹ Ex. 41 at 2; Tr. Vol. 4 at 69-71 (Seykora).

⁸² Ex. 41 at 3; Tr. Vol. 4 at 68-69, 123-125 (Seykora).

⁸³ Ex. 41 at 3-4.

⁸⁴ Tr. Vol. 4 at 48-49 (Seykora).

⁸⁵ Ex. 41 at 3.

⁸⁶ Ex. 22A, DEIS at 7-64 - 7-65.

⁸⁷ FEIS at 3-42.

107. One of the routes identified by the ATF for the Sauk Centre to St. Cloud segment, Route D, has three underground segments, which could mitigate the impact in areas where it would be difficult to place an overhead transmission line. One of these segments also affects Route B. Also, DNR rules may require placement of segments underground to avoid public waters.⁸⁸

108. Underground construction typically requires digging a trench and installing duct banks for each circuit. Such construction requires extensive ground disturbance, which may require considerable clearing and grading, and increases noise, dust and traffic disruption. Concrete manholes or large splice vaults are needed at recurring intervals. Directional boring may be used to pass under a road, highway or river. An underground line must be routed to avoid other underground installations such as water, gas and sewer lines. Transition structures are required at each end of the underground segment.⁸⁹ Although Xcel Energy has some underground 115 kV lines, the Applicants do not have any 345 kV lines placed underground in Minnesota.⁹⁰

Operation and Maintenance

109. Transmission lines are designed to operate for decades and require little maintenance. Scheduled and unscheduled outages are rare; the average annual availability of transmission infrastructure exceeds 99 percent. The principal operating and maintenance cost is for inspection, usually done monthly by air. There are also costs for vegetation management, storm damage, and some replacement of materials as the lines age. The Applicants' annual costs for inspection and maintenance of high voltage transmission lines are \$300 to \$500 per mile.⁹¹

110. For the substations, the cost of inspections is the single greatest operation and maintenance cost. Transformers, circuit breakers, batteries, protective relays and other equipment require periodic service. The site must be kept free of vegetation and drainage must be maintained.⁹²

111. Generally, underground transmission lines do not have routine maintenance and operation costs. Visual inspections are not possible. Underground transmission lines are susceptible to two types of outages: cable fault due to overloading the system and failure of the cable or splices. The time and cost to repair an underground transmission line is much greater than an overhead transmission line, but fail far less frequently.⁹³ The right-of-way for an underground transmission line is narrower than the right-of-way for overhead transmission but requires more maintenance to assure that it remains clear of woody vegetation.⁹⁴

⁸⁸ See Minn. R. 6135.1200, subp. 1 A.

⁸⁹ Ex. 22A, DEIS at 4-5 – 4-7

⁹⁰ Tr. Vol. 1 at 96-97, 104-105, 107 (Chezik).

⁹¹ Ex. 22A, DEIS at 4-3 – 4-4.

⁹² Ex. 22A, DEIS at 4-4.

⁹³ Ex. 22A, DEIS at 4-5 – 4-6.

⁹⁴ Ex. 22A, DEIS at 7-2.

Project Schedule and Costs

112. Costs of the project will be addressed for each route segment, including the costs for underground construction along the Sauk Centre to St. Cloud route segment.

113. The figures for each segment do not include the cost to add a second circuit at highway crossings. The estimated additional cost to do so is \$55,000 per crossing.⁹⁵

114. The Applicants anticipate that, if the route permit is issued, construction would begin in the second quarter of 2012 and the transmission line would be placed in service in the first quarter of 2015.⁹⁶

Effects on Public Health and Safety

115. The Commission must consider the impact of the route selection on public health and safety.⁹⁷ Impacts that are specific to route alternatives will be discussed under the appropriate route segment.

116. Applicants will ensure that all safety requirements are met during construction and operation of the proposed transmission line and associated facilities, and that appropriate signage is installed.⁹⁸ The Project will be designed and constructed according to state, local and NESC standards for ground clearance, crossing utilities clearance, building clearance, strength of materials and right-of-way widths. The proposed transmission lines will be equipped with protective devices, including breakers and relays at substations, to safeguard the public in the event of an accident, or in the event that a structure or conductor would fall. Substations will be properly fenced and accessible only by authorized personnel.⁹⁹

117. The placement of high voltage transmission lines, including both structures and conductors, could impact the safe operation of an airport and hinder the maneuverability of aircraft. If close enough, the transmission line could also interfere with the operation of air navigation or weather systems. The Federal Aviation Administration (FAA) and MnDOT have established development guidelines on the proximity of transmission lines to public-use airports and heliports.¹⁰⁰ The location and likely impact of the airports in the Project Area will be discussed with respect to each of the affected route alternatives.

⁹⁵ Ex. 44.

⁹⁶ Ex. 1a (Application) at 2-15; Ex. 3 at 8 (Chezik Direct).

⁹⁷ Minn. Stat. § 216E.03, subd. 7(b) (1); Minn. R.7850.4100 (B).

⁹⁸ Ex. 1a (Application) at 6-3.

⁹⁹ Ex. 1a (Application) at 7-2.

¹⁰⁰ Ex. 1a (Application) at 7-2 – 7-3.

Electromagnetic Fields

118. NoRCA and many members of the public expressed their concern about the effect that proximity to high voltage transmission lines may have on the health of people and animals.

119. Electric fields are measured in kilovolts per meter (kV/m). The intensity of the electric field is proportional to the voltage of the transmission line. While there is no federal standard for transmission line electric fields, the Commission has imposed a maximum electric field limit of 8 kV/m, measured at one meter above the ground. The maximum electric field associated with the Project, measured at one meter above the ground is calculated to be 4.3 kV/m.¹⁰¹

120. Magnetic fields are measured in milliGauss (mG). The intensity of the magnetic field is proportional to the current flow through the conductors. While there are no federal or Minnesota standards for transmission line magnetic fields, several agencies have established guidelines for general public and occupational magnetic field exposure.¹⁰² These guidelines include the International Commission on Non-Ionizing Radiation Protection (ICNIRP),¹⁰³ which set a guideline for the general public of 2,000 mG, and the Institute of Electrical Engineers (IEE), which set a guideline for the general public at 9,040 mG.¹⁰⁴

121. Applicants calculated the magnetic field levels for two conditions for the year 2015 (after the lines are operational), with average and with peak system-intact loading. The highest calculated magnetic field level during peak system-intact operations at 2015 projected load levels, with both circuits in service, occurs at the centerline of the right-of-way at 30.03 mG. With only one circuit in service, the highest calculated magnetic field level at the centerline would be 25.62 mG. Magnetic fields are not estimated to be higher than 11.10 mG at the edge of the right-of-way.¹⁰⁵

122. The Applicants also calculated potential magnetic fields associated with maximum conductor capacity load levels, although the Applicants believe that such load levels are highly unlikely to occur. Such high load levels, 600 and 1500 MVA, would require more than 4,000 MW of new generation to be added to the west of the Project, and would also require a large, unplanned outage of another major facility, such as another 345 kV transmission line. Even with these assumptions, the Applicants could not reach flows of 1200 to 1500 MVA. Based on a theoretical assumption that 1200 and 1500 MVA could be reached, the maximum calculated magnetic field at the centerline would be 259.9 mG, which is significantly below the guidelines.¹⁰⁶

¹⁰¹ Ex. 1a (Application) at 3-16; Ex. 2 at Sched. 6 (Lahr Direct).

¹⁰² Ex. 1a (Application) at 3-16; Ex. 22A, DEIS, at 5-19; Ex. 35 at 6-8 (Valberg Surrebuttal); Tr. Vol 3 at 20 (Valberg).

¹⁰³ The ICNIRP is an independent body of scientists based in Europe, selected on the basis of their research interests. Tr. Vol. 3 at 33 (Valberg).

¹⁰⁴ Ex. 35 at 8 (Valberg Surrebuttal); Ex. 22A, DEIS, at 5-19.

¹⁰⁵ Ex. 2 at Sched. 6 at 2 (Lahr Direct); FEIS at 3-12 – 3-13, Table 3.4-3.

¹⁰⁶ Ex. 29 at 7-8 and Sched. 2 (Kline Surrebuttal); FEIS at 3-13.

123. Dr. Peter Valberg is a faculty member in the Department of Environmental Health at Harvard School of Public Health and has conducted research and taught toxicology, cell biology, environmental health, and public health. He has served on many advisory panels and remains current on the research concerning electromagnetic fields and health effects. Dr. Valberg explained that there are two types of magnetic fields, "radio frequencies" (RF), and "extremely low frequency" (ELF). Power-line magnetic fields operate at 60 Hz, ELF. The human body is virtually transparent to power-line magnetic fields, and compared to the continuous background level of approximately 100 watts of energy burning in human bodies, the maximum amount of energy delivered to the whole body by a 1,000 mG, 60-Hz magnetic field is less than 0.00000005 watt. In contrast, RF, created by cell phones, communication towers and cell phone towers at 900 MHz can heat tissue, depending on its intensity, because the RLF frequencies are more readily absorbed by biological tissue than ELF.¹⁰⁷

124. Many common appliances, such as refrigerators, fans and electric ranges create fairly high magnetic fields close to them, but the strength of the field dissipates quickly as one moves away from the source. Transportation that runs on electric motors, such as some trains, may also have fairly high associated magnetic fields. A gasoline-electric hybrid car will also create a fairly high magnetic field, in the range of 20 to 40 mG.¹⁰⁸

125. Over the past 30 years, many epidemiological studies have been conducted to determine if there is a correlation between childhood leukemia and proximity to electrical structures. Some studies have shown that there is an association and some have not. Although the epidemiological studies have been refined and increased in size, the studies do not show a stronger related effect. In addition, a great deal of experimental, laboratory research has been conducted to determine causality, and none has been found.¹⁰⁹

126. Based on his training, experience and research, Dr. Valberg opined that the standards in the range of 2,000 to 9,000 mG are quite conservative and protect against health effects.¹¹⁰

127. Many members of the public commented that they are uncomfortable about the EMF and fear its health effects. Some members of the public believe that proximity to power lines has had a seriously detrimental effect on the health of their family members or livestock. Although some individuals may be electric sensitive, there is no research to support such sensitivity.¹¹¹

¹⁰⁷ Ex. 35 at 4-5 (Valberg Surrebuttal).

¹⁰⁸ Tr. Vol. 3 at 12-13 (Valberg).

¹⁰⁹ Tr. Vol. 3 at 13-15, 17-23 (Valberg).

¹¹⁰ Tr. Vol. 3 at 23 (Valberg).

¹¹¹ Tr. Vol. 3 at 34-35 (Valberg).

128. NoRCA offered the testimony of David O. Carpenter, which was part of the record in a prior proceeding before the Commission.¹¹² Dr. Carpenter is a public health physician and Director of the Institute for Health and the Environment at the University of Albany, SUNY. Dr. Carpenter concluded that exposure for prolonged periods to magnetic fields at about 2 to 4 mG from power lines is associated with an increased risk of cancer, and may increase the risk of neurodegenerative diseases, including Alzheimer's Disease and amyotrophic lateral sclerosis.¹¹³ It is Dr. Carpenter's judgment that it is prudent to reduce the proximity of a power line to homes, schools, day cares, and other places where people will be for prolonged periods of time.¹¹⁴ Dr. Carpenter stated that studies in Scandinavia have shown an elevated risk of leukemia in children living within 150 meters (approximately 492 feet) of a high voltage transmission line but no elevated risk in children living within 300 meters.¹¹⁵

129. Although Dr. Carpenter's recommendation has not been embraced by the Commission or the standard-setting organizations, it may provide some reassurance to the public that the effect of the magnetic field drops off quickly as one moves away from the source, and that few homes will be close enough to the transmission line to be affected in any way.¹¹⁶

Radio, Television, Cellular Phone and Global Positioning System (GPS) Interference

130. Many members of the public expressed concern about the transmission line's possible interference with radio, television, cellular phones or GPS systems. Corona from transmission line conductors can generate electromagnetic "noise" that may interfere with radio and television signals. Proper maintenance of the transmission line can ordinarily correct the problem. Digital television is less susceptible to disruption than analog reception. Sometimes modifications to the receiving antenna for AM radios are required. FM radio receivers are ordinarily not affected. Applicants will work with property owners to resolve problems with reception. The Applicants will also work with communication tower owners to assure that any interference from the transmission line is mitigated.¹¹⁷

¹¹² Ex. 49, Testimony of David O. Carpenter, *In the Matter of the Route Application by Great River Energy and Xcel Energy for a 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota*, PUC Docket No. ET2/TL-08-1474.

¹¹³ Ex. 49 at 17.

¹¹⁴ Ex. 50 at 45, *In the Matter of the Route Application by Great River Energy and Xcel Energy for a 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota*, PUC Docket No. ET2/TL-08-1474, Tr. Vol. 3.

¹¹⁵ Ex. 50 at 75.

¹¹⁶ Ex. 50 at 129: Question: Dr. Carpenter, ...you're not advocating the route for this line assure that there is no residents (sic) within proximity to the line that would experience four milligauss of magnetic fields, are you? Answer: No, I'm not advocating that. But I'm advocating strongly that the line be routed to reduce the number of those homes as much as possible. The ideal would be to impact no home at values more than four milligauss. That may not be unrealistic.

¹¹⁷ Ex. 1A at 7-16 – 7-18 (Application).

131. Some landowners expressed concern that high voltage transmission lines could interfere with electromagnetically guided cornering systems used for center pivot irrigation systems. A study published in the Institute of Electronics and Electrical Engineers Transactions on Power Delivery found that the level and frequency of magnetic fields required to cause interference with the electromagnetically guided cornering systems is significantly higher than found near most high voltage transmission lines.¹¹⁸

Noise

132. The Minnesota Pollution Control Agency (MPCA) sets daytime and nighttime noise standards.¹¹⁹

133. Construction activities will generate noise that is short-term and intermittent. Construction will be limited to the hours of 7 a.m. to 10 p.m. With the exception of the use of explosions to splice the conductors, the project noise will have little effect on the surrounding area.¹²⁰

134. The Applicants propose to use implosive connectors rather than hydraulic splices to join conductors. The process creates noise equivalent to a clap of thunder or commercial fireworks.¹²¹ Although no evaluation of the resulting noise was included in the EIS, given the intermittent and widely dispersed explosions that will be required, it is not likely that the MPCA noise limits would be exceeded. Signs should be posted to warn the travelling public of the possible detonations. Nearby residents should also be notified when the explosions will occur in their area.

135. Transmission lines produce noise under certain conditions. The level depends on conductor conditions, voltage level and weather. The noise during operation and maintenance is minimal and does not exceed the MPCA Noise Limits outside of the right-of-way. The estimated noise level from the transmission lines is 48.5 dBA five percent of the time and 45.5 dBA fifty percent of the time at the edge of the right of way. Under MPCA noise limits, the noise level at the residences 1,000 feet away from the route may not exceed the quieter, nighttime limits of 55 dBA for more than ten percent of the time, or 50 dBA for more than fifty percent of the time.¹²²

136. Members of the public expressed dissatisfaction with the MPCA Noise Limits because the rural area that the transmission line will cross is very quiet, with little background noise.¹²³ An increase in the noise level will be noticeable and will adversely affect their enjoyment of the rural setting. However, it is noted that the acceptable noise level is measured at the edge of the right-of-way. Most residences along the selected

¹¹⁸ Ex. 22A, DEIS at 7-75, citing study conducted by Olsen and Heins, 1998.

¹¹⁹ Ex. 22A, DEIS at 5-14 – 5-15.

¹²⁰ Ex. 22A, DEIS at 5-14.

¹²¹ Ex. 3 at 8 (Chezik Direct).

¹²² Ex. 22A, DEIS at 5-14 – 5-15, 6-5 – 6-6, 7-7 – 7-8.

¹²³ See Ex. 22A, DEIS at 5-7, Table 5.1-6, Noise Levels Associated with Common Sources, 30 dBA for secluded woods, compared with 40 dBA in a bedroom and 50 dBA in a library.

route will be at a much greater distance from the transmission line and experience a lower noise level.

137. Transmission lines can create a crackling sound in foggy, damp or rainy weather, caused by a small amount of electricity ionizing the moist air near the conductors. The noise is not audible during heavy rain, but may be audible during light rain, dense fog, snow and other times when moisture is in the air. The audible noise is approximately equal to household background noise. The noise level at the edge of the right-of-way can not exceed the MPCA noise limits.¹²⁴

138. The Quarry Substation will be located in an area that is zoned municipal or industrial and is not near noise-sensitive areas. The substation's noise was reviewed in the Monticello to St. Cloud 345 kV Transmission Line Project EIS.¹²⁵

139. The Alexandria Substation will be upgraded. It is not in a noise-sensitive area and the upgrades are not expected to significantly increase the noise.¹²⁶

140. In the event that Route D is placed underground in the Albany area, there is one resident located within 500 feet of the eastern end transition station who may experience noise at a level that exceeds the most stringent MPCA nighttime limit. If this alternative were selected, a noise barrier at the transition station could lower the noise level to alleviate the impact.¹²⁷

141. Noise associated with the operation of the transmission line is not predicted to exceed the noise limits set by the MPCA.¹²⁸

Application of the Statutory and Rule Criteria to the North Dakota to Alexandria Segment

Description of the Route Alternatives

142. A map depicting the route alternatives and route options for this segment is reprinted in Appendix B to this report.

143. For the North Dakota to Alexandria segment of the Project the Application included the Applicants Preferred Route and Route A.

144. After Applicants filed the Application, they incorporated two changes to the Preferred Route. The **Modified Preferred Route** is approximately 101 miles long.¹²⁹ It includes a 17-mile east/west segment alternative near Barnesville and just north of 150th Street North, traveling from I-94 to 70th Street South (identified in the DEIS as "Alternate

¹²⁴ Ex. 22A, DEIS at 5-14.

¹²⁵ FEIS at 3-25; Order, *In the Matter of the Application of a Route Permit for the Monticello to St. Cloud 345 kV Transmission Line Project*, PUC No. E-002/TL-09-246 (July 12, 2010).

¹²⁶ FEIS at 3-25.

¹²⁷ Ex. 22A, DEIS at 7-19.

¹²⁸ Ex. 22A, DEIS at 5-15, 6-13, 7-17.

¹²⁹ Ex. 30 at Sched. 8 (Lahr Rebuttal).

Scope Area 1" or **AS-1**). Public officials in the Fargo area urged the Applicants to consider routing the transmission line south of the original Preferred Route crossing of the Red River at Clay County Highway 8 because of expected growth to the south of Fargo, and to co-locate transmission lines with the United States Army Corps of Engineers' planned flood-control project (Diversion Project) to the extent possible.¹³⁰

145. AS-1 provides a Red River crossing that is approximately three miles farther south than the crossing included in the Application and is more compatible with the planned Diversion Project. AS-1 provides some flexibility for crossing to North Dakota, allowing an alignment at the southerly edge of the route or farther north where an existing 69 kV line crosses the Red River.¹³¹

146. AS-1 is shorter and more compatible with the Diversion Project, but it affects a personal use airstrip, the Lesmeister Flying Service, in Alliance Township, Clay County. The Applicants evaluated the effect of AS-1 on the Lesmeister Flying Service, and considered the comments offered by the airstrip owners, Dean and Jacqui Lesmeister, during the DEIS public meetings. In response, the Applicants identified an option, designated as **Option 13**, that would deviate from AS-1 and go south around the Lesmeister Flying Service.¹³²

147. **AS-2** was originally proposed to connect the Preferred Route to the Alternate Red River Crossing, farther to the south. However, this segment alternative is not part of the Modified Preferred Route.¹³³

148. The Applicants' Alternate Route, **Route A**, begins at the Red River, south of Breckenridge. Route A runs to the southeast, paralleling existing property lines and road rights-of-way until it reconnects with the Preferred Route west of the Alexandria Switching Station.¹³⁴ Route A is approximately 84 miles long.¹³⁵

149. Additional options for this segment were considered. **Option 1** along the Modified Preferred Route,¹³⁶ three miles southwest of Ashby, between Fergus Falls and Alexandria, is approximately four miles longer than the segment it replaces and affects more wooded acreage.¹³⁷ Option 1 avoids an existing residence immediately adjacent to I-94 and lands held by the United States Fish and Wildlife Service (USFWS) on the opposite side of the freeway. At the time of the hearing, the Applicants had concluded

¹³⁰ Ex. 2 at 11-12 (Lahr Direct).

¹³¹ Tr. Vol. 6 at 122-123 (Lahr); Ex. 4b.

¹³² Ex. 2 at Sched. 4, depicting Option 13; see also Ex. 4b, showing the initial Preferred Route, the Modified Preferred Route and Option 13.

¹³³ Ex. 4b; Ex. 2 at 17 (Lahr Direct); Ex. 21.

¹³⁴ See Ex. 2 at Sched. 2 (Lahr Direct) and Ex. 4p.

¹³⁵ Ex. 30 at Sched. 8 (Lahr Rebuttal).

¹³⁶ Some of the options were referred to as Alternative Route Segments, with different numbers, in the Application. The references here are to the designations assigned in the DEIS.

¹³⁷ Ex. 2 at 17 (Lahr Direct); FEIS, Appx. C, Sheet 18. In the Application, Option 1 is referred to as Applicants Preferred Alternative Route Segment 5.

that they could follow the Modified Preferred Route and cross between the affected water bodies so that they would not need to follow Option 1.¹³⁸

150. **Option 2A** to the Modified Preferred Route,¹³⁹ near Evansville, between Fergus Falls and Alexandria, is approximately nine miles long, designed to avoid Waterfowl Production Areas on both sides of I-94, and a residence north of the Waterfowl Production Area.¹⁴⁰

151. During the scoping of the DEIS, a short segment was added between Option 2A and the Modified Preferred Route. This segment is referred to on Sheet Map 20 as Option 2B.¹⁴¹

152. The DEIS analyzes Option 2B, not as depicted on the sheet maps, but as identified in the DEIS at 1-10, Figure 1-5.¹⁴² As analyzed, Option 2B begins at the point where Option 2A runs south from the Modified Preferred Route. At this point, the Modified Preferred Route has a broadened route width, with two possible alignments. Option 2B leaves I-94 and follows the southern alignment of the Modified Preferred Route (depicted as the lower green line on Sheet 19), then rejoins I-94 and continues south along that route to the I-94/ CSAH 41 interchange (Sheet 20), continuing along the Modified Preferred Route as it turns north of I-94 to skirt the interchange and the Zickur Waterfowl Production Area. Option 2B continues to follow the Modified Preferred Route as it turns south at Kenworth Drive and returns to I-94. At this point, Option 2B deviates from the Modified Preferred Route, crosses south of I-94 and runs along Green Acre Road. It is the portion of Option 2B that runs along Green Acre Road that is identified as Option 2B on Sheet 20. Option 2B joins Option 2A and continues east along the same path as Option 2A (Sunnyside Drive or CR-55), crossing the Chippewa River and rejoining the Modified Preferred Route at I-94 in Evansville Township, sections 13 and 24. Option 2B is approximately 8.6 miles long.¹⁴³

153. The DEIS compares Option 2A and Option 2B with the Modified Preferred Route from the northern point where Option 2A deviates to the southern point where Option 2A and Option 2B rejoin it.

154. The Applicants' Tile Map E6 refers to Option 2A and 2B differently from either the Sheet Maps or the discussion in the DEIS and will not be used as the basis for comparison.¹⁴⁴

155. Landowners along the Modified Preferred Route supported Option 2B to avoid farmsteads, agricultural operations and removal of trees that provide visual and

¹³⁸ Ex. 1a (Application) at ES-11 (delineated as Applicants Preferred Route Segment Alternative 5); Tr. Vol. 6 at 116 (Lahr).

¹³⁹ Ex. 1a (Application) at ES-10 (delineated as Applicants Preferred Route Segment Alternative 4).

¹⁴⁰ Ex. 2 at 17 (Lahr Direct); FEIS, Appx. C, Sheets 19, 20 and 21.

¹⁴¹ Ex. 22A, DEIS at 1-16.

¹⁴² Ex. 22A, DEIS at 1-27.

¹⁴³ This description is not set forth in the DEIS, but is the best assessment of the option that can be made to reconcile the maps and data in the DEIS.

¹⁴⁴ See Ex. 4m, Applicants' Tile Map, refers to both the 2B segment and the eastern part of 2A as 2B.

sound protection from I-94.¹⁴⁵ At the time of the hearing, the Applicants' assessment was that they could follow the Modified Preferred Route through this area, but that Option 2A or Option 2B could provide alignments that would better serve the adjacent landowners.¹⁴⁶

156. **Option 3** along the Modified Preferred Route, just west of Alexandria and the intersection with Route A, was initially included because the area along I-94 is constrained in this location by a lake, lakeshore residences, an existing 115 kV line and a pipeline, and Applicants were uncertain if the alignment could pass through the constrained area.¹⁴⁷ However, at the time of the hearing, the Applicants no longer believed that Option 3 was necessary. Also, it passes through archaeological sites.¹⁴⁸

157. For this segment, the Modified Preferred (including AS-1), Option 2a and 2b, and Option 13, will be compared to Route A as proposed in the Application. AS-3, the area needed to expand the Alexandria Switching Station, is included in both alternatives and will not be separately evaluated. Because AS-2 is not included in the Modified Preferred Route and there is no support for Option 1 or Option 3 they will not be further evaluated.

158. In comparing the Modified Preferred Route to Route A, it is important to note that Route A crosses into Minnesota farther south than the Modified Preferred Route crosses. In Minnesota, the Modified Preferred Route is 101 miles long; Route A is 84 miles long. The Applicants and the DEIS compared only the portion of each route within Minnesota.

Effects on Human Settlement

159. The Commission must consider the impact of the route on human settlement, including, but not limited to, displacement, aesthetics, recreation, and public services.¹⁴⁹

Displacement

160. The record does not show a clear comparison between the number of residential and non-residential structures within the 1000-foot route for the Modified Preferred Route. There are 96 residential structures within the Applicants Preferred Route compared to 77 within Route A, and there are 34 residential structures within AS-1. However, one cannot determine how many fewer homes would be within the Preferred Route if AS-1 were selected, nor is there evidence of how many residences are within 1000 feet of the Modified Preferred Route, which incorporates AS-1.¹⁵⁰

¹⁴⁵ Public Ex. 1, Letter from Robert and Jeanine Henneman with Attachments; FEIS, Appx. C, Sheets 19-21.

¹⁴⁶ Tr. Vol. 6 at 118-119 (Lahr).

¹⁴⁷ FEIS Appx. C at Sheet 24; Ex. 1a at ES-9 (delineated in the Application as Preferred Route Segment Alternative 3).

¹⁴⁸ Tr. Vol. 6 at 119-120 (Lahr); Ex. 2 at 17 (Lahr Direct).

¹⁴⁹ Minn. Stat. § 216E.03, subd. 7 (b); Minn. R. 7850.4100 (A).

¹⁵⁰ Ex. 22A, DEIS at 5-6.

161. The DEIS includes a different measurement, the number of residences within specified distances of the proposed right-of-way centerline.

162. No residences are located within the proposed rights-of-way for either the Modified Preferred Route, which incorporates AS-1, or Route A, although both alternatives do have homes within 500 feet of the proposed right-of-way centerline, depicted in the table below.¹⁵¹

Route	Residences within Proximity of Alignment (Feet)				
	0-75	75-150	150-300	300-500	Total within 500 feet
Modified Preferred	0	8	21	27	56
Route A	0	7	33	36	70
AS-1	0	0	1	2	3

163. The nonresidential structures include agricultural accessory buildings such as barns and other farm buildings and commercial buildings near highways. There are 371 non-residential structures within the Applicants Preferred Route as initially proposed, 237 for Route A and 155 for AS-1.¹⁵² There are 52 non-residential structures within 150 feet of the alignment of the Modified Preferred Route, which includes AS-1. There are 13 non-residential structures within 150 feet of the Route A alignment.¹⁵³

164. There are no residential or non-residential structures located along Option 13. The comparative segment of AS-1 has four residential structures and 12 non-residential structures.¹⁵⁴ Thus, selection of Option 13 will reduce the total number of residential and non-residential structures affected by the Modified Preferred Route.

165. The Modified Preferred Route will have less impact on residences but more impact on non-residential structures than Route A. The selection of Option 2A or 2B will decrease the impact of the Modified Preferred Route on residences, as depicted in the following chart.

Route	Residences within Proximity of Alignment (Feet) ¹⁵⁵				
	0-75	75-150	150-300	300-500	Total within 500 feet
Modified Preferred – comparable to Route 2A and 2B	0	2	4	3	9
Option 2A	0	2	0	0	2
Option 2B	0	0	2	3	5

¹⁵¹ Ex. 22A, DEIS at 5-11 and 5-12; Ex. 30 at Sched. 8 (Lahr Rebuttal); Letter to ALJ from Karen Finstad Hammel, Apr. 4, 2011.

¹⁵² Ex. 22A, DEIS at 5-6, Table 5.1-5.

¹⁵³ Ex. 30 at Sched. 8 (Lahr Rebuttal).

¹⁵⁴ FEIS at 3-6, Table 3.3-1.

¹⁵⁵ Ex. 22A, DEIS at 5-12, Table 5.1-11.

166. Although a few more homes are within 500 feet of the alignment along Option 2B, the landowners in the area prefer it because the affected homes are farther away from the proposed centerline and fewer nonresidential structures used in agricultural production would be affected.¹⁵⁶

Land Use and Zoning

167. Another way to evaluate displacement is to look at the land zoned for residential and commercial development. The type of land and the number of acres that could be impacted by the Modified Preferred Route and Route A from North Dakota to Alexandria are summarized below.¹⁵⁷ Route A affects more land zoned for residential development and significantly less land zoned for commercial development. Route A would affect more special agricultural and transitional zoned land.¹⁵⁸

Route	Agriculture	Residential	Commercial	Municipal	Recreation	Special Ag	Transitional
Modified Preferred ROW	1,063	58	22	0	77	0	0
Modified Preferred No ROW	1,620	88	33	0	117	0	0
Route A	1,129	105	2	0	87	81	111

168. Option 2A and Option 2B affect more agricultural land than the equivalent section of the Modified Preferred Route.¹⁵⁹

169. Option 13, like the comparable section of AS-1, affects only agricultural or undeveloped land, and its use is not expected to change as a result of construction and operation of the transmission line.¹⁶⁰ Option 13 affects less prime farmland than the comparable section of AS-1.¹⁶¹

Pipelines

170. The Modified Preferred Route would cross Amoco, Williams Brothers and Great Plains pipelines, for a total of 12 pipeline crossings. It would periodically parallel two Amoco pipelines and the Williams Brothers pipeline from approximately the Fergus Falls area to the Alexandria area. Route A would not cross any of the four pipelines in the North Dakota to Alexandria portion of the project.¹⁶² With proper planning and mitigation, pipelines and high voltage transmission lines can be safely co-located.¹⁶³

¹⁵⁶ Ex. 22A, DEIS at 5-6, Table 5.1-5.

¹⁵⁷ FEIS at 3-10, Table 3.4-1.

¹⁵⁸ See FEIS at 3-10; Ex. 22A, DEIS at 5-9.

¹⁵⁹ FEIS at 3-11, Table 3.4-2.

¹⁶⁰ FEIS at 3-6, Table 3.3-1.

¹⁶¹ FEIS at 3-9, Table 3.3-2.

¹⁶² Ex. 22A, DEIS at 5-13; Ex. 30 at Sched. 8 at 2 (Lahr Rebuttal).

¹⁶³ Ex. 22A, DEIS at 5-15.

Aesthetics

171. The proposed transmission line will be constructed on single-pole, double circuit capable, self-weathering or galvanized steel structures approximately 135 to 175 feet high. The transmission line will introduce new vertical forms or lines in largely rural areas. In flat or rolling terrain, common in the Project area, the structures can be visible for a mile or more. On agricultural lands, the pole structures may be visible for up to two miles. In addition to the structures, the right-of-way will require vegetation removal and may have a dramatic effect on the visual appearance. All of the routes will require some corner structures, breaking the linear nature of the line and having a greater visual impact.¹⁶⁴

172. Placement of an overhead high voltage transmission line will have a significant aesthetic effect on nearby homeowners and persons who see the transmission line while travelling or engaging in recreational activities. Sensitive view points include locations from which a significant number of people who enjoy the scenery would view an affected landscape. These viewpoints include transportation corridors, designated scenic byways, existing residences in close proximity and with an unobstructed view of the transmission line, and recreational use areas. The proposed routes have similar impacts on aesthetics.¹⁶⁵

173. Between North Dakota and Alexandria there are 56 homes within 500 feet of the Modified Preferred Route and 70 homes within 500 feet Route A. Since the number of homes within 500 feet of the Modified Preferred Route is less than the number within 500 feet of Route A, fewer homes along the Modified Preferred Route will directly view the line.¹⁶⁶ There is no information in the DEIS that measures the number of homes within sight of the transmission line.

174. The Modified Preferred Route includes two scenic byway crossings in the North Dakota to Alexandria segment – the crossing of the King of Trails Byway and the Glacial Ridge Trail. Route A includes one scenic byway crossing in this segment – the King of Trails Byway. The Modified Preferred Route, Option 2A and Option 2B each parallel the King of Trails Byway for one mile.¹⁶⁷

Recreation

175. Recreational resources are also located near the Modified Preferred Route between North Dakota and Alexandria.¹⁶⁸ The Modified Preferred Route would encompass 1,122 acres of parks, open space and recreational space within the proposed route. Route A would encompass 561 acres of parks, open space and

¹⁶⁴ Ex. 22A, DEIS at 5-35 – 5-37.

¹⁶⁵ Ex. 22A, DEIS at 5-37.

¹⁶⁶ Ex. 22A, DEIS at 5-35 and 5-38.

¹⁶⁷ Ex. 30 at Sched. 8 (Lahr Rebuttal); FEIS at 3-18, Table 3.4-6.

¹⁶⁸ Ex. 30 at Sched. 8 (Lahr Rebuttal).

recreational space within the proposed route.¹⁶⁹ Within the proposed right-of-way, the Modified Preferred Route has 117 acres of recreational, open space and park land and Route A has 87 acres.¹⁷⁰

176. Option 2A affects less recreational land than the Modified Preferred Route or Option 2B; Option 2B affects slightly more recreational land than the Modified Preferred Route with right-of-way sharing and slightly less than the Modified Preferred Route without right-of-way sharing.¹⁷¹

Transportation

177. Each of the route alternatives pass through a roadway network consisting of various interstate, state, county, city and other local roadways. The Modified Preferred Route would parallel I-94 for approximately 73 miles and affect the aesthetics for those drivers. Route A would not impact as many drivers because the roads Route A parallels are much less-traveled than I-94 and are low volume roadways that primarily serve farm to market functions.¹⁷² Because it does not follow a roadway, Option 13 will not affect traffic.

178. MnDOT expressed concern about the high number of freeway crossings (20) along the Modified Preferred Route between Barnesville and Alexandria.¹⁷³

179. Except to the extent that Option 2B follows I-94 along the Modified Preferred Route, neither Option 2A nor Option 2B follow heavily traveled roads.¹⁷⁴

180. There are three full-service rest areas along I-94 in this segment, which will be affected by the Modified Preferred Route. Lake Lakota Rest Area (for eastbound traffic) and Hansel Rest Area (for westbound traffic) are actively used rest areas. The rest areas are located in an area with many protected resources, including Waterfowl Production Areas.¹⁷⁵

181. Southeast of Fergus Falls along I-94 is the Iverson Lake Rest Area, in Buse Township. In this area, the Modified Preferred Route is wider than 1,000 feet to avoid the rest area on the southwest side of the interstate and the Hi-View Wildlife Management Area on the northeast side.¹⁷⁶ The Rest Area has been closed because of flooding and MnDOT is evaluating whether it will be reopened. Because federal funds

¹⁶⁹ Ex. 22A, DEIS at 5-27.

¹⁷⁰ Ex. 30 at Sched. 8 (Lahr Rebuttal).

¹⁷¹ FEIS at 3-11, Table 3.4-2.

¹⁷² Ex. 22A, DEIS at 5-40 – 5-41, Tables 5.4-1 and 5.4-2. Based on the information provided, it is difficult to evaluate Option 2A and 2B, except that to the extent that they deviate from I-94, they will affect less traffic. DEIS at 5-43.

¹⁷³ Ex. 41 at 3.

¹⁷⁴ Ex. 22A, DEIS at 5-43, Table 5.4-3. It is noted that the DEIS text on this page incorrectly describes the options. Option 2A follows all four roads listed. Option 2B follows I-94, Green Acre Road (not listed) and Sunnyside Drive.

¹⁷⁵ FEIS, Appx. C, Sheets 15, 16, 17.

¹⁷⁶ Ex. 4j; FEIS, Appx. C, Sheet 14; Tr. Vol. 6 at 127 (Lahr).

paid a portion of the cost of the land, there may be limitations on MnDOT's release of the land, and its availability to route the transmission line is not clear.¹⁷⁷ Members of the public encouraged the Applicants to pursue the possibility of routing the line through the Rest Area rather than going around the Wildlife Management Area adjacent to the north side of I-94. Applicants are not opposed to seeking approval from MnDOT to cross the Rest Area.¹⁷⁸ The Iverson Lake Rest Area does not affect Route A.

Airports

182. There are three public airports located along the Modified Preferred Route: Alexandria Municipal, Elbow Lake, and Fergus Falls. MnDOT and the Applicants have determined that any issues related to the proximity of the Project to these airports can be resolved through the design and location of transmission structures.¹⁷⁹

183. If the Modified Preferred Route were selected, it would impact the Lesmeister Flying Service. The Lesmeister Flying Service is a personal use airport under Minnesota regulations, but has no categorization under federal regulations.¹⁸⁰

184. Applicants analyzed the requirements that would be in place if the Lesmeister Flying Service were subject to the specific clearances set by the FAA for regulated airports. The Applicants determined that the Modified Preferred Route would interfere with the clearances for the north/south runway.¹⁸¹

185. Applicants proposed Option 13 to avoid the airport. Option 13 would place the transmission line far enough from the Lesmeister Flying Service so that the restrictive FAA clearances would be met. Option 13 would avoid the runway by approximately one mile to the south and .5 mile on the east and west.¹⁸²

186. Many other private use airports were identified within five miles of the Modified Preferred Route (12) and Route A (5), but would not be affected.¹⁸³

Effects on Land-Based Economies

187. The Commission must consider the effect of the route alternatives on land-based economies including agriculture, forestry, tourism and mining.¹⁸⁴

¹⁷⁷ Tr. Vol. 4 at 55-56; 104-05 (Seykora).

¹⁷⁸ Tr. Vol. 6 at 128 (Lahr).

¹⁷⁹ Ex. 30 at 10 (Lahr Rebuttal); Ex. 41 (MnDOT DEIS Comment Letter); Vol. 5 at 12 (Seykora).

¹⁸⁰ Ex. 2 at 12-13 (Lahr Direct); FEIS at 3-7 - 3-8.

¹⁸¹ Ex. 2 at 13-14 and Sched. 4 (Lahr Direct).

¹⁸² Ex. 2 at 14 and Sched. 4 (Lahr Direct); FEIS at 3-8.

¹⁸³ Ex. 22A, DEIS at 5-51, Table 5.4-5.

¹⁸⁴ Minn. Stat. § 216E.03, subd. 7 (b)(5); Minn. R. 7850.4100 (C).

Agriculture

188. The primary land-based economy in the Project Area is agriculture. Fifty-five percent of lands occurring within the Modified Preferred Route is zoned for agriculture between North Dakota and Alexandria. An additional 36 percent of lands within the Modified Preferred Route are not zoned or are undefined. It is likely that a large portion of the 36 percent is also agricultural land. Seventy-four percent of lands occurring within Route A are zoned for agriculture, including .06 percent of lands zoned as special protection agriculture.¹⁸⁵ There are 82 acres zoned as Special Protection Agricultural Land within the Route A right-of-way. There are no acres zoned as Special Protection Agricultural Land within the Modified Preferred Route right-of-way.¹⁸⁶

189. There are 5,002 acres of prime farmland within the Modified Preferred Route and 5,271 acres of prime farmland within Route A.¹⁸⁷ Because Route A is approximately 83 percent as long as the Modified Preferred Route, the difference is quite significant. According to federal regulation, "prime farmland" is defined as "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops and is available for these uses."¹⁸⁸

190. Option 2B includes approximately the same number of acres of prime farmland as the Modified Preferred Route; Option 2A contains fewer prime farmland acres.¹⁸⁹ However, the number of acres within the right-of-way is virtually the same for Option 2A and Option 2B.¹⁹⁰

191. The Project will cause permanent and temporary impacts to farmland. Permanent impacts will occur as a result of structure placement along the route centerline. The temporary impacts occur during construction. Applicants estimate that the permanent impacts to agricultural fields will be 1,000 square feet per pole. In this route segment, the Modified Preferred Route would require approximately 358 poles in agricultural land and Route A would require 278 poles in agricultural land. The Modified Preferred Route will permanently impact approximately 33,000 square feet of land, or .77 acre, and temporarily impact 358 acres. Route A would permanently impact approximately 28,000 square feet of land, or .65 acre, and temporarily impact 278 acres.¹⁹¹ These differences are proportional to the line length.

192. The Applicants have developed an Agricultural Impact Mitigation Plan with the Department of Agriculture that identifies measures the Applicants must take to avoid or mitigate any negative impact to farmland that may occur from transmission line construction, including restoration of damaged drainage tile, restoration of soil and removal of debris. It requires the Applicants to retain an inspector who reports directly

¹⁸⁵ Ex. 22A, DEIS at 5-59; Ex. 30, Sched. 8 at 2 (Lahr Rebuttal).

¹⁸⁶ Ex. 30 at Sched. 8 at 2 (Lahr Rebuttal).

¹⁸⁷ Ex. 22A, DEIS at 5-60.

¹⁸⁸ Ex. 22A, DEIS at 5-61, citing 7 C.F.R. § 657.5.

¹⁸⁹ Ex. 22A, DEIS at 5-61.

¹⁹⁰ Ex. 22A, DEIS at 5-69, Table 5.7-10.

¹⁹¹ Ex. 22A, DEIS at 5-66; Ex. 30 at Sched. 8 at 2 (Lahr Rebuttal).

to the Minnesota Department of Agriculture. It also addresses any impact that construction may have on interruption of irrigation.¹⁹²

193. Appendix B to the Agricultural Impact Mitigation Plan addresses Organic Agricultural Land, including procedures to be followed during construction, operation and maintenance of the transmission line, and compensation for damages if the land should be decertified as a result of these activities.¹⁹³

194. Pole placement may interfere with center pivot irrigation systems. After a route is selected, pole placements can be negotiated with the landowner during the right-of-way acquisition process.¹⁹⁴

195. There is one center pivot irrigation system in use within Route A. There are no center pivot irrigation systems used within the Modified Preferred Route.¹⁹⁵

Forestry

196. The Modified Preferred Route is located primarily in grassland and cultivated land with some forested areas adjacent to farmsteads, waterways, and within DNR-managed lands. Much of the affected land is private, and not held for commercial forestry operations. There are 652 acres of wooded lands within the Modified Preferred Route and 282 acres of wooded lands within Route A.¹⁹⁶ Trees must be cleared within the right-of-way.¹⁹⁷

197. There are 48 acres of wooded land within the Modified Preferred Route right-of-way with right-of-way sharing (51 without right-of-way sharing) and 37 acres of wooded land within the right-of-way of Route A. Option 2A and 2B include eight wooded acres in the right-of-way, while the comparable section of the Modified Preferred Route includes four acres.¹⁹⁸

Mining

198. There is no evidence of potential impact to mining resources along this segment of the Modified Preferred Route or Route A.¹⁹⁹

Tourism

199. Neither the Modified Preferred Route nor Route A is near any tourist attractions other than recreational property. The majority of tourism activities or

¹⁹² Ex. 2 at 27-28 (Lahr Direct); Ex. 1c, Appx. I to the Application (Agricultural Impact Mitigation Plan).

¹⁹³ Ex. 1c, Appx. I to the Application (Agricultural Impact Mitigation Plan, Appx. B)

¹⁹⁴ FEIS at 2-42.

¹⁹⁵ Ex. 22A, DEIS at 5-60, Table 5.7-3.

¹⁹⁶ Ex. 22A, DEIS at 5-61-5-62.

¹⁹⁷ Ex. 1a (Application) at 7-31.

¹⁹⁸ Ex. 22A, DEIS at 5.7-11. Note that these numbers do not match those in Ex. 30 at Sched. 8 (Lahr Rebuttal).

¹⁹⁹ Ex. 30 at Sched. 8 (Lahr Rebuttal); Ex. 22A, DEIS at 5-62.

opportunities along this segment of the route are associated with recreational activities. No impact to tourism is anticipated.²⁰⁰

Effects on Archaeological and Historical Resources

200. The Commission must consider the effect of the route alternatives on archaeological and historic resources.²⁰¹

201. Archaeological and historical resources represent the visible or otherwise tangible record of past human activity on the landscape. An archaeological resource refers to a surface or buried resource and an historic architecture resource refers to a building or structure, constructed since settlers came in contact with indigenous people.²⁰²

202. There are three archaeological sites within the Modified Preferred Route right-of-way, and one archaeological site within the Route A right-of-way.²⁰³ There are three known historic structures within the Route A right-of-way and one within the Modified Preferred Route right-of-way.²⁰⁴

Effects on Natural Environment

203. The Commission must consider the effect of the route alternatives on the natural environment including effects on air and water quality resources and flora and fauna.²⁰⁵

Water Quality Resources

204. Where possible, all rivers, streams and ditches along the proposed routes will be spanned by transmission structures or avoided to minimize the impact. A limited number of structures could be located within surface waters.²⁰⁶

205. Wetlands are present at several points along the proposed routes. The USFWS National Wetlands Inventory (NWI) was used to identify wetlands throughout the proposed routes and route options. Some surface waters are designated as Public Waters by the State of Minnesota and are under the regulatory jurisdiction of the DNR and are listed in the Public Waters Inventory (PWI).²⁰⁷ For this segment of the route, a total of 962 acres of wetlands occur within the Modified Preferred Route, 84 acres of which are PWI wetlands, and 479 acres of wetlands occur within Route A, 24 acres of which are PWI wetlands.²⁰⁸

²⁰⁰ Ex. 22A, DEIS at 5-71.

²⁰¹ Minn. Stat. § 216E.03, subd. 7 (b)(1); Minn. R. 7850.4100 (D).

²⁰² Ex. 22A, DEIS at 5-54 – 5-55.

²⁰³ Ex. 30 at Sched. 8 at 2 (Lahr Rebuttal); *see also* Ex. 22A, DEIS at 5-54 – 5-57.

²⁰⁴ Ex. 30 at Sched. 8 at 2 (Lahr Rebuttal); *see also* Ex. 22A, DEIS at 5-55 – 5-56.

²⁰⁵ Minn. Stat. § 216E.03, subd. 7 (b)(1) and (2); Minn. R. 7850.4100 (E).

²⁰⁶ Ex. 22A, DEIS at 5-79.

²⁰⁷ Ex. 22A, DEIS at 5-73, 5-76.

²⁰⁸ Ex. 22A, DEIS at 5-76.

206. Route A has 54 acres of NWI wetlands and 10 acres of PWI lakes and wetlands within the right-of-way. The Modified Preferred Route has 65 acres of NWI wetlands and 14 acres of PWI lakes and wetlands within the right-of-way.²⁰⁹ The total acreage of NWI wetlands by type within the proposed routes is summarized below.²¹⁰

NWI Wetland Type	Modified Preferred Route	Route A	Option 2A ²¹¹	Option 2B
Freshwater Emergent	588	387	45	63
Freshwater Forested/Shrub	40	31	1	1
Freshwater Pond	92	21	1	12
Lake	215	35	5	25
Riverine	26	5		

207. Temporary and permanent wetland impacts will occur as a result of the Project. Temporary impacts to wetlands may occur if they need to be crossed during construction of the transmission line. Permanent impacts to wetlands would occur where structures must be located within wetland boundaries. Structure placement would result in approximately 55 square feet of permanent impact per standard single-pole structure. Temporary impacts would total approximately 20-foot-wide by length of the transmission line span of the wetland, which is the assumed width of a temporary access road.²¹²

208. The Applicants estimated that the Modified Preferred Route would require 14 poles in NWI wetlands and two poles in PWI wetlands and that Route A would require four poles in NWI wetlands and two poles in PWI wetlands. It is estimated that the Modified Preferred Route would cause temporary impacts to approximately 14 acres of NWI wetlands and permanent impacts to 770 square feet of NWI wetlands. Route A would cause temporary impacts to approximately four acres of NWI wetlands and permanent impacts to 220 square feet of NWI wetlands.²¹³ The DEIS includes fewer poles in the wetlands. With right-of-way sharing, the Modified Preferred Route would have two poles in NWI wetlands and one in PWI wetlands; Route A would have five poles in NWI wetlands and one in PWI wetlands.²¹⁴

209. The Modified Preferred Route crosses more Perennial Streams and PWI Stream Crossings, but Route A crosses more Intermittent Streams. AS-1 will cross more Intermittent Streams than the route as initially proposed. Selection of Option 2A or 2B would not make a significant difference in the crossings.²¹⁵

²⁰⁹ Ex. 30 at Sched. 8 at 1 (Lahr Rebuttal).

²¹⁰ Ex. 22A, DEIS at 5-77.

²¹¹ Here, Option 2A and Option 2B can only be compared to each other and not to the comparable section of the Modified Preferred Route.

²¹² Ex. 22A, DEIS at 5-81.

²¹³ Ex. 30 at Sched. 8 at 1 (Lahr Rebuttal).

²¹⁴ Ex. 22A, DEIS at 5-82, Table 5.8-9.

²¹⁵ Ex. 22A, DEIS at 5-80, Table 5.8-7.

210. The Applicants would need a National Pollution Discharge Elimination System Permit (NPDES) from the MPCA for the discharge of storm water generated during construction. Construction practices can mitigate soil erosion and disturbed soil can be restored.

211. DNR rules require that utilities in public waters should ordinarily be placed underground. In order to receive approval for an overhead placement, the applicant must "explain the economic, technological, or land characteristic factors, which make underground placement infeasible. Economic considerations alone shall not be the major determinant."²¹⁶

212. The rules also direct utilities to avoid crossing PWI lakes, but if there is no feasible and prudent alternative, to minimize encroachment by crossing under the water.²¹⁷

213. At this point in the process, the Applicants and DNR have not determined whether any portion of the alignment would require an underground portion. Thus, no costs for underground placement in any specific location have been included in the Project costs. Rather, there is general information about underground construction and costs.²¹⁸

214. There would be no pole placements in NWI or PWI wetlands in Option 2A or Option 2B.²¹⁹ However, the Option 2A right-of-way would include two acres of USFWS wetland easements and Option 2B right-of-way would include ten acres of USFWS wetland easements. The Modified Preferred Route alignment would include 14 acres in the comparable section.²²⁰

Flora and Fauna

215. Twenty-six Waterfowl Protection Areas (WPAs), seven Wildlife Management Areas (WMAs) and one Scientific Natural Area (SNA) are within one mile of the Modified Preferred Route from North Dakota to Alexandria. Seventeen WPAs, seven WMAs and two scenic byways are within one mile of Route A from North Dakota to Alexandria. Option 2A and Option 2B affect one additional WPA and one additional WMA within one mile of the route.²²¹

216. There are 56 acres of USFWS wetland and grassland easements within the Modified Preferred Route right-of-way. There are 11 acres of USFWS wetland and grassland easements within the Route A right-of-way.²²²

²¹⁶ Minn. R. 6135.1200, subp. 1 A.

²¹⁷ Minn. R. 6135.1100, subp. 4 B.

²¹⁸ Ex. 3 at Sched. 1 (Chezik Direct).

²¹⁹ Ex. 30 at Sched. 8 at 1 (Lahr Rebuttal).

²²⁰ Ex. 22A, DEIS at 5-95.

²²¹ Ex. 22A, DEIS at 5-33.

²²² Ex. 30 at Sched. 8 at 3 (Lahr Rebuttal).

217. There are no SNAS, WMAs or WPAs in the Modified Preferred Route or Route A right-of-way in this segment.²²³

218. Critical habitat is the natural environment that supports species. Designated habitat or conservation areas include unmanaged areas such as the DNR-designated Minnesota County Biological Survey (MCBS) sites of biodiversity significance.²²⁴

219. The Minnesota County Biological Survey (MCBS) attempts to locate, organize and rank sites with significant biodiversity. There are three levels: moderate, high, and outstanding. Areas with *moderate biodiversity significance* contain significant occurrences of rare species and/or moderately disturbed native plant communities and landscapes that have a strong potential for recovery. Areas with *high biodiversity significance* contain sites with high quality occurrences of the rarest plant communities and/or important functional landscapes. Areas with *outstanding biodiversity significance* contain the best occurrence of the rarest species; the most outstanding example of the rarest native plant communities and/or the largest, most intact functional landscapes present in Minnesota. MCBS sites are present between Sauk Centre and St. Cloud, but most are concentrated in the eastern area of Stearns County.²²⁵

220. In this segment, there are three acres of MCBS sites of moderate biodiversity significance within the right-of-way of Route A and one acre of MCBS sites of moderate biodiversity significance within the right-of-way of the Modified Preferred Route. There are no acres of outstanding or high MCBS sites of biodiversity significance within the right-of-way of either route.²²⁶

221. The DNR prefers Route A for this segment of the Project because the Modified Preferred Route has greater potential to affect migratory birds due to high concentrations of waterfowl and other species in this area. Route A would help to avoid potential bird fatalities caused by collisions with transmission lines.²²⁷

²²³ Ex. 30 at Sched. 8 (Lahr Rebuttal); DEIS at 5-93.

²²⁴ Ex. 22A, DEIS at 5-86.

²²⁵ Ex. 22A, DEIS at 7-113 – 7-114.

²²⁶ Ex. 30 at Sched. 8 at 3 (Lahr Rebuttal); Ex. 22A, DEIS at 5-94.

²²⁷ Letter, Jan. 5, 2011, Jamie Schrenzel.

Effects on Rare and Unique Natural Resources

222. The Commission must consider the effect of the route alternatives on rare and unique natural resources.²²⁸

223. Six species listed as endangered, threatened, or special concern by the State of Minnesota have been documented within the Modified Preferred Route. None are found within Option 2A or Option 2B.²²⁹ No federally listed species have been identified within one mile of the Modified Preferred Route.²³⁰

224. The DNR and its partners have developed Minnesota's State Wildlife Action Plan called "Tomorrow's Habitat for the Wild and Rare," as a tool to guide wildlife conservation, including actions and priorities for Species of Greatest Conservation Need and their key habitats. Such species are rare, declining or vulnerable and include threatened or endangered species. There are few occurrences of these species within the Modified Preferred Route, but none within Options 2A, 2B or 13, and none within Route A.²³¹

225. The DNR and USFWS identified two areas of special concern along the Modified Preferred Route. The first is a chain of lakes approximately 25 miles northwest of Alexandria on both sides of I-94, the area near Pomme de Terre Lake, Pelican Lake and Lake Christina.²³² According to the USFWS, 20 percent of the canvasback duck population that migrates across the U.S. congregates within this area. The other area is approximately 36 miles north of Alexandria along I-94 between North Ten Mile Lake, Mineral Lake and Swan Lake. Both of these areas have high potential for avian collision, particularly during inclement weather and with low flight over I-94 between the lakes.²³³

226. Route A would avoid the areas of concern along the Modified Preferred Route by traveling south of the concentration of larger lakes to Alexandria. However, there is an area of high waterfowl and migratory bird concentration where Route A crosses the Mustinka River in Elbow Lake Township.²³⁴

227. Although it parallels more existing right-of-way, the Modified Preferred Route impacts more natural resources than Route A between North Dakota and Alexandria. The Modified Preferred Route crosses 28 more USFWS easements, four more WMAs, four more MCBS Sites of Biodiversity Significance, and two more Native Plant Communities. It crosses two areas of special concern to the DNR and USFWS. It also affects more Minnesota Land Trust Conservation Easements and Board of Water

²²⁸ Minn. Stat. § 216E.03, subd. 7 (b) (1); Minn. R. 7850.4100 (F).

²²⁹ Ex. 1a (Application) at 7-63; Ex. 22A, DEIS at 5-95 and Tables 5.9-4, 5.9-5 and 5.9-6; FEIS at 3-20, Table 3.4-7.

²³⁰ Ex. 1a (Application) at 7-63; Ex. 22A, DEIS at 5-95.

²³¹ FEIS at 3-20, Table 3.4-7.

²³² See Exs. 4k and 4m; and FEIS, Appx. C at Sheets 16 and 17.

²³³ Ex. 22A, DEIS at 5-92 – 5-93.

²³⁴ Ex. 22A, DEIS at 5-93.

and Soil Resources RIM easements. Route A has fewer MCBS Sites and Native Plant Communities, but more of these resources within its right-of-way than the Modified Preferred Route.²³⁵

228. Most of the effects of the transmission line can be mitigated with careful attention to construction location and techniques. The greatest impact on natural resources in this area will be to waterfowl and migratory birds. The Applicants have developed an Avian Protection Plan and will attempt to avoid major flyways or migratory resting spots, avoid high quality wildlife habitat and add shield wires or avian diverters to the degree possible. However, the prevalence of the habitat within the Modified Preferred Route will make this difficult. Because of the height of the structures and length of the conductors, the impact of the transmission line on birds extends beyond the right-of-way.

Use of Existing Right-of-Way, Survey Lines, Natural Division Lines and Agricultural Field Boundaries

229. The Commission must consider the extent to which the route alternatives use or parallel existing rights-of-way, survey lines, natural division lines and agricultural field boundaries.²³⁶

230. For the North Dakota to Alexandria segment, 93.7% of the Modified Preferred Route would parallel existing linear features and 94.2% of Route A would parallel existing linear features. The Modified Preferred Route parallels 90.8 miles of roadway and 3.7 miles of field. Route A parallels 62 miles of roadway and 12.1 miles of field.²³⁷

231. Option 13 follows a field boundary for 100% of its distance.²³⁸

232. Options 2A and 2B parallel existing linear features for 100% of their distance. Option 2a parallels 6.4 miles of roadway and 2.8 miles of field. Option 2B parallels 7.6 miles of roadway and 1 mile of field.²³⁹

Use of Existing Transportation, Pipeline, and Electrical Transmission System Right-of-Way

233. The Commission must consider the extent to which the route alternatives use existing transportation, pipeline and electrical transmission system rights-of-way.²⁴⁰

234. In *People for Environmental Enlightenment and Responsibility (PEER) v. Minnesota Environmental Quality Council*,²⁴¹ the Minnesota Supreme Court discussed

²³⁵ Ex. 22A, DEIS at 5-94.

²³⁶ Minn. Stat. § 216E.03, subd. 7 (b) (9); Minn. R. 7850.4100 (H).

²³⁷ Ex. 30 at Sched. 8 (Lahr Rebuttal); FEIS at 3-3, Table 3.2-2.

²³⁸ Ex. 30 at Sched. 11 (Lahr Rebuttal); FEIS at 3-3, Table 3.2-2.

²³⁹ FEIS at 3-3, Table 3.2-2.

²⁴⁰ Minn. Stat. § 216E.03, subd. 7 (b) (8); Minn. R. 7850.4100 (J).

the value of selecting transmission options that avoid proliferation of new right-of-way if a feasible and suitable alternative exists.

235. The Legislature has also directed the Commission to make specific findings that it considered locating a high voltage transmission line on an existing high voltage transmission line route or parallel to existing highway right-of-way, and to state its reasons if it did not select such a route.²⁴² The statute does not apply to this proceeding because the Route Permit was filed prior to the statute taking effect, but the principle established in *PEER* applies.

236. The extent to which a proposed route will follow existing transmission lines, highways and other established rights-of-way is a factor to be considered in the decision. Although this factor alone is not determinative of the routing decision, its principle, frequently referred to as “non-proliferation,” has merit and must be considered. Once a party has made a showing that the proposed route will adversely affect natural resources, one must determine whether there is a feasible and prudent alternative. If there is a feasible and prudent alternative that will better promote the public health, safety, or welfare, that option should be selected.²⁴³

237. The selection of a pre-existing route:

minimizes the impact of the new intrusion by limiting its effects to those who are already accustomed to living with an existing route. More importantly, however, the establishment of a new route today means that in the future, when the principle of non-proliferation is applied, residents living along this newly established route may have to suffer the burden of additional power line easements.²⁴⁴

238. Because of the desirability of non-proliferation, this factor is given greater weight than the factor which includes not only rights-of-way, but also survey lines, natural division lines and agricultural field boundaries. Although such features are helpful for siting the proposed line, following such lines and boundaries does not avoid proliferation.

239. It is likely that homes will be affected by running transmission lines along highway rights-of-way because homes are typically placed close to roads. Thus, it is necessary to balance the desirability of following existing rights-of-way, the number of homes in proximity to the alternatives, the impact on the environment, cost, and the other routing factors to determine which route best meets the routing criteria.

240. For this segment, 77% of the Modified Preferred Route would parallel existing right-of-way and 79% of Route A would parallel existing right-of-way. However,

²⁴¹ 266 N.W.2d 858 (Minn. 1978).

²⁴² Minn. Stat. § 216E.03, subd. 7 (e), effective for route applications filed after the date of enactment, April 30, 2010; Laws of Minnesota 2010, ch. 288, § 3.

²⁴³ *PEER* at 867-868.

²⁴⁴ *PEER* at 868-869.

the Modified Preferred Route parallels I-94 and Route A parallels lightly travelled rural roads. With the exception of AS-1, 88 percent of the Modified Preferred Route would parallel existing right-of-way, largely following I-94. Option 13 follows existing rights-of-way for 33% of its distance.²⁴⁵

241. The Modified Preferred Route parallels less existing right-of-way and linear features than the Preferred Route Applicants initially proposed, but the Applicants prefer the Modified Preferred Route because it allows for a river crossing that is farther south of the Fargo area, which addresses the concerns raised by local officials.²⁴⁶

242. By comparing the distance that Option 2A and Option 2B follow roads, rails, trails or transmission lines, one can calculate the approximate corridor sharing for the options. Option 2A follows roads for approximately 69 percent of its length; Option 2B follows roads for approximately 88 percent of its length. The comparable section of the Modified Preferred Route is 7.9 miles long and largely follows I-94.²⁴⁷

Costs of Constructing, Operating and Maintaining the Facility

243. The Commission must consider the costs of constructing, operating, and maintaining the facility that are dependent on design and route.²⁴⁸ The costs of operation and maintenance are based on a per-mile figure.

244. For this segment, the estimated cost of construction of the Modified Preferred Route, including AS-1 (101 miles long) is \$146.4 million. Option 13 will add \$3.4 million to the cost of the Modified Preferred Route. The estimated cost of construction of Route A (84 miles long) is \$174.1 million.²⁴⁹

245. Option 2A will add approximately \$15.7 million to the cost of the Modified Preferred Route; Option 2B will add about \$14.6 million to the cost.²⁵⁰

246. Despite its shorter length, Route A is more expensive to construct than the Modified Preferred Route with Option 13 and Option 2A or 2B.

247. Both the Modified Preferred Route and Route A pose some special construction challenges through the Red River Valley. The Modified Preferred Route crosses heavy clay deposits in the Lake Agassiz lakebed. Route A crosses an area of

²⁴⁵ Ex. 30 at Sched. 8 (Lahr Rebuttal); Ex. 22A, DEIS at 5-41, Table 5.4-1 and 5-42, Table 5.4-2; see also FEIS at 3-3, Table 3.2-2.

²⁴⁶ Applicants' Post-Hearing Brief at 22.

²⁴⁷ FEIS 3-3, Table 3.2-2, applied to estimated length of 9 miles for Option 2A and estimated length of 8.6 miles for Option 2B.

²⁴⁸ Minn. R. 7850.4100 (L).

²⁴⁹ Ex. 1a (Application) at 6-6; Tr. Vol. 1 at 132-133 (Chezik).

²⁵⁰ FEIS at 3-2, Table 3.2-1.

the river valley that frequently floods and the transmission structures will require deep foundations.²⁵¹

Adverse Human and Natural Environmental Effects That Cannot Be Avoided

248. The Commission must consider the adverse human and natural environmental effects that cannot be avoided.²⁵²

249. The unavoidable adverse impacts associated with the Project include the physical impacts to the land, primarily agricultural land, caused by the construction of the Project. The agricultural impacts are discussed in detail above. The Modified Preferred Route permanently impacts more acres of land than Route A, but only because of its greater length.²⁵³

250. Applicants intend to work with the USFWS and DNR to minimize the impact of construction, restore disturbed land, and avoid major flyways or migratory resting spots.

Irreversible and Irrecoverable Commitments of Resources

251. The Commission must consider whether the irreversible and irretrievable commitment of resources will be affected by route selection.²⁵⁴

252. Construction resources, such as concrete, steel and hydrocarbon fuels, will be irreversible and irretrievably committed to this Project. The use of resources is relative to the length of each route. Within Minnesota, the Modified Preferred Route is longer.

Recommendation for the North Dakota to Alexandria Segment

253. The Modified Preferred Route will have an adverse effect on natural resources. It will pass through critical area for waterfowl production and migratory bird flyways and affect more wetlands. However, Route A is not a more feasible and prudent alternative. It is more expensive and will affect proportionally more agricultural and residential land, including special agriculture land. Selection of AS-1 will reduce the number of residences within 500 feet of the proposed alignment of the Modified Preferred Route, affecting fewer homes than the shorter Route A. With the exception of AS-1, the Modified Preferred Route will cause less proliferation of new right-of-way. The Modified Preferred Route largely follows a major transportation corridor, I-94, rather than running across largely rural, undeveloped land. Along Route A, 17 miles of the total 83.8 miles would follow either farm fields or no linear feature. With the exception of

²⁵¹ Tr. Vol. 1 at 123-125 (Chezik); Exs. 4b, 4d, 4e and 4f (Modified Preferred Route) and Exs. 4c, 4g and 4h (Route A).

²⁵² Minn. Stat. § 216E.03, subd. 7 (b) (5); Minn. R. 7850.4100 (M).

²⁵³ Ex. 1A at 6-6 (Application); Ex. 30 at Sched. 8 (Lahr Rebuttal). The number of acres affected is proportional to the length of the route.

²⁵⁴ Minn. Stat. § 216E.03, subd. 7 (b) (11); Minn. R. 7850.4100 (N).

the 18 miles of AS-1, 8.4 miles out of approximately 85 miles of the Modified Preferred Route would follow farm fields or no linear feature. The Average Daily Traffic is much higher along the roads that parallel the Modified Preferred Route than along Route A, indicative of the decidedly rural area that Route A would cross.²⁵⁵

254. The permanent impact on the environment from the placement of structures can be mitigated with careful attention to construction techniques and restoration. The most difficult impact to mitigate will be the effect on the birds in flight. Sharing the I-94 right-of-way will help reduce impact on habitat, but care must be taken to avoid adverse consequences caused by the location and length of the conductors.

255. Option 2B is a feasible and prudent alternative to either the Modified Preferred Route or Option 2A. It would reduce the number of homes within 500 feet of the right-of-way, reduce interference with farm operations and landing strips and may minimize the removal of trees that currently serve as a visual and sound barrier between some of the farmsteads and I-94. The Applicants should work with the landowners to place the alignment along Option 2B.

256. Option 13 is a feasible and prudent alternative to one portion of the Modified Preferred Route and will reduce the impact of that route.

Accommodation for Rest Areas and Scenic Easements

257. The Applicants seek a broader route width at two points in Fergus Falls Township. The greater width at sections 17 through 20 may be needed to avoid a USFWS Waterfowl Production Area, MnDOT scenic easements and USFWS conservation easements.²⁵⁶

258. Further south, at section 32 of Fergus Falls Township and sections 5 and 6 of Buse Township, there are MnDOT scenic easements on both sides of I-94, and the alignment may need to be placed farther west of I-94. The Applicants' proposed alignment within the Modified Preferred Route would be approximately 1,100 feet from the nearest home in the River Oaks subdivision, but the edge of the proposed route corridor is approximately 200 feet from the nearest home.²⁵⁷

259. The residents of River Oaks support an alignment that crosses the MnDOT scenic easement.²⁵⁸ Although MnDOT typically prohibits crossing scenic easements, it has an exception process, which would require the Applicant to address certain criteria set forth in the federal regulations and the MnDOT Accommodation Policy.²⁵⁹

²⁵⁵ Ex. 22A, DEIS at 5-41, Table 5.4-1 and 5-42, Table 5.4-2.

²⁵⁶ Tr. Vol 6 at 123-125 (Lahr); Ex. 4i.

²⁵⁷ Ex. 30 at 15 and Sched. 14 (map depicting the location of alignment and River Oaks)(Lahr Rebuttal).

²⁵⁸ Tr. Vol. 6 at 125-126 (Lahr); Ex. 4j; Cichosz, Public Hearing, Fergus Falls, Nov. 16, 2010, 6:30 p.m. at pp. 31-32; Public Ex. 3.

²⁵⁹ See 23 C.F.R. § 645.209 (h); Tr. Vol. 4 at 101-102 (Seykora).

260. The Applicants do not object to seeking an exception to move the alignment closer to I-94 in this area.²⁶⁰

261. Further south in Buse Township, sections 23-25, there is a similar widening of the route to accommodate MnDOT scenic easements on both sides of I-94 in the vicinity of the Iverson Rest Area.²⁶¹ There were many public comments objecting to running the transmission line around the edge of the rest area because it is closed and under water. There is a USFWS Waterfowl Production Area and DNR Wildlife Management Area, as well as USFWS Wetland Easements, in this area, which are additional impediments to siting. There are similar limitations further south in Tumuli Township with similar impediments.²⁶²

262. Although no final determination has been made, MnDOT is evaluating the possibility of eliminating the Iverson Rest Area because of the rising water. However, because the land was purchased with federal funds, MnDOT must follow specific procedures to dispose of the property. In light of the procedures to be followed, MnDOT was uncertain whether the land would be available for a transmission line crossing.²⁶³ If the Modified Preferred Route is selected, the Applicants are willing to work with MnDOT to seek approval to cross the rest area.²⁶⁴

263. In Moe Township, there was another area where the route was widened to avoid a residential structure and a wetland.²⁶⁵ The Applicants learned, however, that the house was uninhabitable and the wetland was artificially high because of a clogged tile that has since been fixed. The Applicants will not need a broader route width in this area.²⁶⁶

²⁶⁰ Tr. Vol. 6 at 125-126 (Lahr).

²⁶¹ Ex. 4j.

²⁶² Exs. 4j and 4k; Tr. Vol. 6 at 127-129 (Lahr).

²⁶³ Tr. Vol. 4 at 55-56 (Seykora).

²⁶⁴ Vol. 6 at 128 (Lahr).

²⁶⁵ Ex. 4n.

²⁶⁶ Ex. 4n; Comment, Hegg, Nov. 18, 2010, evening, at 28-31; Public Exs. 7-8; Comment Lahr, Nov. 18, 2010, evening, at 32-33; Vol. 6 at 132 (Lahr).

Application of the Statutory and Rule Criteria to the Alexandria to Sauk Centre Segment

Description of the Route Alternatives

264. A map depicting the route alternatives and route options for this segment is reprinted in Appendix B to this report.

265. The Applicants proposed the **Modified Preferred Route** and an alternative, **Route A**, for this segment. The Modified Preferred Route has one option for a portion of the route, Option 5; similarly, Route A has Options 4 and 7. Option 6 connects the Modified Preferred Route to Route A near Sauk Centre.²⁶⁷

266. **AS-3** includes 4.3 acres along the Preferred Route to allow for expansion of the Alexandria Switching Station, and has been incorporated into the Modified Preferred Route.²⁶⁸

267. For this segment, the Modified Preferred Route is approximately 30 miles long and generally follows I-94. Route A is approximately 37 miles long and follows several county and township roads south of I-94.²⁶⁹

268. **Option 4** is approximately five miles long and deviates from Route A, parallel to and north of Route A, about two miles northeast of Forada. This option would require an aerial crossing of Childs Lake.²⁷⁰ Although Option 4 would avoid several homes and center pivot irrigations systems, the lake is too broad to be spanned at this point, and is not a feasible, prudent alternative to Route A as proposed.²⁷¹

269. **Option 5** is approximately three miles long and deviates from the Modified Preferred Route just south of West Union. It creates a triangle to the north of I-94, requires an additional angle structure, and would run along the Lake Wobegon Trail. It would not decrease the impact of the Modified Preferred Route and is not a feasible and prudent alternative to the Modified Preferred Route as proposed.²⁷²

270. **Option 6** is approximately 1.5 miles long and connects the Modified Preferred Route and Route A about 2 miles west of Sauk Centre to allow selection of a portion of each of the two routes.²⁷³ It does not follow an existing right-of-way.²⁷⁴ Option

²⁶⁷ Ex. 22A, DEIS at 1-12; Ex. 30, Sched. 8 (Lahr Rebuttal).

²⁶⁸ Ex. 4p; FEIS, Appx. C at Sheet 44; Ex. 2 at 11, 15 (Lahr Direct).

²⁶⁹ Ex. 30 at Sched. 8 (Lahr Rebuttal).

²⁷⁰ FEIS, Appx. C at Sheet 53.

²⁷¹ Ex. 22A, DEIS at 1-27; 6-34; 6-52, Table 6.7-3, 6-57; Ex. 2 at 18 (Lahr Direct).

²⁷² Ex. 22A, DEIS at 1-27; FEIS Appx. C at Sheet 48; Ex. 2 at 18 (Lahr Direct).

²⁷³ Ex. 22A, DEIS at 1-27; FEIS Appx. C at Sheet 49. Ex. 1a (Application) at ES-8 (delineated as Preferred Route Segment Alternative 2); Tr. Vol. 6 at 120-121 (Lahr).

²⁷⁴ Ex. 30 at Sched. 8 at 5 (Lahr Rebuttal);

6 would allow a switch to Route A from the Modified Preferred Route to go around the City of Sauk Centre and avoid the Sauk Centre airport.²⁷⁵

271. **Option 7** is approximately two miles long and is a shorter alignment option within Route A about five miles west of Sauk Centre. It would cross the Victor Winter Wildlife Management Area, but it would affect fewer homes, center pivot irrigation systems and less wooded land than a more northerly alignment within Route A.²⁷⁶

272. For this segment, the Modified Preferred Route (including AS-3) will be compared to Route A and Option 7. The appropriate comparison for Option 7 is the corresponding proposed alignment of Route A.²⁷⁷ Option 6 will also be evaluated.

Effects on Human Settlement

Displacement

273. The following table shows the number of residential and nonresidential structures within the 1,000-foot routes for each route alternative. Twenty more residences are located within the Modified Preferred Route compared to Route A.²⁷⁸

Route	Residences	Nonresidential Structures
Modified Preferred	57	246
Route A	37	98

274. The following table shows the number of residential structures within 500 feet of the proposed right-of-way centerline for each route. There are seven more homes within 500 feet of the centerline for the Modified Preferred Route than are within Route A.²⁷⁹

Route	Residences within Proximity of Alignment (Feet)				
	0-75	75-150	150-300	300-500	Total within 500 feet
Modified Preferred	0	12	13	16	41
Route A	0	8	13	13	34

275. The Option 7 alignment will affect four fewer homes than Route A. Option 6 will decrease the number of affected homes on the Modified Preferred Route

²⁷⁵ FEIS, Appx. C at Sheets 51, 57 and 58.

²⁷⁶ Ex. 2 at 18 (Lahr Direct); Ex. 30, Sched. 8 at 5, 6 (Lahr Rebuttal); Ex. 22A, DEIS at 1-27; 6-10; 6-57; 6-61; FEIS Appx. C at Sheet 56.

²⁷⁷ Ex. 22A, DEIS at 6-1.

²⁷⁸ Ex. 22A, DEIS at 6-5, Table 6.1-5. Since Option 7 is an alignment option, it is included within Route A.

²⁷⁹ Ex. 22A, DEIS at 6-10; Tables 6.1-10 and 6.1-11; Ex. 30 at Sched. 8 (Lahr Rebuttal).

by 21 homes because it avoids the City of Sauk Centre.²⁸⁰ There are no likely residential displacements within the proposed rights-of-way.²⁸¹

276. Route A has 23 fewer non-residential structures within 150 feet of the alignment than the Modified Preferred Route.²⁸²

Land Use and Zoning

277. Another way to evaluate the effect of the transmission lines on human settlement is to look at the acres of land zoned for residential use within the right-of-way proposed for each route.

278. The type of land and the number of acres within the right-of-way that could be impacted by the Modified Preferred Route and Route A from Alexandria to Sauk Centre are summarized below.²⁸³

Route	Agriculture	Residential	Commercial	Municipal	Recreation	Special Ag	Transitional
Modified Preferred ROW	213	77	31	0	44	0	0
Modified Preferred No ROW	322	117	46	0	66	0	0
Route A	482	104	15	0	41	40	0

279. Both the Modified Preferred Route and Route A would cross predominantly agricultural land. Route A crosses slightly more residential land than the Modified Preferred Route if that route shares some right-of-way with I-94. Route A also crosses some special agriculture land. The Modified Preferred Route includes more land zoned for commercial development and slightly more land zoned for recreational use.²⁸⁴

280. Option 6 crosses more land zoned for agricultural use than the Modified Preferred Route and fewer acres zoned for commercial and recreational use.²⁸⁵

281. Option 7 crosses only land zoned for agriculture but because it is shorter than the comparable section of Route A, it affects less agricultural land.²⁸⁶

²⁸⁰ Ex. 22A, DEIS at 6-10; Table 6.1-11; FEIS, Appx. C at Sheet 50. Ex. 30 at Sched. 8 (Lahr Rebuttal) reflects fewer homes for Option 6 because it does not include the homes along Route A that would be followed if this option were selected. See FEIS, Appx. C at Sheets 50, 51 and 57.

²⁸¹ Ex. 22A, DEIS at 6-9.

²⁸² Ex. 30 at Sched. 8 (Lahr Rebuttal).

²⁸³ FEIS at 3-23 - 3-25, Table 3.5-2.

²⁸⁴ FEIS at 3-25, Table 3.5-2.

²⁸⁵ FEIS at 3-25, Table 3.5-2.

²⁸⁶ FEIS at 3-25, Table 3.5-2.

Pipelines

282. The Modified Preferred Route will cross pipelines three times; Route A will cross pipelines four times. Option 7 and Option 6 each include one pipeline crossing.²⁸⁷

Aesthetics

283. As set forth more fully above, placement of an overhead high voltage transmission line will have a significant aesthetic effect on nearby homeowners and persons who see the transmission line while travelling or engaging in recreational activities. The number of residences within 500 feet of the proposed alignment of the two alternatives is not significantly different. Route A has seven fewer homes than the Modified Preferred route and 11 fewer homes if the Option 7 alignment is selected.²⁸⁸

Recreation

284. Recreational resources in the project area from Alexandria to Sauk Centre include WPAs, WMAs, lakes, boat launches, local and regional trails, a golf course, and other recreational uses.²⁸⁹

285. From Alexandria to Sauk Centre, the Modified Preferred Route has 572 acres zoned as recreational use, parks, or open space, a broader category than the land zoned for recreation, above. Route A has 258 acres. Option 6 has no acres zoned for recreational use, parks or open space, but one acre of recreational land use. The equivalent segment of the Modified Preferred Route has 218 acres zoned for recreational use, parks or open space. Within the proposed right-of-way, the Modified Preferred Route includes 66 acres of recreational use land, with right-of-way sharing, and Route A has 41 acres of recreational land use.²⁹⁰

286. The Central Lakes Trail is a 55-mile paved trail between Fergus Falls and Osakis. The Lake Wobegon Trail is a 46-mile regional trail that extends from the Central Lakes Trail in Osakis to St. Joseph. The Modified Preferred Route crosses the Lake Wobegon Trail four times and would run within the Trail's right-of-way for three miles west of Sauk Centre and two miles on the east side of Sauk Centre. Route A does not cross or run parallel to the Lake Wobegon Trail.²⁹¹

287. MnDOT owns the Lake Wobegon Trail between Osakis and St. Joseph. The property is a former rail bed and was purchased through the Rail Bank Program. MnDOT requires a permit to cross the trail or to run a utility within the right-of-way.

²⁸⁷ Ex. 22A, DEIS at 6-12.

²⁸⁸ Ex. 22A, DEIS at 6-34, Table 6.3-4.

²⁸⁹ Ex. 22A, DEIS at 6-25.

²⁹⁰ Ex. 22A, DEIS at 6-26; 6-29 – 6-30. It is not clear why Table 6.3-1 (Recreational Land Use Impact Evaluation for Routes) shows zero acres for Option 6 while Table 6.3-2 (Recreational Land Use Within Each Route and Route Option Alternative ROW) shows one acre for Option 6.

²⁹¹ Ex. 22A, DEIS at 6-29 - 6-30.

There is a one-time fee associated with a trail crossing (currently \$1000 per crossing), and an annual fee per lineal foot (currently \$1 in rural areas and \$2 in incorporated communities) for an alignment that runs parallel to the Rail Bank property, within the right-of-way.²⁹²

288. The Applicants' estimated costs of the Project do not include costs associated with crossing or running parallel to the Lake Wobegon Trail.²⁹³

289. There are no state parks, state forests or SNAs within one mile of either route.²⁹⁴

290. One scenic byway, the Glacial Ridge Trail, runs within one mile of both the Modified Preferred Route and Route A.²⁹⁵

291. The Lynx National Golf Course is located within the Route A right-of-way, east of Highway 71 and south of the Sauk Centre Airport, but the transmission line would not affect any tees or greens.²⁹⁶

292. Both the Modified Preferred Route and Route A cross several local snowmobile and multi-use non-motorized trails. These trails often provide access along roadway rights-of-way.²⁹⁷

293. Visitors to the recreational areas may view the transmission line, which distracts from the attractiveness of the area, but the transmission lines are not expected to interfere with recreational use.

Transportation

294. The Modified Preferred Route follows I-94. There is one rest area, Burgen Lake, for westbound traffic, which may be affected. As set forth above, routing along I-94 must comply with federal requirements for interstate highways, including rest area and super haul requirements. Route A largely follows lightly travelled county roads.²⁹⁸

295. MnDOT expressed concern about the unusually high number of freeway crossings close to Sauk Centre.²⁹⁹

²⁹² Tr. Vol. 4 at 83-84, 120-121 (Seykora); Minn. Stat. § 222.63; Minn. R. parts 8830.5810-8830.5860.

²⁹³ Tr. Vol. 6 at 135 (Lahr).

²⁹⁴ Ex. 22A, DEIS at 6-26.

²⁹⁵ Ex. 22A, DEIS at 6-27.

²⁹⁶ Ex. 22A, DEIS at 6-28.

²⁹⁷ Ex. 22A, DEIS at 6-29 – 6-30.

²⁹⁸ Ex. 22A, DEIS at 6-36 – 6-37, Table 6.4-1 and Table 6.4-2, 6-43.

²⁹⁹ Ex. 41 at 3.

Airports

296. There are two public airports in this segment of the Project. One, Chandler Field, can be avoided, but proper notice must be given to the FAA.³⁰⁰ The other airport, Sauk Centre Municipal Airport, presents significant challenges to the routing.

297. The Modified Preferred Route broadens to the north of I-94 in Sauk Centre to avoid the Sauk Centre Airport, and the proposed alignment passes through the city on 12th Street.³⁰¹

298. The City of Sauk Centre opposed running the Modified Preferred Route along 12th Street, which is heavily developed with residences, churches, businesses, parks and the Lake Wobegon Trail. The alignment would pass near a day care center and preschool, an assisted living facility, the Sinclair Lewis Interpretive Center and the Fairgrounds. The City is concerned about the impact of this alignment on the existing uses and on future development and replacement of infrastructure. Sauk Centre is also concerned because the proposed alignment would cross I-94 seven times within two miles of the city.³⁰²

299. The Sauk Centre Airport operates a main paved north/south runway, Runway 14/32, that is 3,300 feet long and 60 feet wide. The City's current Airport Layout Plan (ALP), approved by MnDOT in 2000, reflects its intention to expand Runway 14/32 in the future to 4,000 feet by 75 feet.³⁰³

300. Runway 08/26 is a secondary, unpaved crosswind east/west runway that is 2,270 feet long and 140 feet wide. It is located at the north end of the Runway 14/32, not far from I-94. The ALP reflects the City's intention to upgrade Runway 08/26 to a paved runway, 2,500 feet by 60 feet. There is no timeline for the City's proposed upgrades.³⁰⁴

301. MnDOT and the FAA have rules that govern runway clearance, including airspace and land use restrictions. The FAA rules require notice and review of any object that may affect the navigable airspace. MnDOT also regulates obstructions in the airspace and prescribes airport approach and turning standards. The most significant airspace requirements applicable to this proceeding are the "departure slopes," which extend upward and outward from each runway. There are also relevant land use safety requirements. Within Safety Zone A, the area that extends beyond the end of the runway for approximately two thirds the runway length, certain structures,

³⁰⁰ Ex. 22A, DEIS at 6-39.

³⁰¹ FEIS, Appx. C at Sheets 50 and 51.

³⁰² Public Ex. 10; Ex. 57.

³⁰³ Ex. 55 (Letter to ALJ from MnDOT, Jan. 5, 2011).

³⁰⁴ Ex. 55 (Letter to ALJ from MnDOT, Jan. 5, 2011).

including transmission lines, are restricted. Within Safety Zone A, an aerial transmission line is prohibited, regardless of its height.³⁰⁵

302. The City of Sauk Centre is willing to revise its ALP so that the alignment of the transmission line can avoid following 12th Street through the city.³⁰⁶ However, changes to the plan with reconstruction or relocation of runways would take several years, cost between \$2.5 and \$8 million, and may not be feasible within the Project's timeline.³⁰⁷

303. Throughout this proceeding, the Applicants, MnDOT, and City representatives discussed the impact of the airport on the routing. On December 28, 2010, they met with FAA officials to review possible design modifications that would address concerns about interference with runway clearance and the City's objection to running the transmission line on the north side of I-94 along 12th Street. Following the meeting, each of the participants filed letters summarizing their position, but there is no clear consensus concerning alignment along the Modified Preferred Route that will meet the MnDOT and FAA standards and avoid placing the alignment north of I-94, through Sauk Centre.³⁰⁸

304. The Applicants believe that an alignment north of I-94 could be developed to address the current airport configuration and safety standards and avoid the downtown portion of Sauk Centre, but no proposed alignment with identified structure placement and height was submitted.³⁰⁹

305. The Applicants requested flexibility to develop an alignment in consultation with MnDOT, the FAA and the City of Sauk Centre.³¹⁰

306. In the event that the Modified Preferred Route cannot be aligned to comply with federal and state aviation standards and address the City's objections to alignment along 12th Street, an alternative is to follow the Modified Preferred Route to Option 6, then follow Option 6 and Route A to the point where Route A rejoins the Modified Preferred Route at the end of this segment. This would add about 3.5 miles to the length of the Modified Preferred Route, at an estimated cost of \$1.7 million per mile. With certain limitations on the height of one or two transmission line structures, Option 6 and Route A around the City could be constructed to comply with the airport safety clearances.³¹¹

307. During the hearing, questions were raised about the feasibility of placing the transmission line underground through the airport clearance zone, a distance of about 2,400 feet. This would require construction of both circuits under the Sauk River,

³⁰⁵ Ex. 55 (Letter to ALJ from MnDOT, Jan. 5, 2011), Map showing Airspace Zones, attached.

³⁰⁶ Public Ex. 10; Ex. 57.

³⁰⁷ Ex. 55 at 3; Exs. 56 and 57.

³⁰⁸ Exs. 55, 56 and 57.

³⁰⁹ Ex. 58.

³¹⁰ Ex. 58.

³¹¹ Ex. 55 at 6.

and a transition station to the overhead transmission line at each end of the underground segment. Each of these transition stations would require one acre of land. The estimated cost to place this segment underground is based on \$40 million per mile.³¹²

308. There are no 345 kV transmission lines underground in Minnesota. If one were constructed, there would be additional costs to Applicants to retain the necessary expertise to construct this portion of the line, and the special equipment and specially-trained personnel to maintain it or make any necessary repairs.³¹³

Effects on Land-Based Economies

Agriculture

309. Within this Project segment, 58 percent of the land within the Modified Preferred Route and 77 percent of the land within Route A is zoned for agriculture.³¹⁴

310. The Modified Preferred Route has three center pivot irrigation systems; Route A has eleven.³¹⁵

311. The Modified Preferred Route has 1,633 acres of prime farmland and Route A has 1,548 acres of prime farmland within this segment of the route.³¹⁶ There are no acres of special protection agricultural land within the Modified Preferred Route right-of-way; there are 40 acres of special protection agricultural land within the Route A right-of-way.³¹⁷

312. The Project will cause permanent and temporary impact to farmland. Permanent impact will occur as a result of structure placement along the route centerline. Applicants estimate that the permanent impact to agricultural fields will be 1,000 square feet per pole, and the temporary impact will be one acre per pole.³¹⁸

313. The Modified Preferred Route would require approximately 118 poles in agricultural land and Route A would require 151 poles in agricultural land. Thus, the Modified Preferred Route will permanently impact approximately 118,000 square feet of land, or approximately 2.7 acres within the right-of-way, and temporarily impact 118 acres. Route A would permanently impact approximately 151,000 square feet of land, or approximately 3.5 acres within the right-of-way, and temporarily impact 151 acres.³¹⁹

³¹² Ex. 44 at 2 (Letter from Applicants to ALJ, dated Dec. 13, 2010); Ex. 3 at Sched. 1 (Chezik Direct).

³¹³ Ex. 44 at 2-3; Tr. Vol. 1 at 100-101 (Chezik).

³¹⁴ Ex. 22A, DEIS at 6-51.

³¹⁵ Ex. 22A, DEIS at 6-52, Table 6.7-3.

³¹⁶ Ex. 22A, DEIS at 6-53.

³¹⁷ Ex. 30 at Sched. 8 at 5 (Lahr Rebuttal).

³¹⁸ Ex. 22A, DEIS at 6-55.

³¹⁹ Ex. 30 at Sched. 8 at 5 (Lahr Rebuttal).

314. Ninety-six percent of the lands within the Option 6 right-of-way are zoned for agriculture. There are no center pivot irrigation systems in the Option 6 right-of-way. The permanent impact to agricultural lands is minimal but still higher for the Option 6 alignment than the Modified Preferred Route. Similarly, the Option 6 right-of-way includes 24 more acres of agricultural lands for which there would be a temporary impact than the Modified Preferred Route.³²⁰

315. One hundred percent of Option 7 is zoned for agriculture as is the Route A right-of-way at this location. There is one center pivot irrigation system within the Option 7 area and six within the equivalent segment of Route A.³²¹

Forestry

316. The proposed routes are located primarily in grassland and cultivated land. The wooded areas within or near the routes are located primarily on privately held lands. There was no evidence of commercial forestry operations.³²²

317. There are 295 acres of wooded lands within the Modified Preferred Route, and 467 acres of wooded lands within Route A.³²³

Mining

318. Information on mining was taken from MnDOT's Aggregate Source Information System, based on County Pit maps. There are four aggregate sources in the Modified Preferred Route and one in Route A, all near Sauk Centre. There are no aggregate sources within the assumed right-of-way for the Preferred Route, Route A, or the route options. There is no evidence of potential impact to mining resources along this segment of the Modified Preferred Route or Route A.³²⁴

Tourism

319. The Modified Preferred Route is not located near any tourist attractions except recreational property.³²⁵

Effects on Archaeological and Historical Resources

320. This section of the Modified Preferred Route contains no archaeological resources and two historic architecture resources. The historic architecture resources may contain multiple buildings and structures listed on the National Register of Historic Places (NRHP).³²⁶ There are no NRHP resources within the right-of-way of either the

³²⁰ Ex. 22A, DEIS at 6-59.

³²¹ Ex. 22A, DEIS at 6-60.

³²² Ex. 22A, DEIS at 6-53.

³²³ Ex. 22A, DEIS at 6-54, Table 6.7-5.

³²⁴ Ex. 22A, DEIS at 6-54, Table 6.7-6, 6-63.

³²⁵ Ex. 22A, DEIS at 6-54.

³²⁶ Ex. 22A, DEIS at 6-48. The DEIS did not provide additional detail.

Modified Preferred Route or Route A. There is one known Historic Structure within the Modified Preferred Route right-of-way, but none within the Route A right-of-way.³²⁷

321. This section of Route A does not contain any previously recorded archaeological or historic architecture resources.³²⁸

Effects on Natural Environment

Water Quality Resources

322. A total of 414 acres of wetlands occur within the Modified Preferred Route, 49 of which are PWI wetlands. A total of 719 acres of wetlands occur within Route A, 127 acres of which are PWI wetlands.³²⁹

323. The Modified Preferred Route has 50 acres of NWI wetlands within the right-of-way and 10 acres of PWI lakes and wetlands within the right-of-way. Route A has 86 acres of NWI wetlands within the right-of-way and 18 acres of PWI lakes and wetlands within the right-of-way. Option 7 has four more acres of NWI wetlands than the comparable portion of Route A.³³⁰

324. The following chart shows the types of NWI wetlands and acres within the proposed routes and Option 6.³³¹

NWI Wetland Type	Modified Preferred Route	Route A	Option 6
Freshwater Emergent	303	552	174
Freshwater Forested/Shrub	73	155	4
Freshwater Pond	8	4	1
Lake	17	8	
Riverine	12	0	

325. As set forth fully above, permanent structure placement would result in approximately 55 square feet of permanent impact per standard single-pole structure. The temporary impact is approximately 20 feet wide, the assumed width of a temporary access road, for the distance that the transmission line spans the wetland. The Applicants estimated that the Modified Preferred Route would require three poles in NWI wetlands and one pole in PWI wetlands and that Route A would require nine poles in NWI wetlands and one pole in PWI wetlands. The Modified Preferred Route would cause temporary impact to approximately three acres of NWI wetlands and permanent impact to 165 square feet of NWI wetlands. Route A would cause temporary impact to nine acres of NWI wetlands and permanent impact to 495 square feet of NWI wetlands. Selection of Option 7 would result in three additional poles in the wetlands along Route

³²⁷ Ex. 30 at Sched. 8 at 5 (Lahr Rebuttal).

³²⁸ Ex. 22A, DEIS at 6-48.

³²⁹ Ex. 22A, DEIS at 6-66, Table 6.8-5.

³³⁰ Ex. 30 at Sched. 8 at 4 (Lahr Rebuttal).

³³¹ Ex. 22A, DEIS at 6-66, Table 6.8-5.

A, with a proportional increase in impact.³³² The DEIS estimated more wetland pole placements for Route A, 15 pole placements in NWI wetlands and three pole placements in PWI wetlands, than the Applicants estimated, with a correspondingly higher impact. The estimates for the Modified Preferred Route were the same.³³³

326. Route A has approximately 40 acres more of NWI wetlands within the right-of-way and would have three times as many poles in NWI wetlands as the Modified Preferred Route.³³⁴

327. Both Route A and the Modified Preferred Route are estimated to have the same impact to PWI wetlands.³³⁵

328. Option 6 would have little effect on any natural resources. It contains one acre of wetland and no poles would need to be placed in that wetland.³³⁶

329. The Modified Preferred Route and Route A would have similar impact on Perennial Streams and PWI Stream Crossings, but Route A would cross more Intermittent Streams.³³⁷

Flora and Fauna

330. For this segment, the Modified Preferred Route crosses five USFWS easements and three MCBS sites of biodiversity significance. No WMAS, WPAs, SNAs, MCBS Railroad Prairies, BWSR Easements, or Native Plant Communities are crossed by the Modified Preferred Route.³³⁸

331. Option 6 would include 6.5 acres of land designated in the MCBS as "moderate" within its right-of-way.³³⁹

332. Route A crosses seven USFWS easements, three WMAs, six MCBS sites of biodiversity significance, two BWSR RIM Easements, and five Native Plant Communities. Route A does not cross any WPAs, SNAs, or MCBS Railroad Prairies.³⁴⁰ Route A would cross the Sauk River WMA and the Wild and Scenic River District east of the Sauk Centre Airport.³⁴¹

³³² Ex. 30 at Sched. 8 at 4 (Lahr Rebuttal).

³³³ Ex. 22A, DEIS at 6-70, Table 6.8-9.

³³⁴ Ex. 30 at Sched. 8 (Lahr Rebuttal).

³³⁵ Ex. 30 at Sched. 8 (Lahr Rebuttal).

³³⁶ Ex. 30 at Sched. 8 (Lahr Rebuttal).

³³⁷ Ex. 22A, DEIS at 6-68.

³³⁸ Ex. 30 at Sched. 8 (Lahr Rebuttal); Ex. 22A, DEIS at 6-80 (but no MCBS sites included in Table 6.9-3).

³³⁹ Ex. 22A, DEIS at 6-82, Table 6.9-4.

³⁴⁰ Ex. 22A, DEIS at 6-80.

³⁴¹ Ex. 30 at 11 (Lahr Rebuttal); FEIS Appx. C at Sheets 50 and 51.

333. The following table summarizes the number of sensitive management areas within the right-of-way of the Modified Preferred Route and Route A.³⁴²

Type of Area	Modified Preferred Route	Route A
Number of USFWS Easements within ROW	1	2
Total Acres of USFWS within ROW	7	3
Number of MCBS Sites of Biodiversity Significance within ROW	0	2
Total Acres of MCBS Sites of Biodiversity Significance within ROW	0	12
Number of WMAs within ROW	0	1
Acres of WMAs within ROW	0	12
Number of MCBS Native Plant Communities within ROW	0	2
Acres of MCBS Native Plant Communities within ROW	0	5

334. The impact of Option 6 is similar to Route A.³⁴³

335. The Lake Osakis Important Bird Area is located in this segment, near Lake Osakis, east of Alexandria. It includes Clifford Lake, also known as Swim or Swims Lake. Important Bird Areas are designated by the DNR and Minnesota Audubon Society. Although not regulated, they are part of a voluntary international conservation effort. The DNR requested that the value of this habitat be evaluated if it will be affected by the Modified Preferred Route.³⁴⁴

336. To avoid impact to waterfowl and migratory birds, DNR recommends Route A from Alexandria east to Option 6 just west of Sauk Centre. To avoid MCBS sites of biodiversity significance, rare features, and public lands, the DNR recommends following Option 6 to the Modified Preferred Route and east to the beginning of the Sauk Centre to St. Cloud Section.³⁴⁵

337. The DNR concurs with the Applicants' alignment of the Modified Preferred Route along 12th Street in the southeastern portion of the City because the alignment avoids habitat associated with the Sauk River WMA and Sauk River Wild and Scenic River District. However, it recommends a change to the alignment within the expanded right-of-way further east of Sauk Centre to avoid the McCormick Lake WPA and reduce possible effects to waterfowl.³⁴⁶

³⁴² Ex. 30 at Sched. 8 at 6 (Lahr Rebuttal).

³⁴³ Ex. 22A, DEIS at 6-82.

³⁴⁴ Ex. 43, Letter of Oct. 18, 2010, at 3; Ex. 6 at 12 (Kroll Direct).

³⁴⁵ Letter, Jan. 5, 2011, Jamie Schrenzel; FEIS, Appx. C at Sheets 49, 50 and 51.

³⁴⁶ Letter, Jan. 5, 2011, Jamie Schrenzel; FEIS, Appx C at Sheet 50 and 51.

Effects on Rare and Unique Natural Resources

338. In preparing the DEIS, OES coordinated with the USFWS and DNR and did not identify any areas of concern within this segment. The impact on habitat was also evaluated. Although both alternatives have relatively little impact, Route A impacts a WMA (220 acres within the Route, 12 within the right-of-way), an MCBS Site designated as Moderate (56 acres within the Route, 10 within the right-of-way), and five native plant communities (32 acres with the Route, 5 within the right-of-way). There are none within the Modified Preferred Route.³⁴⁷

339. The DNR has identified Species of Greatest Conservation Need, those with rare, declining or vulnerable populations, at levels below what is desirable to ensure long-term health and stability (including threatened and endangered species). Of the five identified species that occur within one mile of the Modified Preferred Route and Route A, only one, the Marbled Godwit³⁴⁸ occurs within the 1000-foot routes. It appears once in each of the alternatives.

Use of Existing Right-of-Way, Survey Lines, Natural Division Lines and Agricultural Field Boundaries

340. For the Alexandria to Sauk Centre segment, 91% of the Modified Preferred Route would parallel existing linear features and 87% of Route A would parallel existing linear features. However, the Modified Preferred Route follows roads and trails to a great extent; Route A follows primarily field lines. Option 6 will follow less road and trail and more field lines than the Modified Preferred Route. Similarly, Option 7 will follow more field lines and less road than the comparable portion of Route A.³⁴⁹

Use of Existing Transportation, Pipeline, and Electrical Transmission System Right-of-Way

341. For the Alexandria to Sauk Centre segment, 91.4 percent of the Modified Preferred Route would parallel existing right-of-way along roads and trails, and 30 percent of Route A would parallel existing right-of-way. Option 6 follows right-of-way for 30 percent of its distance, compared to 76 percent of the comparable portion of the Modified Preferred Route. Option 7 does not follow any existing right-of-way; the comparable portion of Route A follows right-of-way for 69 percent of its length.³⁵⁰

Costs of Constructing, Operating and Maintaining the Facility

³⁴⁷ Ex. 22A, DEIS at 6-80 – 6-82, Tables 6.9-3 and 6.9-4.

³⁴⁸ http://www.google.com/imgres?imgurl=http://www.ejphoto.com/images_of_the_month/CA_MarbledGodwit04.jpg&imgrefurl=http://www.ejphoto.com/photos_of_the_month_page.htm&h=506&w=750&sz=195&tbid=Dn2ViidgpiAbtM:&tbnh=95&tbnw=141&prev=/search%3Fq%3DMarbled%2BGodwit%26tm%3Disch%26tbo%3Du&zoom=1&q=Marbled+Godwit&hl=en&usg=__rTH_ILuYpGPqoLvM9BsI00e3AIE=&sa=X&ei=UieeTcfyGZCP0QGhuJJBBA&ved=0CD0Q9QEwAg (A photo of the Marbled Godwit).

³⁴⁹ FEIS at 3-4, Table 3.2-3.

³⁵⁰ FEIS at 3-4, Table 3.2-3.

342. For the Alexandria to Sauk Centre segment, the Modified Preferred Route is estimated to cost \$40.1 million. Route A is estimated to cost \$51.4 million.³⁵¹ Selection of Option 6 would increase the cost of the Modified Preferred Route by \$2.5 million. Since it is shorter than the comparable portion of Route A, Option 7 would decrease the cost of Route A by approximately \$1.7 million.³⁵²

Adverse Human and Natural Environmental Effects That Cannot Be Avoided

343. The DEIS and FEIS offer suggestions to mitigate the effect of the transmission line, including adjustment of the alignment and placement of the structures to avoid or span sensitive areas or to increase the distance from homes and non-residential structures. Applicants have expressed their intention to employ best practices and work with the USFWS, DNR and other agencies to minimize the impact of construction, restore disturbed land, and avoid major flyways or migratory resting spots.

Irreversible and Irretrievable Commitments of Resources

344. Construction resources, such as concrete, steel and hydrocarbon fuels, will be irreversible and irretrievably committed to this Project. The use of resources is relative to the length of each route. Since Route A is longer than the Modified Preferred Route, it would require greater commitment of resources.

Recommendation for the Alexandria to Sauk Centre Segment

345. Overall, the Modified Preferred Route better meets the routing criteria. Although the Modified Preferred Route will have seven to eleven more homes within 500 feet of the proposed alignment than Route A, it is shorter, less expensive and follows significantly more existing right-of-way than Route A.

346. The DNR would prefer to follow Route A to Option 6 and then go north to the Modified Preferred Route along 12th Street in Sauk Centre for the rest of the segment to avoid environmentally sensitive areas. South of Option 6, Route A does not follow existing roads, trails or transmission lines. Route A will cross Hoboken Creek, Sauk River WMA and Native Plant communities, but would not appear to have a greater impact on the environment and residences than moving the Modified Preferred Route alignment closer to I-94 south of Sauk Center.³⁵³

347. If MnDOT, the FAA and the City can not find an acceptable alignment for the Modified Preferred Route, the transmission line should follow the Modified Preferred Route south from Alexandria to Option 6, along Option 6 to Route A, and follow Route A to the point of reconnection with the Modified Preferred Route south of Sauk Centre. This selection would avoid the airport, the developed part of the City and significantly reduce the number of freeway crossings. If this alternative is selected, the Route Permit

³⁵¹ Ex. 1a (Application) at 6-6.

³⁵² FEIS at 3-2, Table 3.2-1 (costs for the options based on \$1.7 million per mile).

³⁵³ Tr. Vol. 5 at 63 (Schrenzel).

should require the Applicants to coordinate with the DNR to mitigate the alignment's impact.

348. Option 7 is shorter and would affect fewer homes, less wooded land and agricultural operations than the comparable portion of Route A. However, Option 7 would cut across a field and WMA and increase the number of poles placed in wetlands. In the event that Route A is selected, the Applicants should work with the DNR and the landowners to find an alignment that will have the least effect on human settlement and the natural resources in this area.

Application of the Statutory and Rule Criteria to the Sauk Centre to St. Cloud Segment

Description of the Route Alternatives

349. A map depicting the route alternatives and route options for this segment is reprinted in Appendix B to this report.

350. This segment of the Project was the most controversial. An ATF was appointed and many route alternatives were developed for study in the EIS. The Applicants' Modified Preferred Route, Route A and Alternative Route Segment A-1, renamed Route E in the DEIS, were studied, along with alternative routes B, C, D, F, G and H, plus some additional short option segments. St. John's and Avon Township were concerned exclusively with this route segment, and most of NoRCA's concerns also focused on this segment.

351. For ease of comparison, each of the nine routes is compared from a point east of Sauk Centre to the Quarry Substation. This segment also includes Options 8 through 12.³⁵⁴

352. In order to more fully analyze the many alternatives for this section, the DEIS assigned route segment identifiers.

353. This segment of the Project is in proximity to the Avon Hills Conservation Area, which is a part of the Stearns County Comprehensive Plan.³⁵⁵ The Conservation Overlay District includes lands in Collegeville, St. Wendel, St. Joseph and Avon Township. With the exception of Route F, all routes traverse the Avon Hills Conservation Area to some degree. Routes B, C and D run through its center; the Modified Preferred Route and Route A cut across the northern portion of the Area; Routes E, G, and H cross the southern portion.³⁵⁶

³⁵⁴ See DEIS Scoping Document, with attached maps, reprinted in DEIS Appx. A at 15 of 17.

³⁵⁵ Ex. 5 at Sched. 5 (St. John's Chapman Direct); Ex. 11 at Sched. 5 (Avon Township Chapman Direct) (map of the Avon Hills Conservation Overlay District).

³⁵⁶ See map attached to letter from Nature Conservancy to ALJ, December 1, 2010, eDocket Doc. No. 201012-57785-01 (eFiled Dec. 22, 2010).

354. Avon Hills is ecologically significant because it encompasses a rare complex of undeveloped forest, native plant communities and wildlife representative of the region's historic environment. A majority of the Avon Hills lies within the Hardwood Hills ecological subsection, which was predominantly forested in 1850 and still includes key habitats. It is surrounded by an area that was historically prairie and savanna but is now cropland.³⁵⁷

355. Many of the forests in the region (Ohio to Minnesota, and south to Missouri) have been settled and converted to agriculture. Thus, much of the habitat has been fragmented. Several species live and breed in Avon Hills that are absent or rare outside the Avon Hills or similar hardwood forests. Because of its rare attributes, Stearns County has taken steps to limit further development of the area.³⁵⁸

356. The intervenors, the DNR, and many members of the public seek a route that will have the least possible effect on the Avon Hills Conservation Area.

357. The Applicants' **Modified Preferred Route** begins east of the intersection of State Highway 4 and I-94 and is made up of segments that run generally east, north of I-94 to a point south of the city of Saint Stephen, and then south to the Quarry Substation.³⁵⁹ This segment of the Preferred Route is approximately 48 miles long.³⁶⁰ Along this segment, the Modified Preferred Route does not follow I-94. There is a broader route width on the southern end, running north and south to near the Quarry Substation.³⁶¹

358. **Option 8** is a diagonal alignment within the Modified Preferred Route, approximately 0.5 miles long southwest of Melrose that avoids running on two sides of a landowner's farm.³⁶²

359. **Option 9** deviates to the north of the Modified Preferred Route and I-94 southeast of Melrose for about five miles along the Lake Wobegon Trail, skirting a center pivot irrigation system and rejoining the Modified Preferred Route just west of Freeport.³⁶³

360. **Route A** starts at the same point as the Modified Preferred Route but runs immediately north from I-94 and then runs generally east until it reconnects with the Modified Preferred Route for 15.5 miles to the Quarry Substation.³⁶⁴ Like the Modified Preferred Route, this segment of Route A is approximately 48 miles long.³⁶⁵

³⁵⁷ Ex. 11 at 4 (Avon Township Chapman Direct); Tr. Vol. 3 at 117-118 (Chapman).

³⁵⁸ Ex. 11 at 4, Scheds. 3, 4 and 5 (Avon Township Chapman Direct); eDocket Doc. No. 201012-57503-01 (filed Dec. 15, 2010) (Letter from Peter Dwyer, Avon Hills Initiative Chair, Member of ATF).

³⁵⁹ Ex. 22A, DEIS at 1-16.

³⁶⁰ Ex. 30, Sched. 8 (Lahr Rebuttal).

³⁶¹ FEIS, Appx. C, Sheets 66, 80, and 92. The reason for this broad route width is not explained.

³⁶² Ex. 22A, DEIS at 1-27; FEIS, Appx. C, Sheet 68.

³⁶³ Ex. 22A, DEIS at 1-27; FEIS, Appx. C, Sheets 68, 69.

³⁶⁴ Ex. 22A, DEIS at 1-16, 17.

³⁶⁵ Ex. 30, Sched. 8 (Lahr Rebuttal).

361. **Option 10** is a slight deviation from Route A, approximately 1.5 miles long north of Saint Rosa. It avoids a home but bisects parcels.³⁶⁶

362. **Route B** begins east of State Highway 4 and I-94, follows Route A east to approximately 4.5 miles west of St. Stephen, and then turns south for 17 miles, west of St. Joseph and then southeast to the Quarry Substation. Route B is approximately 46 miles long.³⁶⁷ The ATF identified a portion of the route west of St. Joseph, approximately 1.5 miles long, that could be constructed underground, where Route B joins with Route D.³⁶⁸

363. **Route C** begins east of State Highway 4 and I-94, follows the Preferred Route until approximately 1.5 miles north of Avon, and then turns southeast for 15 miles. Route C joins Routes B and D south of Saint Joseph to the Quarry Substation. Route C is approximately 39 miles long.³⁶⁹

364. **Route D** is approximately 38 miles long and follows I-94 the most closely of any route alternative. It begins east of State Highway 4 and I-94 and follows the Modified Preferred Route along I-94 until approximately 0.5 miles west of Freeport. At that point Route D deviates from the Modified Preferred Route and runs southeast, generally following I-94 through Freeport and Albany, until a point east of Avon. Then it turns slightly north, away from I-94, crosses Route C, and then runs generally southeast to approximately 0.25 miles northwest of St. Joseph. At that point, Route D turns south for 6.7 miles, joining Route B, and terminates at the Quarry Substation.

365. There are sections along Route D where placement of the transmission line is quite constrained. To address this, the Advisory Task Force identified specific portions of Route D that could be constructed underground. Those segments are: through Freeport and Albany, each about 1.5 miles long, and at Avon, underground for approximately ten miles, between Big Spunk Lake and Middle Spunk Lake, skirting Collegeville and the western and southern city limits of St. Joseph. The last underground segment would also affect Route B.³⁷⁰

366. Route D generated a great deal of public comment. Those who favored running the transmission line along I-94 generally favored this alternative, but those who lived along it or recognized the significant impact the route would have on the cities of Freeport, Albany and Avon, and on the Avon Hills Conservation Area and St. John's did not favor it.

367. **Route E** begins east of State Highway 4 and I-94 and follows the Modified Preferred Route until approximately 0.5 miles west of Freeport. It then follows roads and property boundaries in a southeasterly direction to the Quarry Substation.

³⁶⁶ Ex. 22A, DEIS at 1-28; FEIS, Appx. C, Sheet 61; Ex. 2 at 24 (Lahr Direct).

³⁶⁷ Ex. 22A, DEIS at 1-17; Ex. 30, Sched. 8 (Lahr Rebuttal).

³⁶⁸ FEIS, Appx. C, Sheets 79 and 91 (showing the underground segment).

³⁶⁹ Ex. 30, Sched. 8 (Lahr Rebuttal); Ex. 22A, DEIS at 1-17.

³⁷⁰ Ex. 22A, DEIS at 1-22 (Fig. 1-11); 1-17; FEIS Appx. C, Sheet 69 (Freeport portion); Sheets 76 and 77 (Avon Portion); Sheets 76, 77, 78 and 79 (Avon to St. Joseph portion).

Route E is approximately 44 miles long; the portion that varies from the Preferred Route and runs south of I-94 is approximately 34 miles long.³⁷¹ The Applicants had originally proposed this route as an alternative route segment to the Preferred Route.³⁷² It was re-labeled as Route E when the ATF added route alternatives between Sauk Centre and St. Cloud.

368. **Option 11** is approximately three miles long and deviates from Route E one mile west of Rockville. It would skirt several homes located along Island Lake Road in Collegeville Township.³⁷³ The Applicants and the intervenors favor selection of Option 11 if either Route E or Route G is selected.

369. **Option 12** is a small segment of Route E, approximately 1.2 miles long, and two segments of Route B, approximately 1.8 miles southeast of St. Joseph. This option would allow a change between the two routes as an alternative route for entry to the Quarry Substation.³⁷⁴ The northern alternative within Option 12 is segment E-5, which is depicted on Figure 4 to the EIS Scoping Decision and on Map 5 of the Amended Scoping Decision. The southern alternative within Option 12 is comprised of segments B4 and B5. The Applicants prefer Segment E-5 of Option 12 because it is more direct and follows an existing railroad corridor.³⁷⁵ The intervenors did not take a position on Option 12.

370. **AS-4** is a broadened section of Route E, south of Albany.³⁷⁶ Wells Concrete has a planned expansion in the area. Increasing the route width in this area would permit the Applicants to construct the transmission line to minimize the impact on Wells Concrete. If Route E is selected, the Applicants favor AS-4 in order to allow flexibility to accommodate the company's growth.³⁷⁷ AS-4 affects only Route E. The intervenors took no position concerning AS-4.

371. **AS-5** is approximately two miles long, paralleling State Highway 138, at the southern end of the Project Area near the Quarry Substation. It offers an alternative method for the last portion of Routes B, C, D, E, G or H to connect to the Quarry Substation.³⁷⁸

372. **Route F** begins east of the intersection of State Highway 4 and I-94 and is approximately 49 miles long. It follows the Preferred Route until 0.5 miles west of

³⁷¹ Ex. 30, Sched. 8 (Lahr Rebuttal); Ex. 22A, DEIS at 1-17; 1-23 (Fig. 1-12).

³⁷² Ex. 1a (Application) at ES-7 (designated as Preferred Route Segment Alternative 1); Ex. 18 at 13 (EIS Scoping Decision).

³⁷³ Ex. 22A, DEIS at 1-23 (Fig. 1-12), 1-28; Ex. 4w; FEIS Appx. C, Sheet 90.

³⁷⁴ Ex. 22A, DEIS at 1-28; FEIS Appx. C, Sheet 98; Ex. 4w.

³⁷⁵ See Ex. 18 at Figure 4 (EIS Scoping Decision); Ex. 21 at Map 5 (EIS Amended Scoping Decision); Ex. 2 at 24 (Lahr Direct); Ex. 22A at Fig. 1-10; Applicants' Reply Brief at 1.

³⁷⁶ Ex. 22A, DEIS at 1-28; DEIS at 1-23 (Fig. 1-12); FEIS Appx. C, Sheets 76 and 77 (showing broader route width). A high resolution map was attached to the EIS Scoping Decision Amendment, DEIS, Appx. A at Map 5.

³⁷⁷ Applicants' Post-Hearing Brief at 6; Applicant's Reply Brief at 1.

³⁷⁸ Ex. 30, Sched. 8 (Lahr Rebuttal); Ex. 22A, DEIS at 1-6 (Fig. 1-4); 1-22 (Fig. 1-11); 1-28; FEIS, Appx. C, Sheet 98 (AS-5 is mistakenly identified on the Sheet Map as AS-3).

Freeport, and then follows Route E for 3.2 miles south and then 5.3 miles east. Approximately two miles southwest of Albany, Route F deviates from Route E and runs south for nine miles and then east/northeast for 20 miles to the Quarry Substation. It is the longest route and runs through Richmond and Cold Spring.³⁷⁹

373. **Route G** begins just east of the intersection of State Highway 4 and I-94 and is approximately 44 miles long. It follows the Preferred Route until 2.75 miles west of Freeport where it turns south on Route E for 3.3 miles. At that point, Route G deviates from Route E and runs south for seven miles where it turns east near Saint Martin and runs east for approximately ten miles. Then Route G rejoins Route E for approximately 14 miles, to the Quarry Substation. Option 11 is located east of the point where Route G rejoins Route E.³⁸⁰

374. **Route H** begins just east of the intersection of State Highway 4 and I-94 and is approximately 45 miles long. It follows the Preferred Route until 2.75 miles west of Freeport and then runs south, passing east of New Munich, for approximately nine miles. It rejoins Route G near Saint Martin, which reconnects to Route E, continuing to the Quarry Substation.³⁸¹

375. The Applicants support the Modified Preferred Route. However, they agree that Route E, as modified by Alternative AS-4, Option 11 and the E-5 segment of Option 12, and Route G with Option 11 and the E-5 segment of Option 12, also meet the routing criteria.

376. Avon Township and St. John's assert that Route G with Option 11 best meets the routing criteria, but that Route E with Option 11 is also a better alternative than the Modified Preferred Route. NoRCA favors either Route E or Route G with Option 11.

377. There was some public support for Route C and Route D because those two routes most closely follow I-94. However, based on the record as a whole, and as elaborated in these findings, it is clear that neither Route C nor Route D is a prudent and feasible alternative to the Modified Preferred Route.

378. MnDOT expressed reservations about whether Route D could be built without interfering with the operation of I-94 and also expressed reservations about Route F.³⁸²

379. There was no significant support for Route A, B, F or H, and no evidence that any one of them was a more prudent and feasible alternative to the Modified Preferred Route. Route A, including Option 10, Routes B, F and H will not be further analyzed.

³⁷⁹ Ex. 22A, DEIS at 1-17, 18; FEIS Appx. C, Sheets 94, 95 and 96.

³⁸⁰ Ex. 30, Sched. 8 (Lahr Rebuttal); Ex. 22A, DEIS at 1-18; 1-25 (Fig. 1-14).

³⁸¹ Ex. 30, Sched. 8 (Lahr Rebuttal); Ex. 22A, DEIS at 1-18; 1-26 (Fig. 1-15).

³⁸² Tr. Vol. 4 at 72-80 (Seykora).

380. Option 8 is an alignment within the Modified Preferred Route, developed to address concerns of the landowner. Since the Applicants have agreed to work with landowner to minimize the impact of the alignment, it will not be separately evaluated.

381. For this segment, Option 9 is an adjustment to the Modified Preferred Route to the west of the point where all other routes under consideration depart from the Modified Preferred Route. Its selection would affect all of the alternatives. Since there was no support for this option, it will not be further analyzed.³⁸³

382. Option 11 affects Route G after Route G rejoins Route E. Thus, Option 11 will be compared to Route E.

Effects on Human Settlement

Displacement

383. The following table shows the number of residential and nonresidential structures within the 1,000 foot routes for each route alternative.³⁸⁴

Structures	Modified Preferred Route	Route C	Route D	Route E	Route G	Option 11	Option AS-4
Residences	191	85	220	91	98	4	5
Nonresidential Structures	409	146	210	279	251	1	26

384. The FEIS identified residences within 500 feet of the proposed alignment for each route.³⁸⁵

³⁸³ Ex. 4t.

³⁸⁴ FEIS at 3-33, Table 3.4-2 and 3.6-3, combined.

³⁸⁵ FEIS at 3-34, Table 3.6-4 and Table 3.6-5, combined.

Route	Residences within Proximity of Alignment (Feet)				
	0-75	75-150	150-300	300-500	Total within 500
Modified Preferred Route	1	7	50	34	92
Route C	2	8	42	27	79
Route D	9	20	75	75	179
Route E	0	12	37	27	76
Route G	0	9	49	30	88
Rte. E comp. to Option 11	0	1	7	3	11
Option 11	0	1	2	1	4

385. There are no homes within 75 feet of the proposed alignment of Routes E and G or Option 11. The FEIS identified one home within 75 feet of the Modified Preferred Route Alignment, but the Applicants could not verify the location based on its data. Route C has two homes and Route D has nine homes within 75 feet of the proposed alignment.³⁸⁶

386. Within 500 feet of the proposed alignment, the Modified Preferred Route will affect more homes than Routes C, E and G. Because of Route D's proximity to the cities of Freeport, Albany and Avon, there are significantly more homes, 179 homes, within 500 feet of Route D's proposed alignment than any of the other routes under consideration. Route E will affect the fewest number of homes, and Option 11 will further reduce the number of homes affected by the selection of either Route E or Route G by seven homes.³⁸⁷

387. Routes C, D, E and G have significantly fewer nonresidential structures within the 1,000-foot route than the Modified Preferred Route.³⁸⁸

³⁸⁶ Compare FEIS at 3-34, Table 3.6-4 with Ex. 30 at Sched. 8 at 9 (Lahr Rebuttal); Applicants' Post-Hearing Brief at 52.

³⁸⁷ FEIS at 3-34 – 3-35, Tables 3.6-4 and 3.6-5; Ex. 30 at Sched. 8 at 9 (Lahr Rebuttal).

³⁸⁸ FEIS at 3-33, Table 3.6-2: Modified Preferred Route - 409; Route C - 146; Route D - 210; Route E - 279 and Route G - 251.

388. Option 11 would have seven fewer residences within 500 feet of the alignment than the comparable distance of Route E, and there is only one nonresidential structure located within Option 11.³⁸⁹

Land Use and Zoning

389. The construction and operation of transmission lines can impact existing and planned land uses and local zoning. For this segment, most of the land along the routes is used for agriculture or zoned for agricultural use. Modified Preferred Route - 92%; Route C - 91%; Route D - 80%; Route E - 92%; Route G - 94%.³⁹⁰

390. Similarly, most of the land within the right-of-way for each route is also zoned for agriculture.³⁹¹

Acres	Modified Preferred ROW Occup	Modified Preferred No ROW Occup	Route C	Route D	Route E	Route G	Route E Comp to Option 11	Opt 11	Opt 12-B	Opt 12-E
Agriculture	533	813	649	527	768	781	57	53	18	22
Residential	6	9	19	57	10	9	0	0	10	0
Commercial-Industrial	25	33	34	64	4	3	0	0	4	0
Municipal	3	4	10	30	4	4	0	0	0	0
Recreation	5	7	5	6	1	.05	0	0	0	0
Special Ag.	0	0	0	0	0	0	0	11	0	0
Transitional	0	0	0	0	10	10	0	0	0	0

391. Route D would affect the greatest number of acres of residential land within the 150-foot right-of-way. With the exception of Route D, the number of affected acres is low. Modified Preferred Route - 9 (with no I-94 right-of-way sharing; 6 if there is shared right-of-way); Route C - 14; Route D - 57; Route E - 10; Route G - 9.³⁹²

392. The acres of land zoned for commercial and industrial use within the right-of-way is also a measure of possible displacement. Modified Preferred Route - 33 acres without right-of-way sharing, and 25 with it; Route C - 34; Route D - 64; Route E - 4; and Route G - 3.³⁹³ Because Route D passes closest to developed areas, it will affect more potential commercial development than the other alternatives.³⁹⁴

³⁸⁹ FEIS at 3-33, Table 3.6-3, and 3-35, Table 3.6-5.

³⁹⁰ Ex. 22A, DEIS at 7-74, Table 7.7-2; Ex. 30 at Sched. 8, page 8 of 9 (Lahr Rebuttal).

³⁹¹ FEIS at 3-36, Table 3.6-6, and DEIS at 7-11, Table 7.1-10, combined.

³⁹² FEIS at 3-36, Table 3.6-6.

³⁹³ FEIS at 3-36, Table 3.6-6.

³⁹⁴ A late-filed public comment from the City of Waite Park expressed a preference for the Modified Preferred Route because the transmission lines would exit to the north from the Quarry Substation and least disrupt its future planning. Since none of the parties had the opportunity to address this late-filed comment in their testimony, it was given little weight. E-docket Document # 20111-58943-01.

393. Routes C and D are located within several municipalities and therefore cross more urban zoning and land uses than the other routes, which affect predominantly rural areas. Route D follows I-94 and crosses the edges of Freeport, Albany and Avon.³⁹⁵

394. The Modified Preferred Route crosses identified future development areas in St. Wendel Township west of St. Joseph and Waite Parke.³⁹⁶

395. Route D would have the greatest effect on human settlement. Route E would have the least effect, and Routes C, E and G would all have less effect than the Modified Preferred Route. Option 11 would reduce the effect of Route E or Route G on human settlement.

Socioeconomic Impact

396. Overall, there will be little direct socioeconomic impact from construction and operation of the transmission line. The highest concentration of population in the Project area is in this segment, between Sauk Centre and St. Cloud. Much of the area is rural, but the proposed routes include the incorporated areas of Melrose, Freeport, Albany, Avon, St. Joseph and St. Cloud. Development density increases in the area where the route alternatives converge in St. Cloud. Construction will have a temporary impact on local employment and the economy.³⁹⁷

397. Dennis Sand, Mayor of Albany, objected to the impact of Route E on Wells Concrete. He did not comment on AS-4, which is intended to accommodate Wells Concrete. Mayor Sand also objected to Route D, asserting that the transmission line would effectively destroy the Albany Golf Course, regardless of which side of the interstate was selected for alignment, and would adversely affect several commercial businesses and an industrial park on the south side of I-94.³⁹⁸

Pipelines

398. Two pipelines cross Route E; one pipeline crosses Route G. No pipelines cross the other alternatives or route options.³⁹⁹

Aesthetics

399. As set forth more fully above, placement of an overhead high voltage transmission line will have a significant aesthetic effect on nearby homeowners and persons who see the transmission line while travelling or engaging in recreational activities.⁴⁰⁰

³⁹⁵ FEIS at 3-37.

³⁹⁶ FEIS at 3-37.

³⁹⁷ Ex. 22A, DEIS at 7-3.

³⁹⁸ Letter from Sand to ALJ, edocket Doc. No. 20111-58106-01 (eFiled Jan. 4, 2011).

³⁹⁹ Ex. 22A, DEIS at 7-16.

⁴⁰⁰ Ex. 22A, DEIS at 7-46.

400. There are a wide variety of recreational options within the Project area, including lakes, rivers, trails, a state forest, WPAs, WMAs, SNAs, and local and county parks, golf courses and other recreational uses. Visitors to these recreational use areas may view the transmission line.⁴⁰¹

401. Route D and the Modified Preferred Route are within 500 feet of more homes than the other routes and will have the greatest aesthetic impact on homeowners. Route E with Option 11 has 69 homes within 500 feet; Route C has 77 homes within 500 feet; and Route G with Option 11 has 81 homes within 500 feet.⁴⁰²

402. Placing the transmission line underground would decrease the aesthetic impact to the homes along Route D.⁴⁰³

403. To the extent that a route alternative has fewer homes within 500 feet, it will have less negative aesthetic impact on homeowners. Homes within 500 feet of the alignment will be most directly affected, depending to a degree upon pole placement and topography. Although the transmission line will be visible for over a mile, the aesthetic impact at any point will vary significantly with the terrain and other land features.

404. Portions of each route parallel I-94, a pre-disturbed major transportation corridor that includes scenic easements. Motorists along roadways that parallel a route would view the transmission line. Traffic volumes are heavier along major roads such as I-94 and U.S. and state highways, but the effect on the motorists may be more intermittent than the effect on motorists who regularly or repeatedly travel local roads. Also, MnDOT has obtained scenic easements along portions of I-94 that preclude placement of transmission lines.⁴⁰⁴

405. Land owned by St. John's along I-94 is not an officially designated scenic byway but approximately six miles of I-94 near St. Joseph travels through the Colledgeville Game Refuge, which is recognized for its scenic quality.⁴⁰⁵ When I-94 was constructed, the State agreed to build a 69 kV transmission line away from the interstate to preserve the aesthetics for the travelling public. Route C runs through the Refuge, parallel to I-94 in this area, and Route D cuts across the northern portion of the Refuge, to the north of I-94.⁴⁰⁶

406. The DNR manages "water trails" for canoeing and kayaking along Minnesota rivers. The Sauk River is a designated water trail and transmission line

⁴⁰¹ Ex. 22A, DEIS at 7-34.

⁴⁰² Ex. 22A, DEIS at 7-48, Table 7.3-4.

⁴⁰³ Ex. 22A, DEIS at 7-49.

⁴⁰⁴ Ex. 22A, DEIS at 7-34.

⁴⁰⁵ FEIS at 3-38 and 3-60.

⁴⁰⁶ FEIS at 3-42 and Appx. C, Sheet 79, showing the proximity of Route C and Route D to St. John's and the woods on the two sides of I-94 in this area. See also Ex. 9, Sched. 3 (Kroll Direct)

crossings will be visible to the water trail users. All of the alternatives cross the Sauk River three times within the Project area.⁴⁰⁷

407. There is less park, open space or recreational land use within the rights-of-way of Route E (1 acre) and Route G (0.05 acre) than there is along the Modified Preferred Route (7 acres), Route C (5 acres) or Route D (6 acres).⁴⁰⁸

Recreation

408. As displayed in the table above, there are few acres of recreational land within the rights-of-way for any alternative. The Modified Preferred Route has seven acres, decreasing to Route E with one acre and Route G with 0.05 acre.⁴⁰⁹ There are no recreational, park or open lands in the rights-of-way of Option 11, Option 12 or AS-4.⁴¹⁰

409. The FEIS concluded that, apart from the aesthetic impact discussed above, none of the routes will significantly alter or limit the recreational use of the land nearby.⁴¹¹

410. The Lake Wobegon Trail is a significant regional trail that is crossed by several potential routes.⁴¹² Members of the public strongly objected to running the transmission line along the trail.

411. Route D parallels the Lake Wobegon Trail within the 150 right-of-way for approximately eight miles. The Modified Preferred Route crosses the Lake Wobegon Trail twice; Route C crosses it three times. Route E and Route G do not cross it. There are also Stearns County trails that are crossed: Modified Preferred Route – 5 crossings; Route C – 4; Route D – 5; Route E – 3; Route G – 6. Option 11, Option 12 and AS-4 do not cross any trails.⁴¹³

412. The privately-owned Hemker Park & Zoo is located in Freeport, Minnesota, in the vicinity of the Modified Preferred Route.⁴¹⁴

413. Route D could have a significant effect on recreational use. In addition to running along the Lake Wobegon Trail, Route D also travels through Richmond

⁴⁰⁷ FEIS at 3-39.

⁴⁰⁸ Ex. 22A, DEIS at 7-35. The number of acres along the Modified Preferred Route will drop to 5 if the Applicants are able to share 25 feet of I-94 right-of-way. FEIS at 3-36; Ex. 30 at Sched. 8 at 8 (Lahr Rebuttal).

⁴⁰⁹ FEIS at 3-36, Table 3.6-6; Ex. 30 at Sched. 8 at 8 (Lahr Rebuttal).

⁴¹⁰ Ex. 22A, DEIS at 7-32, Table 7.3-1 and 7-36, Table 7.3-2.

⁴¹¹ FEIS at 3-42.

⁴¹² FEIS at 3-38. As explained in the discussion of the Alexandria to Sauk Centre segment, costs associated with crossing or running parallel to the Trail were not included in the estimated costs of the route alternatives.

⁴¹³ Ex. 22A, DEIS at 7-43 – 7-44, Table 7.3-3.

⁴¹⁴ FEIS, Appx. C at Sheet 69, near intersection of CSAH 39 and 1st St. North. Although the owner pointed out that the zoo includes animals that are protected, animals kept in captivity do not typically have endangered species status. Tr. Vol. 3 at 61-62 (Restani).

where a chain of 14 lakes provides recreational opportunities for fishing and boating and lakeside resorts. Route D includes two wayside areas, a golf course, and crosses the Sauk River twice.⁴¹⁵ Although placing Route D underground in selected areas would decrease the permanent effect on recreational use, it would be very expensive and temporarily disrupt the use and enjoyment of the recreational areas.

414. Route C was criticized because it would cross the Lake Wobegon Trail three times, and it passes through the Colleeville Game Refuge, crossing over the unique wooden covered pedestrian bridge that connects St. John's trails on both sides of I-94, and directly connects to the Lake Wobegon Trail.⁴¹⁶

415. It is not likely that the transmission line would alter or significantly limit the recreational use of the land along the Modified Preferred Route. Route E and Route G would have virtually no impact on recreational areas, and less than the Modified Preferred Route. Option 11, Option 12 and AS-4 do not include any park, open space or recreational land.

Transportation

416. Interstate 94 runs through this portion of the Project. The Modified Preferred Route and Routes E and G each follow I-94 for 6.9 miles, and then the routes split. Route D follows I-94 for 31.2 miles; Route C follows I-94 for 16 miles. The Modified Preferred Route and Route D generally follow other roadways with significant traffic; Routes E and G follow roadways with relatively little traffic.⁴¹⁷

417. There are two full-service Rest Areas along I-94 in this segment: Big Spunk Lake Rest Area for eastbound traffic and Middle Spunk Lake Rest Area for westbound traffic. Route D, which follows I-94 in this area, goes south of I-94 to avoid these rest areas. At this point, I-94 follows a narrow strip of land that runs between two lakes and near the City of Avon.⁴¹⁸

418. Construction of Route D underground could adversely affect maintenance and operation of I-94. Restrictions on activity above the 60-foot right-of-way required for underground construction may prohibit sharing of the highway right-of-way or expanding the highway for further development.⁴¹⁹ Placing Route D underground could affect access to the frontage road near Avon.⁴²⁰ There are also several roads with very high traffic that would intersect with Route D underground.⁴²¹

419. The intersection of I-94 and Highway 75 near St. Joseph is a point where two controlled access highways come together, with traffic merging at high speeds. If Route C were selected, MnDOT would prefer that I-94 be crossed east of the merger,

⁴¹⁵ Ex. 22A, DEIS at 7-44.

⁴¹⁶ FEIS at 3-41; Ex. 22A, DEIS at 7-44.

⁴¹⁷ Ex. 22A, DEIS at 7-51 – 7-57

⁴¹⁸ Ex. 22A, DEIS at 7-54; FEIS, Appx. C at Sheets 77 and 78.

⁴¹⁹ Ex. 41 at 5; Tr. Vol. 4 at 77-80 (Seykora); FEIS at 3-42.

⁴²⁰ Ex. 22A, DEIS at 7-49.

⁴²¹ Ex. 22A, DEIS at 7-55, Table 7.4-6.

near 115th Avenue. MDOT also pointed out that the width of its right-of-way varies in this area.⁴²²

420. There are no public use airports within five miles of these route alternatives, except the Sauk Centre Airport, addressed in the Alexandria to Sauk Centre section of this report. There are two private airports.⁴²³

Effects on Land-Based Economies

Agriculture

421. The primary land-based economy in the Project area is agriculture. The majority of the land within each of the route alternatives is zoned for agriculture, with the percent varying from Route D at 77 percent to Route E at 94 percent.⁴²⁴ The percentage of agricultural land within the alignment rights-of-way is similar.⁴²⁵

422. The United States Department of Agriculture has provided detailed soil data and designated "prime farmland" most desirable for agricultural production. The Modified Preferred Route includes the highest number of prime farmland acres, 3,068 acres. Route D has the least number of prime farmland acres, 1,107 acres. Route C has 1,592 acres; Route E has 1,866 acres; and Route G has 1,716 acres. Option 11 will reduce the number of prime farmland acres in Route E and Route G by 51 acres, but there are 15 acres zoned for Special Protection Agriculture within Option 11. There are none within Option 12 or AS-4.⁴²⁶

423. Once the alignment is selected, the number of acres taken out of production in the right-of-way will be a substantially lower number, 1000 square feet per pole, approximately 4.82 acres for the Modified Preferred Route, and ranging from 3.77 acres for Route D to 5.43 acres for Route G. Thus, the amount of agricultural land that will be taken out of production will be relatively small, regardless of the route selected.⁴²⁷

424. One of the reasons that the ATF selected Route G for study was because it impacts primarily large-tract farmland. This may make it easier to place structures farther from residences and to have less impact on farm operations.⁴²⁸

425. There are more center pivot irrigation systems along Route E and Route G (11) than along the other routes. The Modified Preferred Route has four; Routes C and D each have two. Selection of Option 11 will reduce the number along Route E and

⁴²² Tr. Vol. 4 at 80-81 (Seykora); FEIS Appx. C, Sheet 79.

⁴²³ Ex. 22A, DEIS at 7-66.

⁴²⁴ Ex. 22A, DEIS at 7-74, Table 7.7-2.

⁴²⁵ Ex. 30, Sched. 8 (Lahr Rebuttal): Route D at 77%, Route C at 90%, Modified Preferred Route at 94% and Route E and Route G at 96%. See also FEIS at 3-36, Table 3.6-6.

⁴²⁶ Ex. 22A, DEIS at 7-74, Table 7.7-2 and 7-78, Table 7.7-4.

⁴²⁷ Ex. 22A, DEIS at 7-85, Table 7.7-9.

⁴²⁸ Ex. 17 at 7, 18 (referring to ATF alternative Group 3, Alt. 1); Tr. Vol. 5 at 132 (Birkholz).

Route G to six.⁴²⁹ Within the proposed rights-of-way, the Modified Preferred Route, Route E and Route G each have two systems. Option 11 would reduce the number to one. There are none in Option 12 or AS-4.⁴³⁰

Forestry

426. The proposed routes include some forested areas adjacent to farmsteads, waterways and within DNR managed lands. Also, St. John's owns 2,740 acres, which has been managed for sustainable forestry under a written forest management plan since 1949. Construction of Route C or Route D could impact that forestry management plan.⁴³¹

427. Because the wooded areas have negligible commercial forestry operations, and no townships within the proposed routes have timber harvest plans, selection among the other alternatives is not expected to impact commercial forestry operations. The Modified Preferred Route has the most wooded acres, 132 acres, within the proposed right-of-way; Route E, 72 acres, and Route G, 80 acres, have the least amount of wooded land within the proposed right-of-way.⁴³²

Mining

428. To determine the location of aggregate resources for the DEIS, the MnDOT Aggregate Source Information System, a database based on county pit maps completed in 2003, was reviewed. All of the routes under consideration have five or six aggregate sources, except Route D, which has nine aggregate sources.⁴³³ Within the right-of-way of the proposed alignments, most of the routes include the same aggregate pit near Melrose. Routes E and G include a commercial pit near St. Joseph. The likely impact is expected to be minimal. The E-5 segment of Option 12 would affect one aggregate source that the Route B segments would not impact.⁴³⁴

Tourism

429. The majority of tourism along the proposed routes is associated with recreational uses, discussed above.

⁴²⁹ Ex. 22A, DEIS at 7-76, Table 7.7-3.

⁴³⁰ Ex. 22A, DEIS at 7-84, Table 7.7-8.

⁴³¹ FEIS at 3-44 – 3-45.

⁴³² Ex. 22A, DEIS at 7-78 – 7-79; 7-94 - 7-95, Table 7.7-12 (Wooded Lands in Proposed ROW). Ex. 30 at Sched. 8, page 8, shows lower acres of wooded lands within the right-of-way for each of the alternative routes. Modified Preferred Route - 71 acres; Route C - 57 acres; Route D - 37 acres; Route E - 40 acres; and Route G - 35 acres. It also shows that Option 11 has more wooded acres in the right-of-way than the comparable distance of Route E or Route G.

⁴³³ Ex. 22A, DEIS at 7-81.

⁴³⁴ Ex. 22A, DEIS at 7-96 - 7-97; Table 7.7-13.

Effects on Archaeological and Historical Resources

430. Regardless of the Route selected, the DEIS recommends that the Applicants conduct an inventory of resources that follows the State Historic Preservation Office protocol. Information in the DEIS was taken from the Application for the Modified Preferred Route and Route E. Since Routes C, D and G were developed after the application was filed, no information about them was reviewed.⁴³⁵

431. The Modified Preferred Route contains no archaeological resources and 15 historic architecture resources, some of which include multiple structures, such as the Anton Gogola Farmstead, listed on the National Register of Historic Places. Route E has one archaeological resource, a prehistoric artifact scatter, and four recorded historic architecture resources.⁴³⁶

432. Impact to the identified archaeological and historic resources can be largely avoided by designation of the area and adjustments to construction, but some may be sensitive to visual intrusion. If a resource cannot be avoided, evaluation and planning should be coordinated with the State Historic Preservation Office, Office of the State Archaeologist, and the OES to mitigate the adverse impact.⁴³⁷

433. If the underground options along Route D were selected, the potential impact on archaeological resources would be significantly higher and would require a specialist to assess and document the impact.⁴³⁸

434. St. John's University has occupied the same location since 1866. Its campus hosts 17 buildings on the National Register of Historic Places, including the renowned Abbey Church, designed by Marcel Breuer.⁴³⁹ The buildings are approximately 1.2 miles from Route C, and it is likely that the transmission line would be visible from the campus.⁴⁴⁰

435. The Sisters of the Order of Saint Benedict were also concerned that Route C or Route D may adversely affect their property, which is south of St. John's. Like St. John's, the Order of Saint Benedict has buildings listed on the National Register of Historic Places, including its Monastery and college buildings. Its land includes Traditional Cultural Properties, consisting of woods, restored prairie, a lodge and Our Lady of Grace Shrine. The Order of Saint Benedict has purchased property along I-94 to serve as a buffer for its historic and cultural properties.⁴⁴¹

436. Several members of the public commented on Century Farms located along the proposed route alternatives. In 1976, the Minnesota State Fair and the Minnesota Farm Bureau formally recognized longstanding family farm ownership

⁴³⁵ Ex. 22A, DEIS at 7-70.

⁴³⁶ Ex. 22A, DEIS at 7-70.

⁴³⁷ Ex. 22A, DEIS at 7-71.

⁴³⁸ Ex. 22A, DEIS at 7-70; FEIS at 3-44.

⁴³⁹ Ex. 6 at 8 (Kroll Direct).

⁴⁴⁰ FEIS at 3-44.

⁴⁴¹ Letter to ALJ, eDocket Doc. No. 20111-58106-01 (Filed Jan. 4, 2011).

through a program known as Century and Sesquicentennial Farms. Since the inception of the program, 8,500 Minnesota farms have been designated as a "Century Farm," and 90 have been designated as a "Sesquicentennial Farm." Designated farms are a source of great pride to their families, but they do not receive any special protection under the law, nor do such farms necessarily qualify for listing on the National Register of Historic Places.⁴⁴² There was no data reflecting the number of Century or Sesquicentennial Farms crossed by the route alternatives.

437. There is insufficient evidence upon which to compare the effect of the route alternatives on archaeological and historic resources.

Effects on Natural Environment

438. The entire route, including this segment, includes many protected areas, including WMAs, SNAs, National Wildlife Refuges (NWRs), WPAs, and state game refuges, as well as conservation easements, flora, fauna, rare and unique natural resources and critical habitat. The ecological significance of the Avon Hills area is described above.

Water Quality Resources

439. The DEIS evaluated surface water (lakes, rivers and streams), ground water, wetlands and floodplains within the routes and the planned alignments.⁴⁴³

440. Because all rivers, streams and ditches would be spanned by transmission structures, the impact on surface water would be minimal for any of the route alternatives. Each of the routes would require a number of stream crossings, but there are no significant differences in the number of crossings.⁴⁴⁴ None of the route alternatives will have a significant impact on the surface waters.⁴⁴⁵ The following table shows wetland type and acreage for each of the proposed routes and route options.⁴⁴⁶

NWI Wetland Type	Modified Preferred Route	Route C	Route D	Route E	Route G	Option 11	Option 12B	Option 12E	Option AS-4
Total NWI Wetland Acreage	2267	873	799	1229	967	17	152	72	128
Freshwater Emergent	1561	716	661	1015	808	14	134	67	96
Freshwater Forested/Shrub	592	88	65	128	112	0	17	6	32
Freshwater Pond	85	49	29	55	39	3	1	0	0
Lake	6	13	16	22	0	0	0	0	0
Riverine	24	8	8	8	8	0	0	0	0

⁴⁴² FEIS at 2-53.

⁴⁴³ Ex. 22A, DEIS at 7-97 – 7-112.

⁴⁴⁴ Ex. 22A, DEIS at 7-105, Table 7.8-6.

⁴⁴⁵ Ex. 22A, DEIS at 7-111 – 7-112.

⁴⁴⁶ Ex. 22A, DEIS at 7-103, Table 7.8-4.

441. Wetlands will be affected by pole placement, particularly during construction, but there will be virtually no permanent loss of wetlands from any of the route alternatives. Route E and Route G require the fewest pole placements in wetlands; the Modified Preferred Route requires the most. If Route D were built underground, it would have a greater temporary impact on the wetlands than any of the alternatives because of the need to construct a trench, which may require a special permit.⁴⁴⁷

442. The temporary impact on the wetlands can be mitigated by scheduling construction when the ground is frozen and accessing the wetland from a point with the least physical impact.⁴⁴⁸

443. Many members of the public and NoRCA were concerned about the effect that the Modified Preferred Route (and Route A and Route B, which are no longer under consideration) would have on the area around Shepards Lake in Brockway Township.⁴⁴⁹

444. Each of the route alternatives will cross the FEMA 100-year floodplain. The number of poles that would be placed within the floodplain varies from three in Route E and Route G to nine in the Modified Preferred Route. Route C and Route D would require five pole placements within the flood plain. The impact on the floodplain will be minimal.⁴⁵⁰

445. None of the alternatives under consideration will cross a WPA or SNA. Route E will cross Legacy Marsh WMA, although the proposed alignment runs on the western edge of it.⁴⁵¹ Route E also runs next to and between several lakes, particularly along Maplevue Road in Albany and Farming Townships.⁴⁵²

Flora and Fauna

446. The 2,430-acre Collegeville Game Refuge is part of the land privately held by St. John's. The Game Refuge was created in 1933 and is the largest contiguously owned block of natural land resource in Stearns County.⁴⁵³ Route C will cross the Game Refuge; Route D will affect it less. None of the other route alternatives cross the Game Refuge.⁴⁵⁴

447. Evaluation of the affected acreage alone does not provide a complete picture of environmental impact from placement of the transmission line. Fragmentation of forests can have a disproportionate effect on some species, particularly since the

⁴⁴⁷ Ex. 22A, DEIS at 7-108 – 7-110, 7-112; Table 7.8-8.

⁴⁴⁸ Ex. 22A, DEIS at 7-112.

⁴⁴⁹ Ex. 47 at 23 (Hyllla Direct); FEIS, Appx. C at Sheet 65.

⁴⁵⁰ Ex. 22A, DEIS at 7-110 – 7-112.

⁴⁵¹ FEIS at 3-55 – 3-58, Table 3.6; FEIS, Appx. C, Sheet 88.

⁴⁵² FEIS, Appx. C, Sheets 84 and 88; Exs. 4t and 4u (Sand Lake, Fifth Lake, Mud Lake, Henry Lake and Jopp Lake).

⁴⁵³ FEIS at 3-47.

⁴⁵⁴ FEIS at 3-44 – 3-49.

forest clearing is permanent within the transmission line right-of-way. Widening existing rights-of-way will further replace forest habitat with grassland or edge habitat, which may increase predation on the forest species.⁴⁵⁵

448. The Modified Preferred Route has the most wooded acres, 1920 acres, within the route. Route C has 810 wooded acres, Route D has 640 acres, Route E has 759 acres, and Route G has 721 acres within the route. Selection of Option 11 has 75 acres, compared to 131 for the related portion of Route E. Within Option 12, the E-5 segment and the Route B segments are about the same.⁴⁵⁶

449. The acres within the proposed rights-of-way are more similar, but the Modified Preferred Route exceeds the others, and Route E and Route G have less. Option 11 has the same number of wooded acres as the comparable portion of Route E. Within Option 12, the Route B segments have 8 acres of wooded land and the Route E segment has 4 acres. AS-4 has no wooded acres.⁴⁵⁷

450. None of the alternatives will have a major permanent impact on non-agricultural vegetation except where wooded lands are permanently removed from the right-of-way. Placing Route D underground would impact more wooded lands because only grasses and low shrubs would be permitted within its 60-foot right-of-way.⁴⁵⁸

451. Throughout the area between Sauk Centre and St. Cloud, there are areas with high-quality wildlife habitat, which occurs naturally or is managed. The DNR and the Minnesota Audubon Society have identified the Avon Hills Important Bird Area, including all of the St. John's property, as critical bird habitat, which is voluntarily protected as part of an international conservation effort.⁴⁵⁹ The Avon Hills Important Bird Area is approximately 83,000 acres in size and covers nearly four townships. It is one of the largest, relatively intact blocks of kettle and moraine forested landscape remnants.⁴⁶⁰

452. Many members of the public were concerned that the selected route should have as little effect on the Avon Hills as possible.

453. Also, St. John's offered extensive testimony that its stewardship of the natural environment of its campus is part of its mission and an attraction to prospective

⁴⁵⁵ Ex. 5 at 6-7 (St. John's Chapman Direct).

⁴⁵⁶ Ex. 22A, DEIS at 7-78 – 7-79.

⁴⁵⁷ FEIS at 3-46, Table 3.6-8. Ex. 30 at Sched. 8 at 8 shows lower acres of wooded lands within the right-of-way for each of the alternative routes than the FEIS. FEIS: Modified Preferred Route – 132 acres; Route C – 110 acres; Route D – 83 acres; Route E – 72 acres; Route G – 78 acres. Schedule 8: Modified Preferred Route - 71 acres; Route C - 57 acres; Route D - 37 acres; Route E - 40 acres; and Route G - 35 acres. Schedule 8 also shows that Option 11 has more wooded acres in the right-of-way than the comparable distance of Route E. The FEIS shows the same wooded acreage.

⁴⁵⁸ Ex. 22A, DEIS at 7-117 – 7-119; FEIS at 3-51 and Table 3.6-9.

⁴⁵⁹ Ex. 6 at 12 and Scheds. 5 and 8 (Kroll Direct).

⁴⁶⁰ FEIS at 3-49.

faculty, students and their families.⁴⁶¹ Maintaining the natural setting is important to the monks who reside at the abbey, employees, community residents and visitors.⁴⁶²

454. Saint John's Arboretum encompasses the grounds of St. John's University and Abbey. The Arboretum, so designated in 1997, contains the highest concentration of native plant communities in the area, and is used extensively for environmental education.⁴⁶³ Over half of St. John's land is forest. Its woods "represents the largest tract of undeveloped forest in [Stearns County] and likely in a several county area ... It stands out as the largest remaining 'island' of forest amongst a sea of agriculture and development."⁴⁶⁴ These large tracts of contiguous forest provide habitat that fragmented forests cannot sustain.⁴⁶⁵

455. Development along Route C or Route D would increase the "edge effect," the effect of clearing land at the edge of the forest. Edge effect has several components: warming the air and soil shifts the plant species within 100 meters of the forest edge; non-native invasive plants may move from disturbed areas into adjacent natural areas; and predators may move from the grassland and edge habitat up to a quarter mile into the adjacent forests. It is costly in both time and money to mitigate the effects of this intrusion on the forest, and more difficult to mitigate than wetland disturbance.⁴⁶⁶

456. Route E and Route G skirt the large wooded areas and would decrease the edge effect, particularly if Option 11 is selected.⁴⁶⁷

457. Agricultural lands are not key habitats for the species of greatest concern. Since farming can continue within the rights-of-way, transmission line construction will have less permanent impact to natural resources than construction in wetlands and, especially, in forested areas.⁴⁶⁸

Effects on Rare and Unique Natural Resources

458. Rare and unique natural communities and habitats occur throughout the area between Sauk Centre and St. Cloud. Among the significant features is St. Wendel Tamarack SNA, one of the top two sites for Significant Biological Diversity in Stearns County. It is a large wetland complex, encompassing one of the largest remaining blocks of native vegetation in the County, and the best and largest example of Minerotrophic Tamarack Swamp in central Minnesota. This SNA is approximately one

⁴⁶¹ Ex. 8 at 4-7 (McGee Direct).

⁴⁶² St. John's Petition to Intervene.

⁴⁶³ Ex. 6 at 5-7 (Kroll Direct).

⁴⁶⁴ Ex. 6 at 14 (Kroll Direct), quoting Michael Lee, DNR botanist.

⁴⁶⁵ Tr. Vol. 3 at 117-118 (Chapman).

⁴⁶⁶ Ex. 11 at 6-8 (Avon Township Chapman Direct); Tr. Vol. 3 at 119, 121, 150-151 (Chapman).

⁴⁶⁷ Tr. Vol. 3 at 133 (Chapman). Although FEIS at 3-36, Table 3.6-8, shows that the acres within the rights-of-way do not differ for Option 11, the maps show the relative location of the wooded areas. FEIS, Appx. C at Sheet 90.

⁴⁶⁸ Ex. 5 at 4, 6-7 (St. John's Chapman Direct).

mile west of the Modified Preferred Route and would not be impacted by the alignment.⁴⁶⁹

459. Route C and Route D bisect the Avon Hills Conservation Design Overlay District and run closest to several rare features that may be adversely affected by further habitat fragmentation. The Modified Preferred Route, Route E and Route G approach the edge of the District.⁴⁷⁰

460. MCBS sites are present between Sauk Centre and St. Cloud, but most are concentrated in the eastern end of Stearns County.⁴⁷¹

461. The Modified Preferred Route includes 356 acres of land designated as high biodiversity significance, 20 acres of which would be included in the right-of-way. It also has 92 acres of Native Plant Communities, seven acres in the right-of-way. None of the other route alternatives include as much land with high or outstanding biodiversity significance or as many Native Plant Communities.⁴⁷²

462. The next highest level of impact is Route G, which has 51 acres of high biodiversity significance (8 acres in the right-of-way), as well as 60 acres with moderate biodiversity significance (6 in the right-of-way), and 56 acres of Native Plant Communities (7 in the right-of-way).⁴⁷³

463. Route E would have less impact than Route G, 20 acres of high biodiversity significance (2 in the right-of-way); 42 acres of moderate biodiversity significance (6 in the right-of-way), and 37 acres of Native Plant Communities (3 in the right-of-way). Selection of Option 11 would decrease the acres with high biodiversity significance and Native Plant Communities within Route E and Route G.⁴⁷⁴

464. Route C is the only route alternative that includes land designated as outstanding biodiversity significance, 57 acres, within the St. John's Arboretum. None of these acres are expected to be incorporated into the right-of-way. Route C also includes 29 native Plant Communities.⁴⁷⁵

465. Route D would have the least impact on rare and unique natural resources, with only one acre of outstanding or high Biodiversity Significance and 15 Native Plant Communities.⁴⁷⁶

466. The Modified Preferred Route includes 5,157 acres of the Avon Hills IBA; Route C – 1,962 acres; Route D – 1,889 acres; Route E – 1,301 acres; and Route

⁴⁶⁹ Ex. 22A, DEIS at 7-120 – 7-121.

⁴⁷⁰ Ex. 5 at Scheds. 4, 5 (St. John's Chapman Direct); Ex. 38, Scheds. 6, 7 (St. John's Chapman Rebuttal).

⁴⁷¹ Ex. 22A, DEIS at 7-113 – 7-114.

⁴⁷² FEIS at 3-51 – 3-61; Table 3.6-10.

⁴⁷³ FEIS at 3-51 – 3-61; Table 3.6-11.

⁴⁷⁴ FEIS at 3-51 – 3-61; Table 3.6-11 and Table 3.6-13.

⁴⁷⁵ FEIS at 3-51 – 3-61; Table 3.6-10 and Table 3.6-11; Ex. 6 at 14 (Kroll Direct).

⁴⁷⁶ FEIS at 3-51 – 3-61; Table 3.6-10 and Table 3.6-11.

G – 1,256 acres. Option 11 would reduce the number acres of Avon Hills IBA in Route E and Route G by 260 acres.⁴⁷⁷ Route E and Route G would also have the fewest number of acres of the Avon Hills IBA within the right-of-way.⁴⁷⁸

467. Perhaps because of its narrower right-of-way, placing a portion of Route D underground would have slightly less impact on Sites of Biodiversity Significance, Native Plant Communities and the Avon Hills IBA than Route D above ground.⁴⁷⁹

468. The DNR and other organizations have developed a State Wildlife Action Plan (SWAP), "Tomorrow's Habitat for the Wild and Rare," to protect key habitats that are susceptible to population growth and development for "Species of Greatest Conservation Need" (SGCN). There are very few occurrences of these species within the 1000-foot route for any of the alternatives under consideration (one incidence of the Cerulean Warbler on Route G; one incidence of the Pugnose shiner on Route C).⁴⁸⁰

469. It is not anticipated that any protected species will be directly displaced by the proposed rights-of-way as there are few incidences of protected plants or animals within any of the routes. Transmission line alignment and structure locations may be able to span sensitive flora or vegetation, further minimizing the impact. Construction may reduce some wetland and agricultural habitat but the effect diminishes when vegetation is reestablished after construction. Timing construction to avoid breeding or nesting seasons would also mitigate the impact. It is more difficult to mitigate the effect of removing forest land since reforestation within the right-of-way is not possible.

Use of Existing Right-of-Way, Survey Lines, Natural Division Lines and Agricultural Field Boundaries

470. Virtually all of the route alternatives run along existing rights-of-way, survey lines, natural division lines, or agricultural field boundaries. Some of these geographic demarcations, such as survey lines and natural division lines, are not visible, but attention to them decreases diagonal property crossings. The Modified Preferred Route follows such features, including roads, fields, rail, trail and transmission for 90.1 percent of the route; Route C – 96.9 percent; Route D – 99.4 percent; Route E – 91.7 percent and Route G – 82.7 percent.⁴⁸¹

⁴⁷⁷ FEIS at 3-51 – 3-61; Table 3.6-10, 3.6-11 and 3.6-13.

⁴⁷⁸ FEIS at 3-51 – 3-61; Table 3.6-11.

⁴⁷⁹ Ex. 22A, DEIS at 7-127.

⁴⁸⁰ FEIS, Table 3.6-15.

⁴⁸¹ FEIS at 3-5, Table 3.2-4. *But compare* Ex. 30, Sched. 8 at 8 (Lahr Rebuttal): The Modified Preferred Route follows such designations for 97 percent of its length; Route C – 95%; Route D – 97%; Route E – 100 %; Route G – 100%.

Use of Existing Transportation, Pipeline, and Electrical Transmission System Right-of-Way

471. The ATF, which was appointed to consider the route alternatives from Freeport to St. Cloud, ranked nonproliferation as its top priority in selecting routes for evaluation.⁴⁸²

472. Of the five alternatives under consideration for this segment of the Project, the Modified Preferred Route has the lowest percentage of route length that parallels existing road, rail, trail or transmission right-of-way, 62.2 percent. Route C has 83.5 percent; Route D has 87.5 percent; Route E has 73.7 percent; Route G has 72.7 percent.⁴⁸³

473. The Modified Preferred Route and Route G have the most miles, 4.6 and 7.7, respectively, that do not follow any right-of-way or linear feature.⁴⁸⁴

474. Avon Township points out in its Post Hearing Brief that more portions of the Modified Preferred Route follow undeveloped property boundary lines, through agricultural fields and wooded areas. It contends that the Modified Preferred Route has the most "real proliferation," that is, miles along fields or no linear feature. By that measure, the Modified Preferred Route has 17.8 miles, Route C has 6.4 miles, Route D has 4.6 miles, Route E has 11.4 miles and Route G has 12 miles.⁴⁸⁵

475. Option 11 follows more field lines than the comparable section of Route E, which follows more roads. The Route B segments of Option 12 follow roads and the E-5 segment follows a rail line.⁴⁸⁶

Costs of Constructing, Operating and Maintaining the Facility

476. The estimated costs of each route alternative are based on a standard per-mile figure of \$1.7 million, and take into account pole locations, spotted to minimize impact to wetlands, areas of cultural significance, residential structures and other sensitive areas. The estimated cost per mile for underground construction is approximately \$20 million per mile for single circuit construction and \$40 million per mile for two circuits.⁴⁸⁷

⁴⁸² Ex. 17, Appx. D.

⁴⁸³ FEIS at 3-5, Table 3.2-4. See also Ex. 30, Sched. 8 at 8 (Lahr Rebuttal), with some differences.

⁴⁸⁴ FEIS at 3-5, Table 3.2-4.

⁴⁸⁵ Avon Township Post Hearing Brief at 27-30; FEIS at 3.2-4, Table 3.2-4.

⁴⁸⁶ FEIS at 3-5, Table 3.2-4.

⁴⁸⁷ Ex. 3 at 11 (Chezik). The Applicants explained why it would be prudent to install both circuits in the underground segments to avoid future cost and disruption. *Id.*, and Sched. 1 (345 kV Underground Report).

Modified Preferred Route	\$63.8 million
Route C	\$60.9 million
Route D	\$60.3 million
Route D, inc. underground segments	\$608.0 million
Route E	\$64.7 million
Route G	\$65.2 million

477. Selection of Option 11 will reduce the length of Route E and Route G by one mile and the cost by \$1.7 million.⁴⁸⁸ AS-4 will increase the cost of Route E by \$850,000.⁴⁸⁹ Since Option 12 does not affect the route length by a mile or more, it does not affect the cost for Route E or Route G.⁴⁹⁰

478. Either Route E or Route G with Option 11 is slightly less expensive than the Modified Preferred Route. Route C and Route D overhead are the least expensive.

479. Although Route C is shorter than the other routes, it requires more angle structures than the Modified Preferred Route, with resulting higher per-mile costs.⁴⁹¹

480. The cost of Route D with segments placed underground is approximately ten times the cost of any other route alternative. In addition to the construction costs, maintenance and repair of an underground transmission line may be greater than maintenance and repair of an overhead transmission line.⁴⁹²

Adverse Human and Natural Environmental Effects That Cannot Be Avoided

481. The DEIS and FEIS discuss mitigation for adverse effects. Some of the adverse effects can be diminished by careful consultation with landowners, right-of-way adjustment, and pole placement. The DNR offered several proposals to mitigate the environmental impact, as set forth below.

Irreversible and Irretrievable Commitments of Resources

482. Construction resources, such as concrete, steel and hydrocarbon fuels, will be irreversible and irretrievably committed to this Project. The use of resources is relative to the length of each route. Since the Modified Preferred Route, Route E and Route G are comparable in length, they would require approximately the same resources.

⁴⁸⁸ Ex. 3 at 10, f.n. 5 (Chezik Direct); Tr. Vol. 1 at 133 (Chezik).

⁴⁸⁹ Ex. 22A, DEIS at 1-40, Table 1.6-1.

⁴⁹⁰ Ex. 3 at 10, f.n. 2 (Chezik Direct).

⁴⁹¹ Ex. 2 at 20 (Lahr Direct).

⁴⁹² Ex. 3 at 10 (Chezik Direct).

Recommendation for the Sauk Centre to St. Cloud Segment

483. The Modified Preferred Route will have an adverse effect on natural resources. It will impact more wooded lands, more acres of biological significance, more Native Plant communities, and more of the Avon Hills IBA than Route E or Route G. It will also impact more prime farmland than either Route E or Route G. Route E and Route G will have less environmental impact than the Modified Preferred Route.

484. The Modified Preferred Route has more homes within 500 feet of the proposed alignment than either Route E or Route G with Option 11. Route E affects fewer homes than Route G within 500 feet of the alignment, but there are fewer homes along Route G that are within 150 feet of the alignment.

485. The costs of the Modified Preferred Route, Route E and Route G are comparable.

486. Although the relative merits of Route E and Route G are quite similar, Route G follows more road right-of-way than Route E, and the roads are more heavily travelled. Route G with Option 11 skirts the Avon Hills and will have less environmental impact than Route E, which runs beside a WMA and between a series of five lakes.

487. Option 11 is a more feasible and prudent alternative than the equivalent portion of Route E or Route G. The E-5 segment of Option 12 is a more feasible and prudent alternative than the Route B segments of Option 12.

488. Overall, Route G with Option 11 and the E-5 segment of Option 12 best meets the routing criteria.

489. Because of displacement, difficulty of construction and the impact on the Avon Hills, Route D is not a feasible and prudent alternative to the Modified Preferred Route, even if segments were placed underground. Underground portions would not eliminate many of the difficulties presented by the route and it is unjustifiably expensive when compared to Route E and Route G, which both better meet the routing criteria. Route C is also not a feasible and prudent alternative.

Mitigation Recommended by the DNR

490. This Project will run through important habitat for waterfowl and migratory birds, particularly from North Dakota to Alexandria. The DNR offered many suggestions to enhance the DEIS and to mitigate the effect of the Project on the natural environment. The agency encouraged selection of a route alternative that would avoid high bird-use areas and migration corridors, state managed resources and federally owned and managed resources. These include SNAs, WNAs, WPAs and USFWS easements.

491. The DNR lacked sufficient information concerning avian use and mortality risk to compare the route alternatives and identify appropriate mitigation methods. For example, waterfowl are more susceptible to collision with transmission

lines running between fields and water, but the DEIS did not identify where such transitions occur along each route alternative.⁴⁹³ Also, a transmission line will affect different bird species in different ways. The type of mitigation, including the type, placement and spacing of bird diverters, may vary. The DNR recommended that the Route Permit require the Applicants to develop an avian protection plan, with specific monitoring and mitigation measures, for review and approval by the DNR prior to construction.⁴⁹⁴

492. The DNR recommended that the Route Permit require habitat for wildlife along riparian corridors, and shading of streams. Woody vegetation is not only beneficial to wildlife, but it also inhibits erosion and deters damaging all-terrain vehicle access to streams.⁴⁹⁵ The DNR requested that the Applicants delineate and mark all wetlands and rare plant communities prior to construction, and where it is feasible, avoid construction activities within 50 feet of the marked areas.⁴⁹⁶

493. The DNR requested that the transmission line span water bodies and wetlands wherever possible to avoid increased sedimentation and soil erosion and the associated degradation of the resource. Where this cannot be avoided, the DNR requested that the Applicants be required to confer about structure type and placement.⁴⁹⁷

494. The Project will also come close to a large, highly valued forested area within the Avon Hills, a critical habitat for many species. The DNR encouraged the Applicants to manage the rights-of-way to benefit wildlife and to avoid or minimize establishment of invasive species and encourage native plant establishment. It pointed out that care should be given when using herbicides where sensitive bird or insect species are known to occur.⁴⁹⁸

495. As a condition for the Route Permit, the DNR recommended that the Applicants complete an overall Construction Environmental Control Plan (CECP) to ensure compliance with all required permits and project plans, including an Environmental Mitigation Plan. Because of the large scope of the Project, and the environmental sensitivity of the areas through which portions of the Project will pass, the DNR also recommended that the Route Permit require selection of a third-party monitor to assure compliance with the CECP and to avoid or minimize damage to protected resources.⁴⁹⁹

⁴⁹³ Ex. 43 at 2-3.

⁴⁹⁴ Ex. 43 at 4-5.

⁴⁹⁵ Ex. 43 at 4.

⁴⁹⁶ Ex. 43 at 5.

⁴⁹⁷ Ex. 43 at 4.

⁴⁹⁸ Ex. 43 at 3.

⁴⁹⁹ Ex. 43 at 6.

Adequacy of the FEIS

496. The Commission is required to determine the adequacy of the FEIS. To be adequate, the FEIS must, among other things, address the issues and alternatives identified in the Scoping Decision "to a reasonable extent considering the availability of information and the time limitations for considering the permit application."

497. The evidence on the record demonstrates that the FEIS is adequate because it addresses the issues and alternatives raised in the Scoping Decision, as amended, 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.

Based on these Findings of Fact, the Administrative Law Judge makes the following:

CONCLUSIONS

1. The Public Utilities Commission and the Administrative Law Judge have jurisdiction to consider the Applicants' Application for a Route Permit.⁵⁰⁰
2. The Commission determined that the Application was substantially complete and accepted the Application on November 9, 2009. The Applicants and other parties agreed to extend the twelve-month timeframe for a decision on the permit.
3. OES conducted an appropriate environmental analysis of the Project for purposes of this route permit proceeding and the FEIS satisfies Minn. R. 7850.2500.
4. Applicants gave notice of the proceeding as required by Minn. Stat. §§ 216E.03, subds. 3a and 4, and Minn. R. 7850.2500, subps. 2 and 4.
5. Minnesota Statutes § 216E.03, subd. 6, and Minn. R. 7850.2600 set out the notice requirements for the contested case hearing on the routing for a proposed high voltage transmission line. The content of the notices issued in this matter fully complied with Minn. R. 1405.0500 and the applicable statute and rules.
6. OES gave notice as required by Minn. Stat. § 216E.03, subd. 6; Minn. R. 7850.2500 subps. 2, 7, 8 and 9.
7. Public hearings were conducted in the Project Area. Applicants and OES gave proper notice of the public hearings and the public was given the opportunity to speak at the hearings and to submit written comments. All procedural requirements for the Route Permit were satisfied.
8. For the **North Dakota to Alexandria** segment of the Route, the **Modified Preferred Route with Option 13 and 2B** satisfies the route permit criteria set forth in

⁵⁰⁰ Minn. Stat. §§ 14.57-.62; 216E.02, subd. 2.

Minn. Stat. § 216E.03, subd. 7 (a), 7(b), and Minn. R. 7850.4000 and 7850.4100. For this segment, the Modified Preferred Route presents a potential for significant adverse environmental effects, pursuant to the Minnesota Environmental Rights Act (MERA) and Minnesota Environmental Policy Act (MEPA), but there is no feasible and prudent alternative. The Modified Preferred Route is the best alternative on the record for the 345 kV transmission line from North Dakota to Alexandria. Option 2B is a feasible and prudent alternative to minimize the impact to landowners and agricultural operations for a portion of this segment.

9. Applicants should work with MnDOT to seek approval to cross the Iverson Rest Area so that the alignment is placed closer to I-94, and to cross the scenic easement on the south side of I-94 near Fergus Falls to increase the distance of the alignment from the River Oaks residential subdivision.

10. For the **Alexandria to Sauk Centre** segment of the Route, the **Modified Preferred Route** satisfies the route permit criteria set forth in Minn. Stat. § 216E.03, subd. 7 (a), 7(b), and Minn. R. 7850.4000 and 7850.4100. For this segment, the Modified Preferred Route presents a potential for significant adverse environmental effects, but there is no feasible and prudent alternative. The Modified Preferred Route is the best alternative on the record for the 345 kV transmission line from Alexandria to Sauk Centre.

11. In the event that the Modified Preferred Route cannot be aligned to meet MnDOT airport clearance requirements and avoid 12th Street in Sauk Centre, the Modified Preferred Route should be followed from Alexandria to Option 6 and then follow Route A to the point where it rejoins the Modified Preferred Route.

12. For the **Sauk Centre to St. Cloud** segment of the Route, based on an evaluation of the routing criteria, construction of the Modified Preferred Route is not the best route selection. Route E with AS-4 and Option 11, and Route G with Option 11 better satisfy the route permit criteria set forth in Minn. Stat. § 216E.03, subd. 7 (a), 7(b), and Minn. R. 7850.4000 and 7850.4100. For this segment, the Modified Preferred Route presents a potential for significant adverse environmental effects. Route E and Route G are more feasible and prudent alternatives to the Modified Preferred Route and will not present a potential for significant adverse environmental effect. Either Route E or Route G will minimize the effects on natural resources, and on persons living and working within the Project Area, and will better serve the public health, safety, and welfare. Although Route E and Route G are quite similar, Route G best satisfies the routing criteria because it skirts the Avon Hills, avoids several lakes and a WMA, and follows roads with higher traffic. Route G should include Option 11 and the E-5 segment of Option 12.

13. For the Sauk Centre to St. Cloud segment, Route A, Route B, Route C, Route D, Route F and Route H are not feasible or prudent alternatives to the Modified Preferred Route.

14. The Route Permit should include the associated facilities, expansion of the Quarry Substation and the Alexandria Switching Station.

15. The Route Permit should provide the Applicants with a route width of up to 1,000 feet. The record is unclear as to the areas where the Applicants continue to seek a wider route width or narrower route width and that information should be provided to the Commission.⁵⁰¹

16. The Route Permit should allow the Applicants to install six conductors at highway crossings and interchange locations to facilitate the addition of a second circuit at a later date, upon approval of the Commission.

17. It is appropriate for the Route Permit to require Applicants to obtain all required local, state, and federal permits and licenses, to comply with the terms of those permits and licenses, and to comply with all applicable rules and regulations.

18. As a condition of the Route Permit, the Applicants should coordinate with MnDOT, local highway authorities, the State Patrol and other appropriate agencies to manage the safe flow of traffic throughout construction.

19. As a condition of the Route Permit, the Applicants should give notice to the travelling public and landowners when explosions will be used to splice conductors.

20. As a condition of the Route Permit the Applicants should seek approval from the Commission to place a portion of the transmission line underground if necessary to comply with restrictions imposed by the DNR or USFWS, consistent with Minn. R. 6135.1100 and 6135.1200.

21. As a condition of the Route Permit, the Applicants should develop a Construction Environmental Control Plan, which shall include an Agricultural Impact Mitigation Plan, Avian Protection Plan, Environmental Management Plan, Re-vegetation and Restoration Plans, Pollution Prevention Plan, Environmental Mitigation Plan and all policies, permits, plans, and protocols, to minimize and mitigate the potential impact associated with the construction and operation of the transmission line. The control plan shall require the Applicants to consult with the DNR concerning right-of-way management, use of bird diverters, and construction near water bodies, wetlands, native plant communities and breeding areas. The Applicants should also be required to fund an environmental monitor to oversee implementation and compliance with the Construction Environmental Control Plan.

22. Any Findings of Fact more properly designated Conclusions are adopted as such.

⁵⁰¹ Several areas with broader route width, many to skirt freeway interchanges, were identified in the Application, and included in Ex. 22A, DEIS at 1-31 – 1-33, Table 1.5-1. Apparently some are no longer needed. Some areas with decreased route width are also identified. Ex. 22A, DEIS at 1-34, Table 1.5-2.

Based upon these Conclusions, and for the reasons explained in the accompanying Memorandum, the Administrative Law Judge makes the following:

RECOMMENDATION

1. That the Commission issue Applicants a Route Permit for the Modified Preferred Route from North Dakota to Sauk Centre, with Option 13 and 2B, and for Route G with Option 11 and the E-5 segment of Option 12 from Sauk Centre to St. Cloud, subject to conditions as more fully set forth in the conclusions.
2. The Route Permit shall include the Applicants' requested modifications to the Quarry Substation and expansion of the Alexandria Switching Station.

Dated: April 25, 2011


Beverly Jones Heydinger
Administrative Law Judge

Reported: Shaddix & Associates

NOTICE

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 PUC, 350 Metro Square Building, 121 Seventh Place East, St. Paul, Minnesota 55101-2147. Exceptions must be specific, relevant to the matters at issue in this proceeding, and stated and numbered separately. Proposed Findings of Fact, Conclusions, and Order should be included, and copies served upon all parties.

The Commission shall make its determination on the application for the Route Permit after the period to file Exceptions as set forth above, or after oral argument, if such is requested and conducted in this matter. In accordance with Minn. R. 4400.1900, the PUC shall make a final decision on the Route Permit within 60 days after receipt of this Report.

Notice is hereby given that the Commission may accept, modify, condition, or reject this Report and that this Report has no legal effect unless expressly adopted by the Commission.

APPENDIX A

Summary of Public Comments

Modified Preferred Route – General Comments

1. Many people supported the Modified Preferred Route.⁵⁰² Doug Christensen supported the Modified Preferred Route because it is less costly than Route A.⁵⁰³ Alan Zeithamer supported the Modified Preferred Route because it will cause less environmental and aesthetic damage.⁵⁰⁴ Wayne Erickson supported the Modified Preferred Route because it would affect fewer people than Route A.⁵⁰⁵

2. Many people favored using the I-94 corridor for the entire route. Many people believed that following the freeway would reduce costs and further the State's nonproliferation policy.⁵⁰⁶

North Dakota to Alexandria Segment

3. The Lien Township Board of Supervisors and Jerald and Celine Brudvik supported the Modified Preferred Route to protect the farmland within and near Route A and because they believe the line should follow I-94.⁵⁰⁷

4. Terry Giese, who lives in Land Township along Route A, supported the Modified Preferred Route. He stated that if Route A were chosen, it would run beside his runway, which he uses to fly spray planes. He also stated the additional 50-mile stretch in North Dakota to Fargo should be taken into consideration when weighing the routing factors.⁵⁰⁸

5. A number of people supported the Modified Preferred Route because they use a helicopter landing pad on a farmstead in North Dakota, approximately three miles

⁵⁰² See e.g., Comment, David Thingvold, Trans. Nov. 16, 2010, afternoon, p. 28-30, Comment, Sylvester Goerdts, Trans. Nov. 16, 2010, evening, p. 47; Comment, Larry Schneeberger, Trans. Nov. 17, 2010, evening, p. 26-27; Comment, Chad Beste, Trans. Nov. 30, 2010, afternoon, p. 27-28; Comment, Justin Markell of RES America, Trans. Dec. 2, 2010, afternoon, p. 33-34.

⁵⁰³ Trans. Nov. 16, 2010, evening, p. 20.

⁵⁰⁴ Trans. Nov. 18, 2010, afternoon, p. 38.

⁵⁰⁵ Trans. Nov. 18, 2010, evening, p. 37-38.

⁵⁰⁶ See e.g., Letter, Jan Kaeter, Jan. 2, 2011; Letter, Anna Jonas, Jan. 3, 2011, Letter, Margaret Boatz, undated; Letter, Tony and Nancy Schwalbe, Jan. 5, 2011, Letter, Derek Iverson, Jan. 5, 2011; Letter, Duane and Jane Scepaniak, Jan. 5, 2011; Letter, Michael Zimmer, Dec. 30, 2010; Letter, John Ruprecht, Dec. 28, 2010; Letter, Leo Pohl, Dec. 7, 2010; Letter, Tim and Mary Drake, Nov. 24, 2010; Letter, Christy Morgel, received Dec. 2, 2010.

⁵⁰⁷ Trans. Nov. 17, 2010, afternoon, p. 18; Public Ex. 6; see also Comment, Harry Whitehead, Nov. 17, 2010, afternoon, p. 21 (stating same); Comment, Helmer Wright, Nov. 18, 2010, afternoon, p. 21-24 (stating same); Comment, Purves Todd, Trans. Dec. 1, 2010, afternoon, p. 35-36; Comment, Art Kerfeld, Trans. Dec. 1, 2010, afternoon, p. 48.

⁵⁰⁸ Trans. Nov. 18, evening, p. 34-35; Letter, Jan. 5, 2011.

from Route A. If Route A is chosen it will interfere with the helicopters and it will be more difficult to challenge the placement of the line in North Dakota.⁵⁰⁹

6. Lynn Haagenson supported the Modified Preferred Route, specifically the alignment on the north side of I-94 near Highway 210, to protect the U.S. Fish and Wildlife's Prairie Wetland Interpretive Center located near Fergus Falls.⁵¹⁰

7. Many people opposed the Modified Preferred Route. Tim Buckhouse and Jerald Butenhoff opposed the route near Barnesville because the area is too populated.⁵¹¹

8. Robert and Jeanine Henneman and nine other residents of Evansville Township opposed the Modified Preferred Route and Option 2A. They disputed the displacement information in the DEIS. They stated that they considered their entire farm to be their "residence," and that the Modified Preferred Route would pass through at least four farm sites, and that at least four houses would be within 100 feet of the transmission line. They stated that if the Modified Preferred Route were selected, many of the homesteads would lose their mature trees, which are used to buffer the noise of I-94. They support a modified version of Option 2B.⁵¹²

9. Gary and Sharon Behrens of Evansville Township stated that their home is approximately 200 feet from the freeway right-of-way. They have an airstrip and two aircraft hangars that they will be unable to use if the Modified Preferred Route is selected and they will lose the trees they have planted over the last 35 years. They are also concerned about the EMF effects and worry the line will aggravate their health conditions. They support the selection of Option 2B because it would be less intrusive to the six homes that are within the immediate vicinity of I-94 in Evansville Township.⁵¹³

Route A

10. Many people supported Route A.⁵¹⁴ The City of Fergus Falls passed a resolution in support of Route A, or in the alternative, for the Modified Preferred Route to follow I-94 through the City. If that is not possible, it recommends moving the Applicants' preferred alignment farther east, to avoid the River Oaks Housing Development.⁵¹⁵

11. Jerome Cichosz and sixty-eight others from the River Oaks Housing Development near the City of Fergus Falls signed a petition expressing concern with the location of the Modified Preferred Route as it passes Fergus Falls. The route shifts to

⁵⁰⁹ See Letters, Casey Miller, Scott Miller, Dan Miller, Jan. 5, 2011.

⁵¹⁰ Trans. Nov. 16, 2010, evening, p. 22.

⁵¹¹ Trans. Nov. 16, 2010, afternoon, p. 56-57.

⁵¹² Public Ex. 1.

⁵¹³ Public Ex. 5.

⁵¹⁴ See e.g., Comment, Mark Carr, Trans. Nov. 16, 2010, afternoon, p. 58-59; Comment, Trail Vosberg, Nov. 16, 2010, evening, p. 36-37.

⁵¹⁵ Public Ex. 2.

follow a MnDOT scenic byway easement along the Otter Tail River, but Mr. Cichosz believed that the shape and size of the easement should not be used as a reason to route the transmission line away from the I-94 corridor. If the route deviates from I-94, the transmission line would impede development in the River Oaks Housing Development and the City of Fergus Falls. He stated that the Modified Preferred Route would destroy the pristine Otter Tail River Valley near Fergus Falls, including the wildlife living and flying there. He suggested Route A be selected instead.⁵¹⁶

12. In a letter filed later in the proceeding, Mr. Cichosz restated his preference for Route A around Fergus Falls, but encouraged the Applicants to work with MnDOT if the Modified Preferred Route is selected to follow I-94 as closely as possible.⁵¹⁷

13. Dean Sillerud of Moorhead supported Route A over the Modified Preferred Route because it follows the quarter and section lines, as opposed to the Modified Preferred Route's diagonal path over his property.⁵¹⁸

14. Matthew Valan supported Route A because it goes through an area that is less populated than the area crossed by the Modified Preferred Route. He expects the area around Moorhead, Barnesville and Comstock to become increasingly populated in the future.⁵¹⁹

15. If Route A is selected, Arthur Isackson requested that the Commission include a condition that would allow realignment in Section 36 of Holmes City Township so that the line would not run diagonally through his property.⁵²⁰

16. Others opposed Route A, including Verlyn Bruzak,⁵²¹ Gerald and Celine Budvik,⁵²² and Jeff and Rebecca Christiansen.⁵²³

Option 3 to the Modified Preferred Route

17. Alan Zeithamer opposed Option 3 because it would impact 30 homes, but the Modified Preferred Route would affect 3. He stated that Option 3 would cost more than the Modified Preferred Route, and that the I-94 corridor should be used whenever feasible.⁵²⁴

18. Michael, Jeanne and Paul Wittrock opposed Option 3 because it would cross countless farms, hundreds of homes and established neighborhoods.⁵²⁵

⁵¹⁶ Trans., Nov. 16, 2010, evening, p. 26-32; Public Ex. 3.

⁵¹⁷ Letter, Dec. 12, 2010.

⁵¹⁸ Trans. Nov. 16, 2010, afternoon, p. 40-44.

⁵¹⁹ Trans. Nov. 16, 2010, afternoon, p. 45.

⁵²⁰ Trans. Nov. 18, 2010, afternoon, p. 26-32.

⁵²¹ Letter, Dec. 15, 2010.

⁵²² Letter, Dec. 20, 2010.

⁵²³ Public Exhibit 4.

⁵²⁴ Trans. Nov. 18, 2010, afternoon, p. 34-36.

⁵²⁵ Letter, Jan. 1, 2011.

19. Wayne Summer, who lives near Alexandria, opposed Option 3 because it is longer and more expensive than the Modified Preferred Route. He estimated that 70 homes would be impacted by the selection of Option 3.⁵²⁶

Option 13 to Modified Preferred Route

20. Richard Thompson supported Option 13 to avoid the Lesmeister Flying Service airstrip. Thompson estimated that the owner of the Flying Service uses the airstrip to spray approximately 60,000-100,000 acres of farmland each year, and that he believes the airstrip might be busier than the Moorhead Airport.⁵²⁷

Iverson Lake Rest Area

21. Craig Hanson spoke in opposition to the Modified Preferred Route as it passes the Iverson Lake Rest Area. He stated that the Route needlessly deviates from the I-94 corridor to avoid a Wildlife Management Area (WMA). He stated the WMA is rarely used because of the noise of I-94, and that the deviation from I-94 compromises public safety because of its proximity to County Road 82. He suggested that the Modified Preferred Route follow the I-94 corridor and span the WMA.⁵²⁸

22. Marv Sawtell, Judith A. Johnson, Julie and Brad Kimball, Mark and Marcia Duffy, Tonya Bergren, Daniel and Mary Beth Schindler and the Cedar Park Board of Directors also stated that the Modified Preferred Route should not deviate from the I-94 corridor. The Schindlers stated that because the rest area is flooded, it is unlikely that the Iverson Lake Rest Area will open again and the scenic easement may therefore be terminated. They stated that the Route, as currently planned, will needlessly cross the Cedar Park housing community and affect 32 families. The Cedar Park Board of Directors submitted a petition in opposition to the route signed by 27 residents of the Cedar Park community.⁵²⁹

23. Raymond Rogers also opposed the Iverson Lake deviation. He owns Big Chief Truck Stop, and as it is routed now, the Modified Preferred Route would run right through the truck stop parking lot.⁵³⁰

24. Others, including Mary Jane Olson, Brian Kotschevar, Mark Waisanen and Michael Smith, favored running on the south side of I-94, through the Iverson Rest Area.⁵³¹

⁵²⁶ Trans. Nov. 18, 2010, evening, p. 35-37.

⁵²⁷ Trans. Nov. 16, afternoon, p. 49.

⁵²⁸ Trans. Nov. 17, 2010, evening, p. 18-25.

⁵²⁹ Trans. Nov. 17, 2010, evening, p. 27-28; Letters Dec. 22, 2010.

⁵³⁰ Trans. Nov. 17, 2010, evening, p. 28-29.

⁵³¹ Letters rec'd Nov. 29, 2010.

25. The Swan Lake Association similarly opposed the routing along Iverson Lake and suggested the line be routed on the south side of I-94 to avoid the more-populated area on the north side and the WMA and the Waterfowl Protection Area.⁵³²

26. Ryan Hanson, who lives in the Cedar Park development, also opposed the Lake Iverson deviation. He suggested that the route travel on the south/west side of I-94, on the west side of Iverson Lake. He estimated that as it is routed now, the Modified Preferred Route will needlessly impact approximately 45 families, but if it were closer to Iverson Lake, only a few houses would be impacted.⁵³³

Alexandria to Sauk Centre Segment

27. The City of Sauk Centre generally supports the Modified Preferred Route, but it opposes the portion of the Route that travels through the City of Sauk Centre. The Modified Preferred Route deviates from the I-94 corridor west of the city and travels through the city on 12th Street to avoid the Sauk Centre Municipal Airport's clear zone. The Route crosses through a heavily-used area of the City, with residences, churches, businesses, parks, and the Wobegon Trail along the Route. The Modified Preferred Route crosses I-94 seven times within two miles of Sauk Centre. The City fears the Modified Preferred Route will cause a permanent detrimental effect to its community. Rather than route the line through town, the City offered to work with the Applicants and amend its Airport Improvement Project to accommodate the line and allow it to remain along the I-94 corridor in the Industrial Zone on the south side of I-94. If the Modified Preferred Route cannot be modified to run near the I-94 corridor, the City requests that Route A be selected in the alternative.⁵³⁴

Option 4 – Alexandria to Sauk Centre

28. David Walsh, who lives in Hudson Township by Alexandria, supported the Modified Preferred Route, but if Route A is chosen, he would support Option 4 because it is less expensive and would affect fewer people.⁵³⁵

Sauk Centre to St. Cloud Segment

Modified Preferred Route

29. Bob Harren of Freeport supported the Modified Preferred Route to protect his family and his farmland, where he milks 40 dairy cows. He stated that people and livelihoods should take precedence over wildlife, wetlands and trees.⁵³⁶

⁵³² Letter, Richard Baker, Tim Atkinson, Nov. 24, 2010.

⁵³³ Trans. Nov. 17, 2010, evening, p. 40-41.

⁵³⁴ Trans. Nov. 30, 2010, afternoon, p. 17-22; Public Ex. 10; Letter, Jan. 5, 2011.

⁵³⁵ Trans. Nov. 18, 2010, evening, p. 19-22.

⁵³⁶ Trans. Dec. 1, 2010, afternoon, p. 52.

30. The City of Melrose opposed the Modified Preferred Route because it crosses through the City's closed dump site and well fields. Because the water table is so high in that area, any disturbance to the ground has the potential to contaminate the water supply of the community. The Supply Management Area supplies more than four million gallons a day to the City of Melrose and surrounding individuals.⁵³⁷

31. Joan Hemker opposed the Modified Preferred Route as it runs just north of the City of Freeport because she raises exotic species and operates a zoo on approximately fourteen acres. The zoo is centrally located within the state and attracts people from Fargo, Willmar, Little Falls and the metro area. She raises wildebeest and endangered black-footed penguins. The line would run directly over her penguin barn and she is concerned that the animals will be affected by electro-magnetic fields associated with the transmission line and that the aesthetics of the transmission line will interfere with people's enjoyment of the zoo.⁵³⁸

32. The Nature Conservancy opposed the Modified Preferred Route and Routes A, B, C and D in the Avon Hills area because of the impact to sites of biodiversity significance. It supported the selection of Routes E, F, G or H with the Option 11 alternative.⁵³⁹

33. Dave Simpkins opposed the Modified Preferred Route as a member of the Lake Wobegon Trail Association. He stated that the route would require the removal of many of the trees along the trail and he requested that the trees and the foliage along the trail be preserved.⁵⁴⁰

34. Leroy Gondringer opposed the Modified Preferred Route as it passes through Avon Township. He stated that the legislature has explicitly expressed its commitment to the principle of nonproliferation when siting new power lines, but the Modified Preferred Route will carve out four and a half miles of new rights-of-way in Avon Township alone. In addition, the route would bisect two farms in Avon Township and prohibit the installation of any irrigation systems on those farms. He noted that Avon Township has made a commitment to preserve its natural resources, and the Modified Preferred Route will detrimentally affect the Township, especially the Little Pelican Lake area.⁵⁴¹

35. Robin Heinen suggested that the costs of undergrounding along some sections of the route have not been fully analyzed or compared to the costs of purchasing the easements necessary to utilize any of the route alternatives or options.⁵⁴²

⁵³⁷ Letter, Dec. 22, 2010.

⁵³⁸ Trans. Nov. 30, 2010, evening, p. 16-19. Although the zoo has endangered species, animals in captivity do not typically have endangered species status. Tr. Vol. 3 at 61-62 (Restani).

⁵³⁹ Letter, Dec. 8, 2010 (Margaret Ladner, State Director).

⁵⁴⁰ Trans. Nov. 30, 2010, afternoon, p. 21-22.

⁵⁴¹ Trans. Dec. 1, 2010, afternoon, p. 20; Public Ex. 15.

⁵⁴² Trans. Dec. 1, 2010, afternoon, p. 38-44.

Route A

36. Dale and Janet Skroch opposed Route A because it would affect 43 Century Farms and because 32% of Route A creates new transmission corridors.⁵⁴³ Mike Kuklok similarly opposed Route A because of the proliferation of new transmission right-of-way. He supported the use of the I-94 corridor.⁵⁴⁴

37. Tim and Kerrie Kerfeld opposed Route A because of its proximity to Birch Lake State Park, farms, a state forest, and its effect on an undeveloped area.⁵⁴⁵ Tim Kerfeld opposed Route A because of stray voltage and the aesthetic effects. He supported the use of the I-94 corridor instead.⁵⁴⁶

38. John Huls opposed Routes A and B because the Routes would cross his property and he is worried about the health effects and the ecological impact to Shepards Lake. He supported the use of current right-of-way to prevent the proliferation of new easements.⁵⁴⁷

Route B

39. Bruce Braun opposed Route B because there are more homes within 500 feet of the alignment than any other route alternative and because it would affect the most acres of farm land. He supported the Modified Preferred Route.⁵⁴⁸

Routes C and D

40. Many people opposed Routes C and D because they cross through the community of Collegeville, which was established in the late 1800s, and because the area endured the construction of I-94 in the 1960s and 1970s.⁵⁴⁹

41. Forty-four people from the Collegeville community submitted a petition in opposition to Routes C and D. They stated that the Collegeville area and the Lake Wobegon Trail are valued resources for those who live and visit there. The community is proud of the way it has been able to preserve its history despite the I-94 corridor and it worries that Route C or Route D would ruin the vibrancy of the community.⁵⁵⁰

42. John Grutsch, Mayor of Avon, opposed Route D because of the number of residences and commercial businesses in proximity to the route as it travels along I-94. There are over 90 homes located in the Stratford Addition of Avon that would be

⁵⁴³ Letter, Jan. 4, 2011; *see also* Letter, Shawn Vouk, Jan. 5, 2011.

⁵⁴⁴ Letter, Jan. 4, 2011; *see also* Letter, Michelle Gohl, Jan. 5, 2011.

⁵⁴⁵ Letter, Nov. 29, 2010.

⁵⁴⁶ Letter, Jan. 5, 2011; *see also* Letter, Carrie Kerfeld, Jan. 5, 2011.

⁵⁴⁷ Letter, Jan. 3, 2011.

⁵⁴⁸ Letter, Dec. 28, 2010.

⁵⁴⁹ *See e.g.*, Letter, Terence Check, Jan. 5, 2011; Letter, Sisters of the Order of Saint Benedict, Dec. 28, 2010; Letter, Avon Hills Initiative, Dec. 2, 2010.

⁵⁵⁰ Letter, Dec. 29, 2010.

affected by the selection of Route D. Because of the density of the population of Avon, and the close proximity of Route D to all homes within the City, the lines would devalue properties across the City, displace several homes and businesses and create an undue burden for all City taxpayers.⁵⁵¹

43. Jeff Manthe, President of the Stratford Association, a neighborhood association in Avon, opposed Route D because the route would run through the neighborhood and affect 92 homes and several hundred residents.⁵⁵²

44. Thomas Fisher, Dean of the College of Design at the University of Minnesota opposed Route D because of the aesthetic effects the line would have on the buildings at St. John's University, including the Abbey Chapel, designed by world renowned architect Marcel Breuer.⁵⁵³

45. Peggy Roske opposed Routes C and D because they would go through the Collegeville wetlands and because the I-94 corridor through Avon is too narrow to accommodate the transmission line.⁵⁵⁴

46. Terence Check opposed Route D because it runs parallel to the Lake Wobegon Trail for approximately three miles. The trail is used extensively by bikers, joggers, rollerbladers, snowmobilers and pedestrians, and it offers views of prairie grasslands, woodlands and marshlands.⁵⁵⁵

47. John Wittrock opposed Route D because it would require the removal of a field stone barn built in 1902 and a grove of 100-year-old trees.⁵⁵⁶

48. Audubon Minnesota opposed Routes C and D to protect the Avon Hills Important Bird Area in Stearns County.⁵⁵⁷

49. The Minnesota Forestry Association opposed Route D because it would transect the forest land owned and managed by St. John's University. The Forestry Association supports the selection of a route that is located in agricultural land rather than forested land, because agricultural land can be farmed under a transmission line, but the line under a transmission line is lost to forest production and fragments the forest wildlife habitat.⁵⁵⁸

⁵⁵¹ Public Ex. 10; Letter, City of Avon, Dec. 15, 2010; see also Comment, Jodi Austing-Traut, Trans. Dec. 2, 2010, afternoon, p. 19 (stating same).

⁵⁵² Trans. Dec. 1, 2010, afternoon, p. 64.

⁵⁵³ Letter, Nov. 26, 2010.

⁵⁵⁴ Trans. Dec. 2, 2010, evening, p. 60-61.

⁵⁵⁵ Letter, Jan. 5, 2011.

⁵⁵⁶ Letter, Jan. 5, 2011.

⁵⁵⁷ Letter, Jan. 5, 2011 (Mark Martell).

⁵⁵⁸ Letter, Dec. 30, 2010.

50. Dave Blenker opposed Route D because it would it would cross the Albany Golf Course and effectively destroy its operation.⁵⁵⁹

51. Dennis Sand, Mayor of Albany, opposed Route D because the route would affect a number of residences, commercial businesses, an industrial park and the Albany Golf Course. The City would not object if the line were placed underground.⁵⁶⁰

52. A number of people supported Route D because they believed the line should follow the I-94 corridor.⁵⁶¹ Kevin Heim supported Route D because it costs less than the Modified Preferred Route and Route A. Also, in his view, Route D most closely adheres to the legislature's policy favoring nonproliferation of power lines.⁵⁶²

53. Thomas and Margaret Klecker supported the use of the I-94 corridor with undergrounding through the City of Avon. The other alternatives through that area would impact approximately 40 Century Farms, St. Wendel bog and many lakes and farmland. They believe the I-94 corridor should be followed according to Minn. Stat. § 216E, *In Re Route Permit for Construction of a Substation and High Voltage Transmission in Dakota County*, and *People for Environmental Enlightenment & Responsibility, Inc. v. the Minnesota Environmental Quality Counsel*.⁵⁶³

Route E

54. Jean Didier opposed Route E because of its adverse effect on natural resources, property values, and human settlement and because it violates the policy of nonproliferation. She prefers Route D or the Modified Preferred Route. Ms. Didier provided extensive information concerning habitat for birds. She believed that either Route G or Route H would avoid some of the effects that concerned her.⁵⁶⁴

55. Patricia Gorecki similarly opposed Route E. She stated that the area through which Route E would pass is just as pristine and worthy of protection as the Avon Hills area.⁵⁶⁵

56. Dennis Sand, Mayor of Albany, opposed Route E because it could potentially impede business at Wells Concrete, which recently completed construction of a \$25 million manufacturing plant located on 80 acres of land within the City's industrial park. Wells Concrete uses 33-foot high cranes, which use would be

⁵⁵⁹ Letter, Dec. 31, 2010.

⁵⁶⁰ Letter, Dec. 29, 2010.

⁵⁶¹ See e.g., Comment, Todd Theisen, Trans. Dec. 1, 2010, evening, p. 27-30; Comment, Tom Vouk, Trans. Dec. 2, 2010, afternoon, p. 39-40; Comment Paul Eisenschenk, Trans. Dec. 2, 2010, afternoon, p. 47; Comment, Ken Schindele, Trans. Dec. 2, 2010, afternoon, p. 56-57; Public Ex. 21.

⁵⁶² Trans. Dec. 2, 2010, evening, p. 22-24.

⁵⁶³ Letter, Dec. 22, 2010; Letter, Jan. 5, 2011, citing *Dakota County*, 2006 WL 618903 (Minn. App 2006) and *PEER*, 266 N.W2d 858 (Minn. 1978).

⁵⁶⁴ Letter, Jan. 3, 2011.

⁵⁶⁵ Letter, Jan. 4, 2011.

prohibited if the line were routed near the manufacturing plant. The City would not object to Route E if the route were moved further south to accommodate the plant.⁵⁶⁶

57. Ann Marie Stock and David Campagna opposed Route E because of the rare and fragile ecosystem along the route. The wetlands in this area of Farming Township are the western extension of the ecosystem associated with the Avon Hills Conservation Area. They are concerned that Route E would cross country where there are no roads or trails, and that the option would proliferate man-made structures through expansive, significantly undisturbed areas.⁵⁶⁷

58. Todd and Sarah Theisen oppose Route E because it would impact the Watab Creek, wildlife, homeowners and farming operations.⁵⁶⁸

59. Terra O'Neil opposed Route E because of the environmental impact to the wildlife and wetlands in that area. She said the area is home to eagles, hawk, deer, fox, coyotes, sandhill cranes, and trumpeter swans. The line would require clearing of many trees, some 100-year-old oak trees. She supports the selection of Route A or Route F.⁵⁶⁹

60. Myron and Lenore Felix opposed Route E, which they believe to be "the path of least resistance" because many of the landowners cannot afford legal representation. They support the selection of Route D.⁵⁷⁰

61. Tom Vouk, Ron Eikmeier and Ken Eikmeier opposed Route E because of the number of trees that would need to be removed.⁵⁷¹ Eikmeier supported the selection of the Modified Preferred Route or Route F.⁵⁷²

62. Neil Franz opposed Route E because of its proximity to Fifth Lake, two Mud Lakes, Sand Lake, Joppa Lake, Clear Lake and Big Rice Lake. The lakes provide important biosphere for waterfowl. Route E impacts 12 miles of the Avon Hills Area – more miles of power line within the boundaries of the Avon Hills area than any other route. Mr. Franz also opposed Route G and Route H. Routes G and H would impact 11 miles of the Avon Hills area. Mr. Franz pointed out that the map used by Kim Chapman [witness for Avon Township and St. John's] showed only the township borders, but the natural resources extend to the west of the township line. He prefers Route D underground, the Modified Preferred Route or Route A.⁵⁷³

63. Farming Township opposed Routes E, F, G and H.⁵⁷⁴

⁵⁶⁶ Letter, Dec. 29, 2010.

⁵⁶⁷ Letter, Jan. 5, 2011.

⁵⁶⁸ Trans. Dec. 2, 2010, afternoon, p. 19-23; Letter, Sarah Theisen, Jan. 4, 2011.

⁵⁶⁹ Trans. Dec. 2, 2010, afternoon, p. 29-32.

⁵⁷⁰ Letter, Dec. 20, 2010.

⁵⁷¹ Trans. Dec. 2, 2010, afternoon, p. 41-44; Public Ex. 19; Trans. Dec. 2, 2010, evening, p. 61-67.

⁵⁷² Trans. Dec. 2, 2010, evening, p. 61-63.

⁵⁷³ Trans. Dec. 1, 2010, afternoon, p. 70-74; Letter, Jan. 3, 2011.

⁵⁷⁴ Letter, Dec. 17, 2010.

Route F

64. Lynn Carlson opposed Route F because it would prohibit the operation of his aviation business, which operates within a half mile of the Route.⁵⁷⁵

Routes G and H

65. Alice Doubek opposed Routes G and H because they are too close to dairy farms and the electro-magnetic fields will be detrimental to the cows' health and the farmers' livelihood.⁵⁷⁶

66. Stephen Platenberg, former chair of the Avon Township Planning Board, supported Route G with Option 11 because it has minimum contact with river, lake and natural wetland buffer zones; follows existing county roads, which have larger setback requirements than township roads; minimizes the fragmentation of the countryside; does not impact the Stearns County Natural Resource Overlay District; avoids SNAs in St. Wendel, Avon and Farming Townships; and because it avoids the future growth areas of the County's major cities of St. Stephen, Sartell, St. Joseph and St. Cloud. He pointed out that homes along Route G typically sit farther back from the road than along other routes.⁵⁷⁷

Option 8 to Modified Preferred Route

67. Glen Klaphake supported Option 8 even though it will cross his property. The route is shorter than the other alternatives and it would allow him to expand his feedlot.⁵⁷⁸

68. Nicholas and Erwin Klaphake supported Option 8 because it is shorter than the alternatives and because it would cross meadowlands.⁵⁷⁹ Paul Primus also supported Option 8 because it is shorter.⁵⁸⁰

Option 11 to Route E or Route G

69. Twenty-four homeowners opposed Option 11 because the line would run along County Road 2 in front of their homes. They are concerned with EMF, interruption of communication services, aesthetics, and decreasing property values. They worry the lines will destroy their neighborhood.⁵⁸¹

⁵⁷⁵ Letter, Dec. 5, 2010.

⁵⁷⁶ Trans. Dec. 1, 2010, afternoon, p. 57-62.

⁵⁷⁷ Public Ex. 18.

⁵⁷⁸ Letter, Jan. 1, 2011.

⁵⁷⁹ Letters received Jan. 5, 2011.

⁵⁸⁰ Letter, received Dec. 13, 2010.

⁵⁸¹ Letter, Jan. 5, 2011; Letter, Cindy Mehr, Jan. 4, 2011.

Electro-Magnetic Fields

70. Many people expressed concern regarding the health effects of the electro-magnetic fields.⁵⁸² Matt Valan wondered whether the cumulative effects of exposure were properly taken into account, especially for children who might be exposed for lengthy periods of time.⁵⁸³

71. Ken Schindele expressed concern that the data in the record does not accurately account for the EMF levels if a second set of lines is added in the future. He also expressed concern regarding the noise the lines generate and whether the noise would affect the livability of the area.⁵⁸⁴

72. Robin Heinen questioned the accuracy of the EMF measurements. She stated that it seemed that the EMF charts she has seen are inconsistent, and a small difference in the milliGauss (mG) number can yield a large difference in health and environmental effects.⁵⁸⁵

73. Todd Theisen stated that there are many inconclusive and conflicting studies, and that the results regarding EMF health effects appear to be swayed by industry studies to support or rationalize their quest to sell more power.⁵⁸⁶

74. Alice Doubek and many others expressed concern about the effect of EMF on farm animals. Ms. Doubek had to leave her farm and give up her farming livelihood because the ill-effects of the EMF on her cows. Many others also gave anecdotal evidence of the harmful effects of EMF on their livestock and production levels.⁵⁸⁷

Interference with Electronic Equipment

75. Renee Nicklay owns a business near Barnesville that is within or near the Modified Preferred Route, near I-94 and Highway 34. She expressed concern that the transmission line would interfere with the voltage or digitalization of the equipment needed to run her drive-in theatre.⁵⁸⁸

⁵⁸² See e.g., Comment, Mr. Arnhalt, Nov. 17, 2010, afternoon, p. 23; Comment, Tom Vouk, Trans Dec. 1, 2010, p. 25-27; Comment, Joan Hemker, Trans. Dec. 2, 2010, evening, p. 38-39; Public Ex. 26, Comment, Jeff and Rebekah Christensen, Public Ex. 4.

⁵⁸³ Trans., Nov. 16, 2010, afternoon, p. 45-46.

⁵⁸⁴ Public Ex. 27.

⁵⁸⁵ Trans. Dec. 1, 2010, afternoon, p. 38-39.

⁵⁸⁶ Trans. Dec. 2, 2010, afternoon, p. 23.

⁵⁸⁷ Trans. Dec. 1, 2010, p. 59-60; see also Comment, Terra O'Neil, Trans. Dec. 2, 2010, afternoon, p. 30-31 (expressing concern regarding EMF effects on farming output); Comment, Joe Kenning, Trans. Dec. 2, 2010, afternoon, p. 48-56; Public Ex. 20; Comment, David Heinen, Trans. Dec. 2, 2010, evening, p. 54-56; letter, Arthur and Sharon Salzer, undated.

⁵⁸⁸ Trans. Nov. 16, 2010, afternoon, p. 52-53.

76. Doug Christensen of Campbell stated that he lives near Route A and is concerned the line will interfere with his radio communication and global positioning systems.⁵⁸⁹ Others expressed concern that the transmission lines would interfere with cell phone coverage and reception.⁵⁹⁰

Agriculture

77. Many people expressed concern that the transmission line will interfere with their agricultural operations. In addition to the concern about EMF, they were concerned that the proposed alignments will run diagonally across some farmland, which will make fieldwork more difficult and limit the installation or use of irrigation systems.⁵⁹¹

78. Robin Heinen and John Hellerman expressed concern that the construction of a transmission line would affect farms that are certified organic or in the process of becoming certified organic.⁵⁹²

Dissatisfaction with the Process

79. Dave Ebaugh stated during the public hearings that the Applicants did not use accurate maps in their analyses to determine the preferred route. He stated that the 1999 DNR map used by the Applicants does not generate reliable data. The Applicants used the map beyond the limitations of its design to support invalid conclusions. He stated that the Applicants used information from 1980 to support its conclusions regarding uncommon species found in the Project Area. He questioned the objectivity of the DEIS and the makeup, diligence and accuracy of the Advisory Task Force. He concluded that the errors and omissions will result in an FEIS that is not reflective of the scoping activities. He recommended further analysis of Route G and Option 11.⁵⁹³

80. Joe Farry questioned the comprehensiveness of the DEIS. He stated that there was a lot of information about the local regions that was not included in the DEIS. According to Farry, six of the eighteen homes in Collegeville were not identified in the DEIS.⁵⁹⁴

81. Some people from the Collegeville community expressed concern that they were not invited to participate in the Advisory Task Force.⁵⁹⁵

⁵⁸⁹ Trans. Nov. 16, 2010, evening, p. 19; Public Ex. 6 (Comment of Lien Township).

⁵⁹⁰ See e.g., Comment, Arthur Isaackson, Trans. Nov. 18, 2010, afternoon, p. 30-31.

⁵⁹¹ See e.g., Comment, Cliff Borgerding, Trans. Dec. 2, 2010, evening, p. 76; Public Ex. 15.

⁵⁹² Trans. Dec. 1, 2010, afternoon, p. 40-42; see also Comment, Todd Theisen, Trans. Dec. 1, 2010, p. 27-29 (stating same); Letter, Jan. 3, 2011.

⁵⁹³ Trans. Dec. 1, 2010, afternoon, p. 28-32, 76-86; Ex. 11A-11D.

⁵⁹⁴ Trans. Dec. 2, 2010, afternoon, p. 69-78; Letter, Dec. 29, 2010.

⁵⁹⁵ Letter, Dec. 29, 2010.

82. David Heinen questioned the accuracy of the DEIS and stated that some homes were not identified or included in the DEIS.⁵⁹⁶ Peggy Roske also stated that the DEIS did not include two of her neighbors' homes, even though Route C went right over them.⁵⁹⁷ Ray Vouk also stated that his home was not included in the DEIS.⁵⁹⁸ Derek Iverson of Albany, MN, stated that his hobby farm was not shown on the map included in the DEIS.⁵⁹⁹

83. Faith Fischer expressed frustration at the number of route options under consideration. She stated there were so many it was difficult to know which one to comment on.⁶⁰⁰

⁵⁹⁶ Trans. Dec. 2, 2010, evening, p. 56.

⁵⁹⁷ Trans. Dec. 2, 2010, evening, p. 58-60.

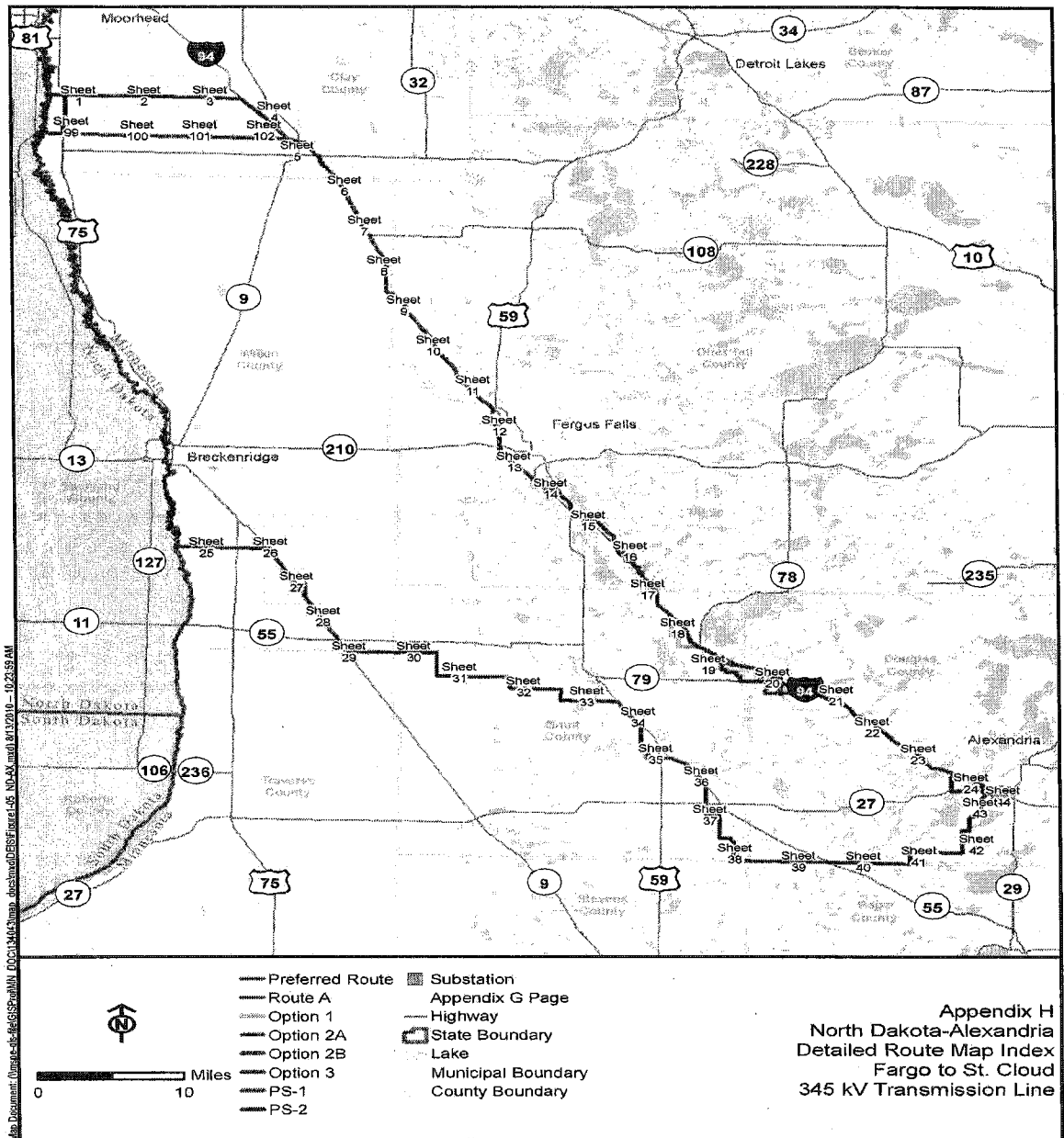
⁵⁹⁸ Trans. Dec. 2, 2010, evening, p. 78.

⁵⁹⁹ Letter, Jan. 5, 2011.

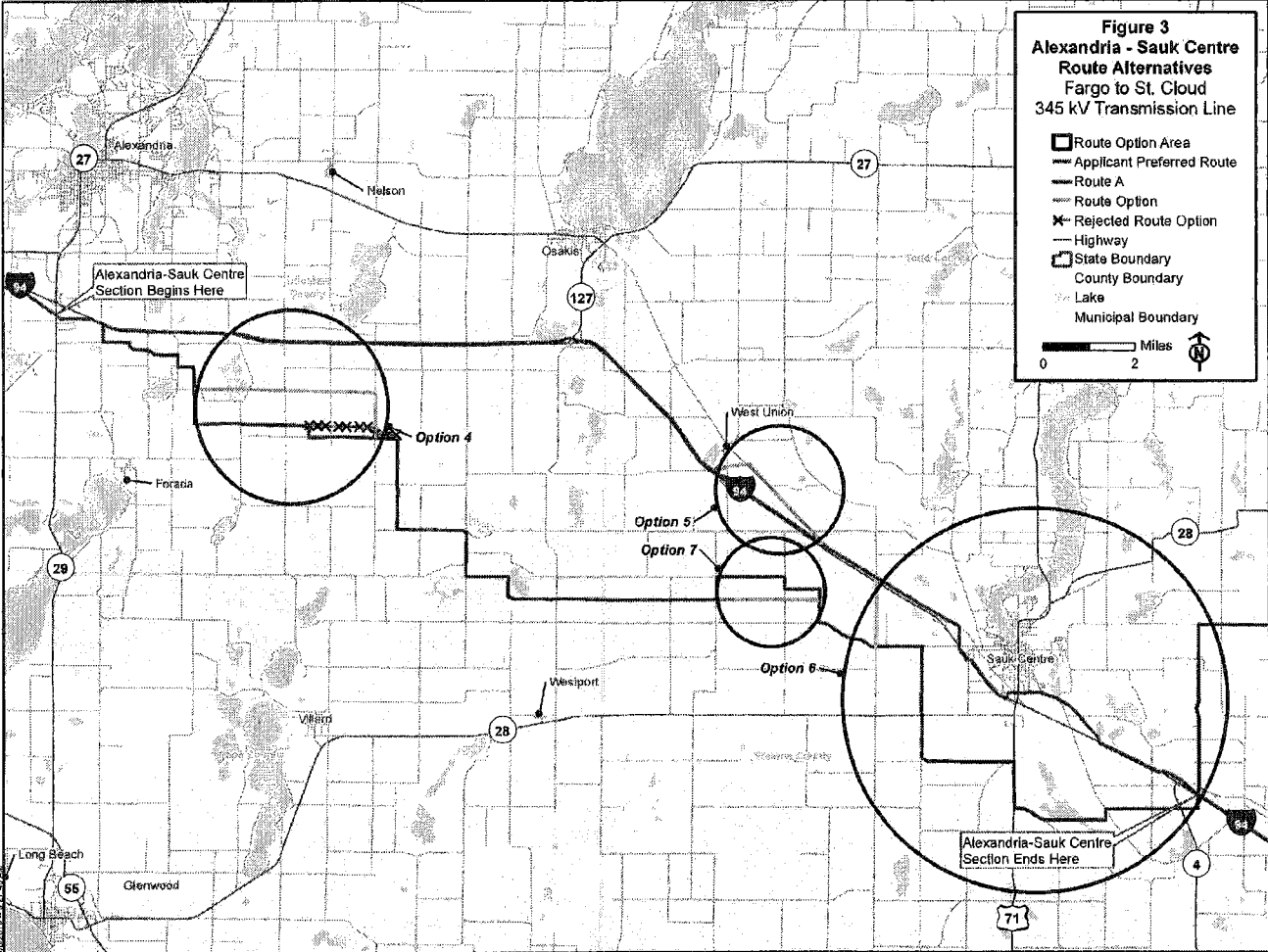
⁶⁰⁰ Trans. Dec. 1, 2010, afternoon, p. 46-47.

APPENDIX B

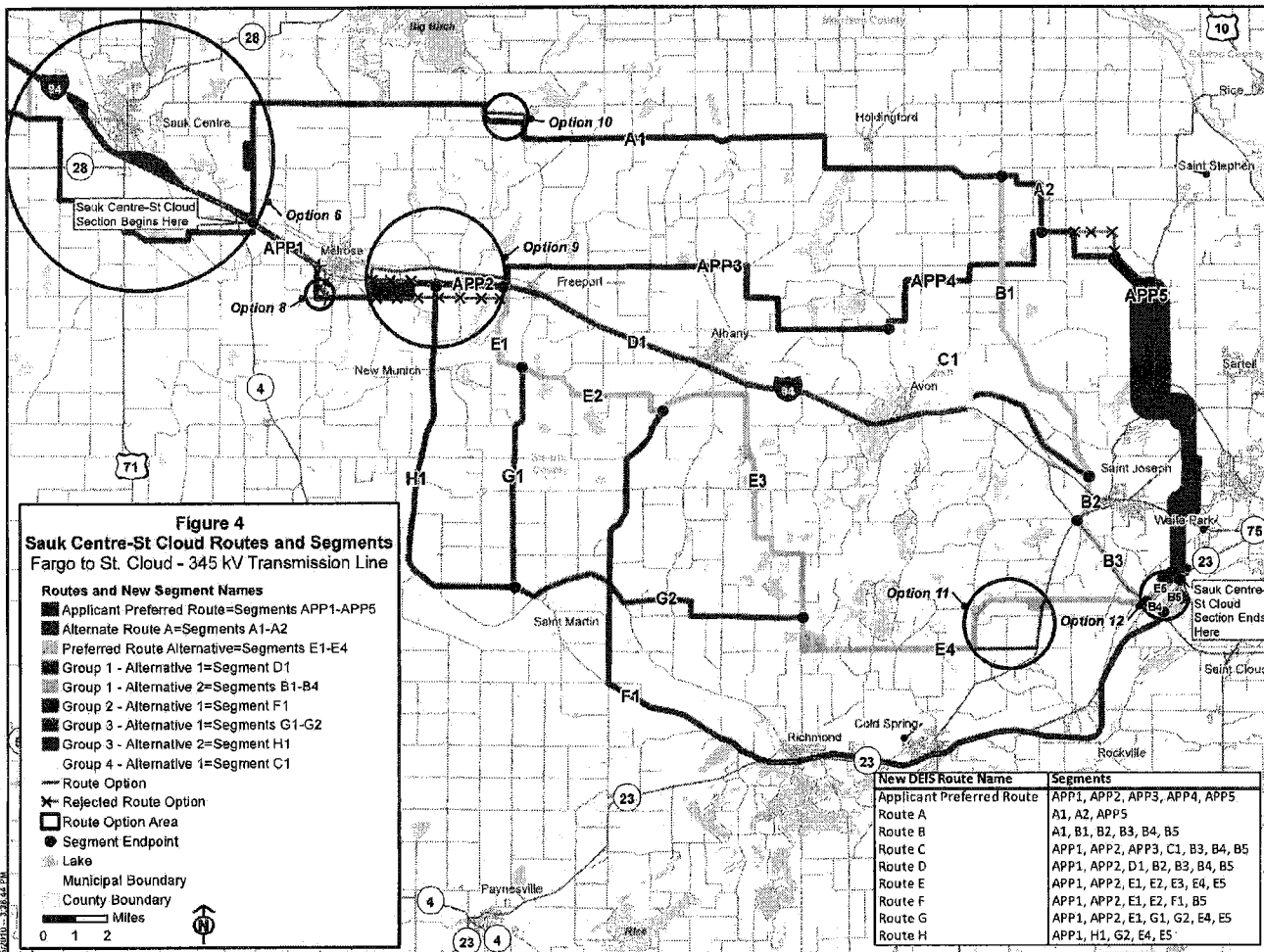
Maps of Route Alternatives North Dakota to Alexandria Detailed Route Map Ex. 228, DEIS Appx. H at H-3

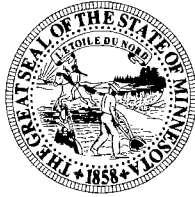


Alexandria to Sauk Centre Route Alternatives
 Ex. 18 at 11 of 17 (Scoping Decision)



Sauk Centre to St. Cloud Routes and Segments
 Ex. 18 at 15 of 17 (Scoping Decision)





MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS

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April 25, 2011

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

Re: *In the Matter of the Application for a Route Permit for the
Fargo to St. Cloud 345 kV Transmission Line Project*
OAH Docket No. 15-2500-20995-2
PUC No. E-002/TL-09-1056

Dear Dr. Haar:

Enclosed herewith and served upon you by mail is the Administrative Law Judge's Findings of Fact, Conclusions and Recommendation in the above-entitled matter. This document has been e-filed on the PUC website. The official record will be sent to you under separate cover.

Sincerely,


BEVERLY JONES HEYDINGER
Administrative Law Judge

Telephone: (651) 361-7838

BJH:nh

Encl.

cc: To All Parties Listed on the Attached Service List

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
ADMINISTRATIVE LAW SECTION
600 NORTH ROBERT STREET
ST. PAUL, MN 55101

CERTIFICATE OF SERVICE

Case Title: <i>In the Matter of the Application for a Route Permit for the Fargo to St. Cloud 345 kV Transmission Line Project</i>	OAH Docket No. 15-2500-20995-2 PUC No. E-002/TL-09-1056
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Nancy J. Hansen certifies that on the 25th day of April, 2011, she served a true and correct copy of the attached Administrative Law Judge's Findings of Fact, Conclusions and Recommendation by serving it as listed on the attached Service List and, in addition, by serving a copy on the following by US Mail:

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

Print Close

Service List Member Information

Electronic Service Member(s)

Last Name	First Name	Email	Company Name	Delivery Method	View Trade Secret
Agrimonti	Lisa	lagrimonti@briggs.com	Briggs And Morgan, P.A.	Electronic Service	No
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Church	Kodi	kchurch@briggs.com	Briggs & Morgan	Electronic Service	No
Felstul	Chad	c.felstul@pemlaw.com	Pemberton Sorlie Rufer and Kershner	Electronic Service	No
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Haar	Burl W.	burl.haar@state.mn.us	Public Utilities Commission	Electronic Service	Yes
Hammel	Karen Finstad	Karen.Hammel@state.mn.us	Office of the Attorney General-DOC	Electronic Service	Yes
Kershner	H. Morrison	m.kershner@pemlaw.com	Pemberton Sorlie Rufer and Kershner	Electronic Service	No
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Krikava	Michael	mkrikava@briggs.com	Briggs And Morgan, P.A.	Electronic Service	No
Lee	Amber	amber.lee@state.mn.us	Office of Administrative Hearings	Electronic Service	Yes
Overland	Carol	overland@legalectric.org	Legalelectric, Inc.	Electronic Service	No
Pemberton	Richard	r.pemberton@pemlaw.com	Pemberton Sorlie Rufer and Kershner	Electronic Service	No
Ross McCalib	Laureen	lrossmccalib@greenergy.com	CapX2020/Great River Energy	Electronic Service	No
Rufer	Stephen	s.rufer@pemlaw.com	Pemberton Sorlie Rufer and Kershner	Electronic Service	No
Shaddix Elling	Janet	jshaddix@janetshaddix.com	Shaddix And Associates	Electronic Service	Yes
Stephenson	Donna	dstephenson@greenergy.com	Great River Energy	Electronic Service	No
Thompson	SaGonna	Regulatory.Records@xcelenergy.com	Xcel Energy	Electronic Service	No
Thulien Smith	Jennifer	jennifer.thuliensmith@xcelenergy.com	Xcel Energy Services, Inc.	Electronic Service	No
Von Korff	Gerald	jvonkorff@moon.com	N/A	Electronic Service	No

Paper Service Member(s)

Last Name	First Name	Company Name	Address	Delivery Method	View Trade Secret
Eknes	Bret	Public Utilities Commission	Suite 350, 121 7th Place East, St. Paul, MN-551012147	Paper Service	Yes
Heydinger	Beverly	Office of Administrative Hearings	PO Box 64620, St. Paul, MN-551640620	Paper Service	Yes

Print Close