GREAT RIVER ENERGY™

12300 Elm Creek Boulevard
Maple Grove, Minnesota 55369-4718
763-445-5000
greatriverenergy.com

18 November 2015

Mr. Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

Re: *In the Matter of the Application of Great River Energy and Minnesota Power for a Route Permit for the Menahga Area 115 kV Project in Hubbard, Wadena and Becker Counties, Minnesota*

Docket No. ET2, E015/TL-14-797
OAH DOCKET NO. 5-2500-32715

Proposed Findings of Fact and Conclusions of Law

Dear Mr. Wolf:

On behalf of Great River Energy and Minnesota Power, Great River Energy respectfully submits the attached proposed Findings of Fact and Conclusions of Law for the Menahga Area 115 kV Project.

Please feel free to call me at 763-445-5214 if you have any questions regarding this filing.

Sincerely,

GREAT RIVER ENERGY

Carole L. Schmidt

Carole L. Schmidt
Supervisor, Transmission Permitting and Compliance

Attachment: Proposed Findings of Fact and Conclusions of Law

s:\legal\environmental\transmission\projects\Menahga Area Project\Public Hearing\Menahga FOF Cover Letter 11-18-15.docx

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

IN THE MATTER OF THE APPLICATION OF GREAT RIVER ENERGY AND MINNESOTA POWER FOR A ROUTE PERMIT FOR A 115 KV TRANSMISSION PROJECT IN THE MENAHGA AREA IN BECKER, HUBBARD AND WADENA COUNTIES	PUC Docket No. ET2, E015/TL-14-797 OAH Docket No. 5-2500-32715 GREAT RIVER ENERGY AND MINNESOTA POWER PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

TABLE OF CONTENTS

Page

TABLE OF CONTENTS
(continued)

Page

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
FOR PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF GREAT RIVER ENERGY AND MINNESOTA POWER FOR A ROUTE PERMIT FOR A 115 KV TRANSMISSION PROJECT IN THE MENAHGA AREA IN BECKER, HUBBARD AND WADENA COUNTIES	PUC DOCKET NO. ET2, E015/TL-14-797 OAH DOCKET NO. 5-2500-32715 PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

A public hearing was held before Administrative Law Judge ("ALJ") James Mortenson on October 19, 2015 at the Menahga Senior Center in Menahga, Minnesota.

Lisa Agrimonti, Fredrikson & Byron, P.A., 200 South Sixth Street, Minneapolis, Minnesota 55402, appeared on behalf of Great River Energy. Michelle Lommel, Senior Field Representative; Carole Schmidt, Supervisor, Transmission Permitting and Compliance; Chuck Lukkarila, Project Manager; Eric Messerich, Planning Engineer; Rick Jeanson, Senior Transmission Line Design Engineer, and Jenny Guardia, Communications Coordinator, of Great River Energy, 12300 Elm Creek Boulevard, Maple Grove, MN 55369, attended on behalf of Great River Energy and Minnesota Power ("Applicants").

Ray Kirsch, Environmental Review Manager, 445 Minnesota Street, Suite 1500, St. Paul, MN 55101 appeared on behalf of the Department of Commerce, Energy Environmental Review and Analysis ("EERA").

Scott Ek, Minnesota Public Utilities Commission ("Commission") Staff, 121 Seventh Place East, Suite 350, St. Paul, MN 55101 appeared on behalf of the Commission.

STATEMENT OF ISSUE

Have Applicants satisfied the factors set forth in Minnesota Statutes Section 216E.03 and Minnesota Rules Chapter 7850 for a Route Permit for a 115 kilovolt ("kV") transmission project in the Menahga area in Becker, Hubbard, and Wadena Counties (the "Project")?

SUMMARY

The Commission concludes that the Applicants have satisfied the criteria set forth in Minnesota law for a Route Permit and the Commission GRANTS the Applicants a Route Permit.

Based on information in the Application, the Environmental Assessment ("EA"), the testimony at the public hearing, written comments, and exhibits received in this proceeding, the Commission makes the following:

FINDINGS OF FACT

I. APPLICANTS

1. Great River Energy is not-for-profit generation and transmission cooperative based in Maple Grove, Minnesota. Great River Energy provides electrical energy and related services to 28-member cooperatives, including Todd-Wadena Electric Cooperative, the distribution cooperative serving the area to be served by the proposed Project. Great River Energy's distribution cooperatives, in turn, supply electricity and related services to more than 650,000 residential, commercial, and industrial customers in Minnesota and Wisconsin.[1]

2. Minnesota Power is an investor-owned public utility headquartered in Duluth, Minnesota. Minnesota Power supplies retail electric service to 143,000 retail customers and wholesale electric service to 16 municipalities in a 26,000-square-mile electric service territory located in northeastern Minnesota. Minnesota Power generates and delivers electric energy through a network of transmission and distribution lines and substations throughout northeastern Minnesota.[2]

II. PROCEDURAL HISTORY

3. On December 11, 2014, Great River Energy filed with the Minnesota Public Utilities Commission ("Commission") a Notice of Intent to File a Route Permit Application under the Alternative Permitting Process.[3] Applicants had previously also provided local government units with notice of the Project.[4]

4. On January 15, 2015, Great River Energy and Minnesota Power submitted their Application for a Certificate of Need and Route Permit ("Application") for the Project.[5]

5. On January 21, 2015, the Commission issued a Notice of Comment Period on Application Completeness.[6]

6. On January 26, 2015, Applicants provided notice of the Application to the General List, persons who own land on or adjacent to the proposed route, local officials, and agencies.[7]

7. On January 30, 2015, Applicants filed a revised Appendix J of the Application with the corrected list of landowners. This corrected list of landowners is the same list of landowners that was used for the notice of the Application sent on January 26, 2015.[8]

---

[1] Ex. 6 at 1-1 (Application).

[2] Ex. 6 at 1-3 (Application).

[3] Ex. 6 at Appendix D (Application).

[4] *See* Ex. 6 at Appendix A (Application).

[5] Ex. 6 (Application).

[6] Ex. 36 (Notice of Comment Period on Application Completeness).

[7] Ex. 7 (Notice of Route Permit Application).

[8] Revised App. J (Jan. 30, 2015), eDocket Document No. 20151-106873-01.

8. On February 4, 2015, EERA staff filed its comments and recommendations regarding the completeness of the Application and recommended the Application be found complete.[9]

9. Several members of the public filed comments during the comment period on Application Completeness.[10] Comments included a suggested system alternative, a suggested route alternative, and concerns about: an organic farm, irrigators, stray voltage, lady slippers, property values, electric and magnetic fields ("EMF"), and television interference.

10. On February 13, 2015, the Commission issued a Notice of Meeting on Application Completeness for February 26, 2015.[11]

11. On February 17, 2015, Applicants filed affidavits of mailing and affidavits of publication for the Notice of Application, as required under Minnesota Statutes Sections 216E.03, Subdivision 4 and 216E.04, Subdivision 4; and Minnesota Rule 7850.2100, Subpart 4.[12]

12. On February 19, 2015, Commission staff filed Briefing Papers recommending the Commission find the Application complete.[13]

13. On February 26, 2015, the Commission met and found the Application complete.[14]

14. On March 18, 2015, the Commission issued its Order Accepting the Application as Complete.[15] In addition to finding the Application complete, the Commission approved joint hearings and combined environmental review for the Certificate of Need and Route Permit proceedings.

15. On February 27, 2015, the Commission and EERA issued a Notice of Public Information and EA Scoping Meeting.[16] This notice was also published in the *Detroit Lakes Tribune* on March 4, 2015, the *Verndale Sun* on March 5, 2015, the *Northwoods Press* on March 4, 2015, and the *Review Messenger* on March 4, 2015, as required under Minnesota Statutes Sections 216E.03, Subdivision 4 and 216E.04, Subdivision 4; and Minnesota Rule 7850.2100, Subpart 2.[17]

[9] Ex. 11 (EERA Comments and Recommendations on Application Completeness).

[10] Ex. 37 (Public Comment Letters Received During Comment Period on the Permit Application Completeness).

[11] Ex. 38 (Commission Meeting Notice on Completeness).

[12] Compliance Filing (Feb. 17, 2015), eDocket Document No. 20152-107393-01.

[13] Ex. 39 (Staff Briefing Papers on Completeness).

[14] Ex. 41 (Commission Order Accepting Application as Complete).

[15] Ex. 41 (Commission Order Accepting Application as Complete).

[16] Ex. 40 (Notice of Public Information and EA Scoping Meetings Affidavit of Service).

[17] Ex. 35 (Affidavit of Publication for Notice of Public Meeting).

16. On March 19, 2015, Applicants filed the newspaper affidavits of publication for the March 24, 2015 Information and EA Scoping Meeting.[18]

17. On March 24, 2015, the Commission and EERA held a Public Information and EA Scoping Meeting at the Menahga Senior Center in Menahga, Minnesota at 6:00 p.m.[19]

18. On April 10, 2015, the scoping comment period ended.[20]

19. On April 14, 2015, EERA posted the transcript of oral comments from the March 24, 2015 meeting and written comments received during the comment period.[21]

20. Ten members of the public filed comments during the scoping comment period.[22]

21. The Minnesota Department of Transportation ("MnDOT") filed a comment during the scoping period indicating its interest in any impacts the new transmission line may have on the safety of the state transportation system, the effectiveness of the operations or maintenance of the state trunk highway system and any additional costs that may be imposed on the state trunk highway fund as a result of the proposed transmission line.[23]

22. On May 6, 2015, EERA issued comments and recommendations on the EA Scoping Process and Alternative Routes to the Commission.[24] EERA recommended that six alternatives be included in the EA.

23. On May 8, 2015, the Commission issued a Notice of Commission Meeting noting that it would consider what action it should take in regard to route alternatives to be evaluated in the EA.[25]

24. On May 13, 2015, Commission staff issued Briefing Papers on the EA scoping process and alternative routes.[26]

25. On May 18, 2015, EERA filed supplemental comments on hearing processes.[27]

---

[18] Ex. 35 (Affidavit of Publication for Notice of Public Meeting).

[19] Ex. 35 at 8 (Affidavit of Publication for Notice of Public Meeting); Ex. 40 (Notice of Public Information and EA Scoping Meeting).

[20] Ex. 40 (Notice of Public Information and EA Scoping Meeting).

[21] Exs. 12, 13 (Written and Oral Comments on Scope of EA).

[22] Ex. 12 (Written Comments on Scope of EA).

[23] Ex. 12 at 2-3 (Written Comments on Scope of EA).

[24] Ex. 14 at 5 (Comments and Recommendations to Commission on Scoping Process and Route and Site Alternatives).

[25] Ex. 42 (Notice of Commission Meeting on Route Alternatives and Generic Route Permit Template).

[26] Ex. 43 (Commission Staff Briefing Papers on Route Alternatives and Generic Route Permit Template).

[27] Ex. 15 (Supplemental Comments to Commission on Hearing Processes).

26. On May 26, 2015, the Department of Commerce issued its EA Scoping Decision.[28]

27. On May 27, 2015, EERA filed a letter to new landowners that may be affected by new site or route alternatives.[29]

28. On May 29, 2015, the Commission filed the minutes from the February 26, 2015 Commission meeting.[30]

29. On July 2, 2015, the Commission filed a Generic Route Permit Template.[31]

30. On July 6, 2015, the Commission posted two more landowner comments, dated February 3, 2015, and March 15, 2015.[32]

31. On July 8, 2015, the Commission issued its Order Directing Use of Summary Report Process and Granting Variance.[33]

32. On August 21, 2015, EERA posted additional Project information provided by Applicants for the EA.[34]

33. On September 22, 2015, the Commission filed the minutes from the May 21, 2015 Commission meeting.[35]

34. On September 28, 2015, EERA issued the EA for the Project and its Notice of Availability of the EA.[36]

35. On October 1, 2015, EERA filed the certificate of service for mailing of the EA to public agencies.[37]

36. On October 2, 2015, the Commission issued the Notice for the Public Hearing to be held October 19, 2015 at the Menahga Senior Center at 6:00 p.m.[38] The notice further provided that the Commission would accept public comments on the Project through November 2, 2015, at 4:30 p.m.

---

[28] Ex. 17 (EA Scoping Decision).

[29] Ex. 18 (Notice of EA Scoping Decision to New Landowners).

[30] Minutes of Commission Meeting (Feb. 26, 2015), eDocket Document No. 20155-110950-07.

[31] Ex. 46 (Generic Route Permit Template).

[32] Additional Written Comments on Scope of EA (July 6, 2015), eDocket Document No. 20157-112148-01.

[33] Ex. 48 (Commission Order Directing Use of the Summary Report Process and Granting Variance).

[34] Ex. 19 (Additional Project Information for the EA).

[35] Ex. 49 (Minutes from Commission's May 21, 2015, Agenda Meeting).

[36] Ex. 20 (EA); Ex. 21 (Notice of Availability of the EA).

[37] Ex. 22 (Certificate of Service for EA to Public Agency Representatives).

[38] Ex. 50 (Public Hearing Notice and Affidavit of Service).

37. On October 12, 2015, EERA published notice of the EA Availability in the *EQB Monitor* as required by Minnesota Rule 7850.3700, Subpart 6.[39]

38. On October 12, 2015, the Donna J. Andersen and Curtis Andersen and Donna J. Andersen Trust (the "Andersens") filed Petitions for Full Process and Contested Case Intervention.[40]

39. On October 14, 2015, the OAH issued an Order denying the Andersens' Petition to Intervene and Motion for Full Process and Referral for Contested Case.[41]

40. On October 16, 2015, the Andersens filed a Motion for Reconsideration.[42] Also on October 16, 2015, the Andersens filed a Petition for an Environmental Impact Statement ("EIS").[43]

41. On October 19, 2015, Applicants filed comments in response to the Andersen Petition for an EIS.[44]

42. On October 19, 2015, the ALJ held a Public Hearing at the Menahga Senior Center in Menahga, Minnesota at 6:00 p.m.[45]

43. On October 20, 2015, the Andersens submitted a reply to Applicants' response to the Petition for an EIS.[46]

44. On October 26, 2015, Applicants filed affidavits of publication of the Notice of Public Hearings, confirming that notice for the October 19, 2015 public hearing was published in the *Detroit Lakes Tribune* on October 7, 2015, the *Verndale Sun* on October 8, 2015, the *Northwoods Press* on October 7, 2015, and the *Review Messenger* on October 7, 2015.[47]

45. On November 2, 2015, the public hearing comment period ended.[48]

---

[39] Ex. 23 (Notice in EQB Monitor of EA Availability).

[40] Petitions for Full Process and Contested Case Intervention (Oct. 12, 2015), eDocket Document No. 201510-114752-01.

[41] Order Denying Andersens' Petition to Intervene and Motion for Full Process and Referral for Contested Case (Oct. 14, 2015), eDocket Document No. 201510-114794-01.

[42] Motion for Reconsideration (Oct. 16, 2015), eDocket Document No. 201510-114880-01.

[43] Petition for an Environmental Impact Statement (Oct. 16, 2015), eDocket Document No. 201510-114911-02.

[44] Applicants' Reply to Anderson's Petition for an EIS (Oct. 19, 2015), eDocket Document No. 201510-114933-01.

[45] Ex. 50 (Notice of Public Hearing).

[46] Letter (Oct. 20, 2015), eDocket Document No. 201510-114950-02.

[47] Compliance Filing (Oct. 26, 2015), eDocket Document No. 201510-115106-01.

[48] Ex. 50 (Notice of Public Hearing and Certificate of Service).

III. DESCRIPTION OF THE PROJECT

46. The Project includes new 115 kV transmission lines and substations in Becker, Hubbard, and Wadena counties, Minnesota:

- Construction of approximately 7 miles of east-west transmission line between the existing Great River Energy Hubbard Substation and proposed new Minnesota Power Straight River Substation, which will replace the existing Minnesota Power 34.5 kV "522" feeder line. The first 4.5 miles between the Hubbard Substation and County Road (CR) 115 will be double-circuit 115 kV line to accommodate a future Great River Energy project to the north. The approximate 2.5 miles between CR 115 and the proposed Minnesota Power Straight River Substation will be single-circuit 115 kV line.[49]

- Construction of a generally north to south, single-circuit transmission line (approximately 15.5 miles) between the proposed Minnesota Power Straight River Substation and the proposed new Todd-Wadena Red Eye distribution substation.[50]

- Construction of the proposed new Minnesota Power Straight River Substation, Great River Energy Blueberry Substation, and Todd-Wadena Red Eye Substation (that will serve the new Minnesota Pipeline Company ("MPL") pump station); relocation of the existing Todd-Wadena Menahga Substation to the new Blueberry Substation and conversion of the voltage from 34.5 kV to 115 kV; and modifications to the existing Great River Energy Hubbard Substation and the Minnesota Power Pipeline Substation.[51]

47. Applicants propose to use single pole structures between 60 and 90 feet in height for the majority of the Project. Spans for the 115 kV single circuit and 115 kV/115 kV double circuit portions of the Project are proposed to range from 350 feet to 400 feet. H-Frame structures (between 60 and 90 feet in height, spans ranging from 600 to 1000 feet) may be used in areas where longer spans are required to avoid or minimize impacts to wetlands or waterways.[52]

48. Applicants are generally requesting approval of a 500-foot route width (250 feet either side of the transmission line in areas where the transmission line will be cross-country, or 250 either side of the centerline of road right-of-way in areas where the transmission line follows a road). In a few areas (particularly around proposed substations), Applicants are requesting a route width wider than 500 feet to accommodate facility designs.[53]

49. Applicants propose a right-of-way of 100 feet in width for the Project.

---

[49] Ex. 6 at 1-5 (Application).

[50] Ex. 6 at 1-5 (Application).

[51] Ex. 6 at 1-5 (Application).

[52] Ex. 6 at 14 (EA).

[53] Ex. 6 at 1-5 (Application).

IV. NEED OVERVIEW

50. The Project is designed to serve two needs. First, the Project is designed to meet a load-serving need. Specifically, the Project will address existing low voltage and transmission system overloads in the area, which will improve reliability and provide a long-term load-serving capability transmission system for the area. Second, the Project will provide electrical service to the proposed new Todd-Wadena Red Eye distribution substation, which will in turn serve MPL's proposed Sebeka Pump Station, which is part of MPL's Reliability Project, for which MPL received a certificate of need from the Commission on August 31, 2015.[54]

V. ROUTES EVALUATED

A. Route Proposed by Applicants.

51. Great River Energy evaluated the Project area and determined that identifying route options were constrained by a need to connect to existing infrastructure, the location of the proposed MPL pump station, the geographical area of the proposed Project, and engineering constraints associated with getting proper clearances around existing infrastructure.[55]

52. Applicants' proposed route is approximately 22.5 miles long and is located in Becker, Hubbard, and Wadena counties near the cities of Menahga and Sebeka and in the townships of Hubbard, Straight River, Blueberry, and Red Eye (the "Proposed Route").[56] A map of the Proposed Route is included on Exhibit A.

53. The Application identified two alternatives, the East Route Alternative and the Central Alternative Segment, which Applicants analyzed and rejected. The East Route Alternative was rejected because it did not meet the Project's need, was longer, resulted in additional environmental impacts, and would be less reliable.[57] The Central Alternative Segment would have placed the Project along Highway 71 south of the City of Menahga and was rejected because of development along Highway 71, which created routing constraints. Applicants did not consider routing along Highway 71 north of the City of Menahga because the highway goes right through the city and is adjacent to a golf course.[58]

B. Routes Proposed Through Public Participation.

54. Several alternative sites and routes in the southern portion of the Project area were introduced in the EA Scoping Decision:

---

[54] Order Granting Certificate of Need, *In the Matter of the Application of Minnesota Pipe Line Company, LLC for a Certificate of Need for the Minnesota Pipe Line Reliability Project to Increase Pumping Capacity on the Line 4 Crude Oil Pipeline in Hubbard, Wadena, Morrison, Meeker, McLeod, and Scott Counties*, MPUC Docket No. PL-5/CN-14-320 (Aug. 31, 2015).

[55] *E.g.*, Ex. 6 at 7-1 to 7-2 (Application).

[56] Ex. 6 at 1-1 (Application).

[57] Ex. 6 at 7-1 (Application).

[58] Ex. 6 at 7-2 (Application).

1. Blueberry Route Alternative and Western Blueberry Substation Site Alternative

55. The Blueberry Route Alternative, instead of following the Applicants' proposed route along Highway 87, follows the county line (Wadena Line Rd.) south approximately 0.7 miles and then turns eastward crossing Section 30 of Blueberry Township and enters the Blueberry Substation from the west.[59]

56. The Western Blueberry Substation Site Alternative would place the Blueberry Substation on the western edge of Section 30 of Blueberry Township, at the point where the Blueberry Route Alternative turns eastward. If the Blueberry Substation were constructed at this alternative site, an existing 34.5 kV line would need to be extended westward to reach the substation. This alternative substation site would only be used in conjunction with the Blueberry Route Alternative.[60]

2. Blueberry to Red Eye Route Alternatives

57. The Pipeline South Route Alternative proceeds from the Blueberry Substation, east along the 34.5 kV line right-of-way, and then southeast along the western edge of the MPL right-of-way to the Red Eye Substation.[61]

58. The East of 109th Avenue Route Alternative proceeds from the Blueberry Substation, south along 111th Avenue and then cross country, east of and parallel to 109th Avenue to County State Aid Highway 13 ("CSAH 13"). From CSAH 13, this alternative follows the Applicants' proposed route to the Red Eye Substation.[62]

59. The 119th Avenue Route Alternative proceeds from the Blueberry Substation, south along 111th Avenue, east along 350th Street, and then south along 119th Avenue and cross country to CSAH 13. From CSAH 13, this alternative would follow the Applicants' proposed route to the Red Eye Substation.[63]

60. The U.S. Route 71 Route Alternative proceeds from the Blueberry Substation, east along the 34.5 kV line right-of-way, and then south along U.S. Route 71 to CSAH 13. From CSAH 13, this alternative would follow the Applicants' proposed route to the Red Eye Substation.[64]

61. The EA evaluated the Proposed Route and these alternatives.[65] A map of the alternatives reviewed in the EA is provided in Exhibit B.

[59] Ex. 20 at 21 (EA).

[60] Ex. 20 at 21 (EA).

[61] Ex. 20 at 21 (EA).

[62] Ex. 20 at 21 (EA).

[63] Ex. 20 at 21 (EA).

[64] Ex. 20 at 21 (EA).

[65] Ex. 20 (EA).

VI. TRANSMISSION LINE STRUCTURE TYPES AND SPANS

62. For the Project, Applicants propose to use overhead construction with wood structures. Applicants propose to primarily use single pole structures. Wood poles would be directly embedded and may require guying at certain locations including but not limited to, angle locations.[66]

63. H-Frame structures may be used in areas where longer spans are required to avoid or minimize impacts to wetlands or waterways.[67]

VII. TRANSMISSION LINE CONDUCTORS

64. The single circuit structures will have three single conductor phase wires and one shield wire. It is anticipated that the phase wires will be 477 ACSR, which will have a summer rating of 141.6 MVA, with seven steel core strands and 26 outer aluminum strands. The shield wire will be 0.528 optical ground wire.[68]

65. The engineering evidence in the record demonstrates that the conductor is appropriate to meet the Project's need.[69]

VIII. TRANSMISSION LINE ROUTE WIDTHS

66. For the Project, Applicants requested a route width of 500 feet for the majority of the Proposed Route except for the following areas:

- At the existing Hubbard Substation, an additional 150 by 650 feet north of the route width that encompasses the substation.

- In Section 26 of Straight River Township, a wider triangular route width is proposed to allow flexibility for the crossing of Minnesota Power's 230 kV "909" Line, although only a single alignment with an easement that is 50 feet on each side of the transmission line will be required in this area.

- Around the Straight River Substation, an area that accommodates the proposed location, plus an additional 650 feet to the west of the north-south alignment; and 500 feet north and 250 south of the road centerline is necessary to accommodate the transmission line.

- Around the Blueberry Substation, an additional route width of 100 feet to the north, 150 feet to the south, and 450 feet to the west of the substation is necessary to accommodate the transmission lines that will go in and out of the substation.

---

[66] Ex. 6 at 4-6 (Application); Ex. 20 at 23 (EA).

[67] Ex. 6 at 4-6 (Application); Ex. 20 at 24 (EA).

[68] Ex. 6 at 4-6 (Application); Ex. 20 at 24 (EA); Applicants' Comments (Nov. 2, 2015), eDocket Document No. 201511-115396-01.

[69] Ex. 6 at 4-6 (Application); *e.g.*, Public Hearing Transcript, at 35, 42-43.

- Around the Red Eye Substation, an additional area of 400 feet by 750 north of the east-west alignment that extends into the substation (property owned by MPL) to allow flexibility in design and to minimize conflict with MPL and Todd-Wadena's facilities.[70]

IX. TRANSMISSION LINE RIGHT-OF-WAY

67. Applicants requested a right-of-way width of 100 feet. Where the Proposed Route is adjacent to a roadway, poles would generally be placed approximately three to five feet outside the public right-of-way. In these locations, the easement required from the adjacent landowner may be of lesser width because a portion of the transmission right-of-way can overlap with the public right-of-way.[71]

X. PROJECT SCHEDULE

68. Applicants anticipate a spring 2017 in-service date for the Project.[72]

XI. PROJECT COSTS

69. Total project costs are estimated to approximately $23 million, depending on final route selection and mitigation.[73]

XII. PERMITTEE

70. The permittees for the Project are Great River Energy and Minnesota Power.[74]

XIII. PUBLIC AND LOCAL GOVERNMENT PARTICIPATION

A. Public Comments

71. EERA received written comments from 10 members of the public during the EA scoping comment period.[75] In general, comments related to concerns about potential impacts to property values, gravel pits, rare plants, windbreaks, and television/cellular reception.[76]

72. Alternative routes to the Proposed Route were also discussed during the scoping meeting and in written comments received during the scoping period.[77]

73. Several members of the public spoke at the public hearing on October 19, 2015. Ms. Carol Overland provided testimony under oath and asked questions of Applicants'

[70] Ex. 6 at 4-1 (Application).

[71] Ex. 6 at 4-6, 8-2 (Application).

[72] *See* Ex. 6 at 4-14 (Application).

[73] Ex. 6 at 4-11 (Application).

[74] Ex. 6 at 1-1 (Application).

[75] Ex. 12 (Written Comments on Scope of EA).

[76] Ex. 17 at 2 (EA Scoping Decision).

[77] *See* Exs. 12 and 13 (Written and Oral Comments on Scope of EA).

representatives regarding the Project.[78] Her questions related to the proposed conductor size, the need for the Project, transmission planning studies, growth rates and electrical load, the load at the existing MPL pump station the area, the distribution system in the area, and the Northern Long-Eared Bat ("NLEB") study.[79] The Andersens requested that Applicants submit the NLEB study, and Applicants agreed to do so after further consultation with the United States Fish & Wildlife Service ("USFWS").[80] The Applicants filed and served the study that includes the Andersens' property in this docket on November 5, 2015.[81] The study determined that NLEB were likely absent from the studied area.[82] The Andersens also expressed concerns about potential tree clearing on their property and further questioned the adequacy of the EA and indicated concerns related to wetlands.[83] Another landowner expressed opposition to the Blueberry Route Alternative. In addition, a landowner questioned why the Proposed Route did not follow existing pipeline right-of-way.[84] Great River Energy and EERA responded to these questions from the public.[85]

74. Multiple members of the public provided written comments during the public hearing comment period.[86] Comments generally related to tree removal, sensitive species, and alternative routes.[87] The Andersens' comments related to the Project's need and scope and content of environmental review.[88]

75. MnDOT and the Minnesota Department of Natural Resources ("DNR") also submitted comments during the public hearing comment period. MnDOT provided comments regarding route alternatives and identified several concerns related to the U.S. 71 Route Alternative, such as physical encroachment due to overhead and diagonal road crossings.[89] DNR's comments recommended various mitigation measures for the Project, including the use of bird diverters at public water crossings, minimization of habitat fragmentation, habitat maintenance, vegetation management, and practices for wetland construction.[90] In addition, DNR noted that the Applicants' Proposed Route resulted in fewer impacts than the Blueberry

[78] *E.g.*, Public Hearing Transcript at 18:3-22:11. Ms. Overland did not expressly state whether she was testifying on behalf of her clients, the Andersens, or herself, individually.

[79] *See, e.g.*, Public Hearing Transcript at 24:10-25, 25:1-18.

[80] Public Hearing Transcript at 26:11-16.

[81] NLEB (Nov. 5, 2015), eDocket Document No. 201511-115499-01.

[82] NLEB at 5 (Nov. 5, 2015), eDocket Document No. 201511-115499-01.

[83] *See* Public Hearing Transcript at 24:10-24, 27:7-16.

[84] *See* Public Hearing Transcript at 54:22-25.

[85] *See* Public Hearing Transcript *passim*.

[86] Ex. 47 (Public Written Comments).

[87] *See, e.g.*, Ex. 55 (Documents Regarding Bat Study); Andersen Comments (Nov. 2, 2015), eDocket Document No. 201511-115330-01; Comments of Carol Overland (Nov. 2, 2015), eDocket Document No. 201511-115353-01; Comments of Peter-Mark and Lynn Hendrickson (Nov. 3, 2015), eDocket Document No. 201511-115409-01.

[88] *See* Comments of Carol Overland (Nov. 2, 2015), eDocket Document No. 201511-115353-01.

[89] MnDOT Comments (Nov. 2, 2015), eDocket Document No. 201511-115379-01.

[90] DNR Comments (Nov. 2, 2015), eDocket Document No. 201511-115391-01.

Route Alternative, and that the Proposed Route and the 119th Avenue South Alternative have fewer environmental impacts compared to the remaining route alternatives.[91]

B. Local Government and State Agency Participation

76. During the EA scoping comment period, EERA received written comments from one state agency (MnDOT).[92]

77. During the public hearing and subsequent comment period, written comments were received from two state agencies.[93] In addition, Applicants have received comments from the following agencies, as detailed below:

- On October 7, 2014, the MnDOT Office of Aeronautics notified Applicants that the Project has been determined to have no significant effect to the operations of Park Rapids Municipal Airport, Wadena Municipal Airport, and New York Mills Municipal Airport.

- On October 22, 2014, the Minnesota Historical Society State Historic Preservation Office ("SHPO") recommended that Applicants complete a Phase I Archeological Survey for the Project.

- On October 17, 2014, the USFWS notified Applicants that the NLEB is proposed to be a listed species in the Project counties, but that USFWS had no known occurrence records in close proximity to the Project. USFWS stated that consultation may be necessary if habitat removal is anticipated after listing and between April 1 and September 30. USFWS further recommended that Applicants place bird flight diverters on transmission lines and raptor perch deterrents on power poles adjacent to the Marrs Farm Services Agent easement and Red Eye Wildlife Management Area. Applicants have stated that they will work with USFWS regarding the use of bird flight diverters and raptor perch deterrents in this area. [94]

- On December 17, 2014, the DNR recommended that Applicants avoid or minimize disturbance to old growth forests, minimize disturbance to identified Sites of Moderate Biodiversity Significance, and implement erosion prevention and sediment control practices in Kettle Creek and the Blueberry River because of state-listed mussels of special concern.[95]

---

[91] DNR Comments (Nov. 2, 2015), eDocket Document No. 201511-115391-01.

[92] Ex. 20 at 9 (EA).

[93] *See* DNR Public Hearing Comments (Nov. 21, 2015, eDocket Document No. 201511-115391-01; MnDOT Public Hearing Written Comments (Nov. 21, 2015), eDocket Document No. 201511-115379-01.

[94] Ex. 6 at 9-44 (Application).

[95] Ex. 6 at Appendix K (Application).

FACTORS FOR A ROUTE PERMIT

78. The Power Plant Siting Act ("PPSA"), Minnesota Statutes Chapter 216E, 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."[96]

79. Under the PPSA, the Commission 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;[97]
>
> (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 subdivision 1 and 2;

[96] Minn. Stat. § 216E.03, Subd. 7.

[97] Factor 4 is not applicable because Applicants are not proposing to site a large electric generating plant.

(8) evaluation of potential routes that would use or parallel existing railroad and highway rights-of-way;

(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.[98]

80. In addition, Minnesota Statutes Section 216E.03, Subdivision 7(e), provides that the Commission "must make specific findings that it has considered locating a route for a high-voltage transmission line on an existing high-voltage transmission route and the use of parallel existing highway right-of-way and, to the extent those are not used for the route, the [C]ommission must state the reasons."

81. In addition to the PPSA, the Commission and the ALJ are governed by Minnesota Rule 7850.4100, which mandates consideration of the following factors 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;

[98] Minn. Stat. § 216E.03, Subd. 7.

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;[99]

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.[100]

82. There is sufficient evidence on the record for the Commission to assess the Proposed Route and route alternatives using the criteria and factors set forth above.

APPLICATION OF STATUTORY AND RULE FACTORS

I. APPLICATION OF ROUTING FACTORS TO THE PROPOSED ROUTE AND ROUTE ALTERNATIVES

A. Effects on Human Settlement

83. Minnesota law requires consideration of the Project's effect on human settlement, including displacement of residences and businesses; noise created during construction and by operation of the Project; and impacts to aesthetics, cultural values, recreation, and public services.[101]

84. The Proposed Route primarily crosses lands used for agriculture, forestry, and tourism. Built infrastructure in the area includes cities, roads, and utilities. The largest community in the Project area is the City of Menahga, which has approximately 1,300 residents.[102]

[99] This factor is not applicable because it applies only to power plant siting.

[100] Minn. R. 7850.4100.

[101] *See* Minn. Stat. § 216E.03, Subd. 7(b); Minn. R. 7850.4100(A).

[102] Ex. 20 at 42 (EA).

1. Displacement

85. None of the routes under consideration is within 50 feet of a residence or non-residential buildings.[103]

86. No residential or commercial displacement will occur as a result of the Project.[104]

2. Noise

87. The Minnesota Pollution Control Agency ("MPCA") has established standards for the regulation of noise levels.[105]

88. The most restrictive MPCA noise limits are 60-65 A-weighted decibels ("dBA") during the daytime and 50-55 dBA during the nighttime.[106]

89. Noise concerns for the Project may be associated with construction and operation of the transmission lines and substations.[107]

90. Transmission lines produce noise under certain conditions. The level of noise depends on conductor conditions, voltage level, and weather conditions. Generally, activity-related noise levels during the operation and maintenance of transmission lines are minimal and do not exceed the MPCA Noise Limits outside the right-of-way.[108] Noises associated with a substation result from the operation of transformers and switchgear. Applicants modeled and estimated noise levels for each of the substations.[109]

91. The audible noise levels for the Proposed Route are not predicted to exceed the MPCA Noise Limits.[110]

92. The route alternatives are anticipated to result in similar noise levels as the Project.[111] The Western Blueberry Substation Site Alternative is anticipated to result in higher noise levels than the proposed Project.[112]

3. Aesthetics

93. The Proposed Route follows existing transmission and roadway rights-of-way. This placement makes the new line relatively harmonious with the existing landscape.[113] In

[103] Ex. 20 at 49 (EA).
[104] Ex. 20 at 49 (EA).
[105] Ex. 20 at 46 (EA).
[106] Ex. 20 at 47 (EA).
[107] Ex. 20 at 47 (EA).
[108] Ex. 20 at 48 (EA).
[109] Ex. 20 at 48 (EA).
[110] Ex. 20 at 48 (EA).
[111] Ex. 20 at 96, 107 (EA).
[112] Ex. 20 at 99 (EA).
[113] Ex. 20 at 45 (EA).

addition, for that segment between the Hubbard Substation and Straight River Substation, the new line will replace an existing 34.5 kV line. Thus, aesthetic impacts are anticipated to be minimal because they will be incremental.[114]

94. As set forth in Tables 1.1 and 1.2 below, the Blueberry, Pipeline South, and East of 109th Avenue Route Alternatives are near fewer residences than the Proposed Route. However, the Proposed Route and the 119th Avenue and U.S. 71 Route Alternatives make better use of existing rights-of-way and thus minimize aesthetic impact by co-locating infrastructure.[115]

Table 1.1 – Distance of Residences from Anticipated Alignment – Proposed Route and Blueberry Route Alternative [116]

Route	0 to 50 feet	51 to 100 feet	101 to 150 feet	151 to 200 feet	201 to 250 feet	Total
Proposed Route	0	0	0	5	1	6
Blueberry Route Alternative	0	1	1	0	0	2

Table 1.2 – Distance of Residences from Anticipated Alignment – Proposed Route and Blueberry to Red Eye Route Alternatives [117]

Route	0 to 50 feet	51 to 100 feet	101 to 150 feet	151 to 200 feet	201 to 250 feet	Total
Proposed Route	0	0	2	8	4	14
East of 109th Avenue Route Alternative	0	1	0	3	1	5
119th Avenue Route Alternative	0	1	0	5	1	7
Pipeline South Route Alternative	0	0	2	0	0	2
U.S. Route 71 Route Alternative	0	2	2	2	3	9

95. Applicants have indicated they will work with landowners to best locate structures and minimize damage to vegetation and natural landscapes.[118]

[114] Ex. 20 at 45 (EA).

[115] Ex. 20 at 97, 101 (EA).

[116] Ex. 20 at 92, 103 (EA).

[117] Ex. 20 at 92, 103 (EA).

[118] Ex. 20 at 46 (EA).

96. Aesthetic impacts may occur between the Straight River Substation and the Red Eye Substation. However, only a few structures will likely be visible from any one location, and most residents are located more than 150 feet from the Project area.[119]

97. Aesthetic impacts due to the Straight River Substation and Blueberry Substation are anticipated to be minimal because they are near existing distribution substations and residences are relatively distant from the substations.[120]

98. Aesthetic impacts resulting from the Project if constructed along the Proposed Route are anticipated to be minimal and are anticipated to be similar to the aesthetic impacts of route alternatives.[121]

4. *Cultural Values*

99. The region surrounding the Proposed Route derives from a diverse ethnic heritage. However, a majority of the reported ethnic backgrounds are of German, Norwegian, and Irish origin.[122]

100. No impacts are anticipated to cultural values as a result of construction of the Project or route alternatives.[123]

5. *Recreation*

101. There are a number of existing recreational resources within the Project vicinity, including parks, trails, rivers, and lakes. Popular activities include camping, fishing, hunting, bird watching, canoeing, kayaking, boating, swimming, golfing, biking, hiking, cross country skiing, and riding ATVs and snowmobiles.[124] Applicants will coordinate with DNR, USFWS, and other agencies as applicable to ensure the Project does not impact surrounding natural resources.[125]

102. No impacts to recreational resources are anticipated. The closest wildlife management area ("WMA") to the Project is the Red Eye WMA, but the Project will be on the opposite side of the road from the WMA. Thus, the Red Eye WMA will not be impacted.[126]

103. None of the route alternatives offers a distinct advantage over the Proposed Route when considering recreation.[127]

---

[119] Ex. 20 at 45 (EA).

[120] Ex. 20 at 45 (EA).

[121] Ex. 20 at 46, 97, 108 (EA).

[122] Ex. 6 at 9-12 (Application).

[123] Ex. 6 at 9-12 (Application); Ex. 20 at 96, 107 (EA).

[124] Ex. 6 at 9-13 (Application).

[125] *See* Ex. 20 at 72 (EA).

[126] Ex. 20 at 72 (EA).

[127] Ex. 20 at 96, 108 (EA).

6. Public Service and Infrastructure

104. Temporary impacts to public services resulting from the Project are anticipated to be minimal. Long-term impacts to public services are not anticipated.[128]

105. No impacts to water utilities are anticipated as a result of the Project.[129]

106. The electrical transmission system in the Project area will change as a result of the Project, but no adverse impacts to electrical service are anticipated.[130]

107. No impacts to natural gas service are anticipated as a result of the Project.[131]

108. No impacts to emergency services are anticipated due to the Project.[132]

109. Applicants must obtain permits and approvals from MnDOT for crossing state and federal highways. Applicants are also required to comply with MnDOT's accommodation policy for placement of utilities along and across state highways. Impacts to roads and highways due to the Project construction are anticipated to be minimal and temporary. Applicants have indicated that they will work with roadway authorities to minimize obstructions and inconvenience to the public and that construction equipment will be moved in a manner to minimize safety risks and avoid traffic congestion. Where the Project crosses roadways, Applicants will use temporary guard structures to ensure that the Project does not interfere with traffic. No impacts to roads and highways are anticipated after Project construction.[133]

110. No impacts to airports are anticipated as a result of the Project.[134]

111. None of the route alternatives offer a distinct advantage over the Proposed Route when considering public service and infrastructure.[135]

B. Effects on Public Health and Safety

112. Minnesota high voltage transmission line routing factors require consideration of the Project's potential effect on health and safety.[136]

[128] Ex. 20 at 65 (EA).

[129] Ex. 20 at 67 (EA).

[130] Ex. 20 at 67 (EA).

[131] Ex. 20 at 67 (EA).

[132] Ex. 20 at 68 (EA).

[133] Ex. 20 at 65-66 (EA).

[134] Ex. 20 at 66 (EA).

[135] Ex. 20 at 96, 107 (EA).

[136] Minn. Stat. § 216E.03, Subd. 7(b)(1); Minn. R. 7850.4100(B).

1. Construction and Operation of Facilities

113. The Project will be designed in compliance with local, state, National Electric Safety Code ("NESC"), and Applicants' standards regarding clearance to ground, clearance to crossing utilities, clearance to buildings, strength of materials, and right-of-way widths.[137]

114. Applicants' construction crews and/or contract crews will comply with local, state, NESC, and Applicants' standards regarding installation of facilities and standard construction practices. Applicants' and industry safety procedures will be followed during and after installation of the transmission lines. This will include clear signage during all construction activities.[138]

115. The Project would be equipped with protected devices to safeguard the public if an accident occurs and a structure or conductor falls to the ground. The existing substations are already equipped with breakers and relays located where existing transmission lines connect to the substations. The protective equipment is designed to de-energize the transmission lines should such an event occur.[139]

2. Electric and Magnetic Fields

116. There are no federal standards for transmission line electric fields.[140]

117. The Commission has imposed a maximum electric field limit of 8 kV/m measured at one meter above the ground at the edge of the right-of-way.[141]

118. The calculated electric fields for the Project are less than the maximum limit of 8 kV/m prescribed by the Commission.[142]

119. There are no federal or state regulations for the permitted strength of magnetic fields from transmission lines.[143]

120. Research has not been able to establish a cause and effect relationship between exposure to magnetic fields and adverse health effects.[144]

121. The potential impacts of EMF on human health were at issue in the Route Permit proceeding for the Brookings County to Hampton 345 kV transmission line. In that proceeding, ALJ Luis found that: "The absence of any demonstrated impact by EMF-ELF exposure supports the conclusion that there is no demonstrated impact on human health and safety that is not

[137] Ex. 6 at 9-2 (Application).

[138] Ex. 6 at 9-2 (Application).

[139] Ex. 6 at 9-2 (Application).

[140] Ex. 20 at 57 (EA).

[141] Ex. 20 at 57 (EA).

[142] Ex. 20 at 59 (EA).

[143] Ex. 20 at 57 (EA).

[144] Ex. 20 at 57 (EA).

adequately addressed by the existing State standards for such exposure. The record shows that the current exposure standard for EMF-ELF is adequately protective of human health and safety."[145]

122. Similarly, in the Route Permit proceeding for the St. Cloud-Fargo 345 kV transmission line, ALJ Heydinger found: "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."[146]

123. There is no indication that any significant impact on human health and safety will arise from the Project or any of the route alternatives.[147]

C. Effects on Land-Based Economies and Direct and Indirect Economic Impacts

124. Minnesota's high voltage transmission line routing factors require consideration of the Project's impacts to land-based economies, specifically agriculture, forestry, tourism, and mining.[148]

1. Agriculture

125. Agriculture is a land-based economic resource along the Proposed Route.[149]

126. Impacts to agricultural operations as a result of the Project are anticipated to be minimal. The Proposed Route crosses approximately 8.8 miles of agricultural land, and the right-of-way will cross approximately 182 acres of farmland. However, agricultural land within a transmission line right-of-way is generally available for agricultural production. Approximately 1,500 square feet of land is expected to be permanently removed from agricultural production.[150]

127. To mitigate the Project's impacts on agriculture, Applicants will: limit the movement of crews and equipment to the greatest extent possible; repair and restore disturbed

---

[145] *See In re Route Permit Application by Great River Energy and Xcel Energy for a 345 kV Transmission Line from Brookings County, South Dakota to Hampton, Minnesota*, Docket No. ET-2/TL-08-1474, ALJ's Findings of Fact and Conclusions of Law at 44 ¶ 216 (Apr. 22, 2010), eDocket Document No. 20104-49478-01, *adopted as amended*, Commission Order at 8 (Sept. 14, 2010), eDocket Document No. 20109-54429-01.

[146] *In re Application for a Route Permit for the Fargo to St. Cloud 345 kV Transmission Line Project*, Docket No. ET-2, E002/TL-09-1056, ALJ's Findings of Fact, Conclusions of Law at 23 ¶ 125 (Apr. 25, 2011), eDocket Document No. 20114-61700-01, *adopted as amended*, Commission Order at 2 (June 24, 2011), eDocket Document No. 20116-64023-01.

[147] Ex. 20 at 55, 96, 108 (EA).

[148] Minn. Stat. § 216E.03, Subd. 7(b)(5); Minn. R. 7850.4100(C).

[149] Ex. 20 at 68 (EA).

[150] Ex. 20 at 69 (EA).

areas to pre-construction contours; repair ruts and soil compaction; conduct filling, grading, scarifying, harrowing, and disking; repair damage to ditches, tile, terraces, roads, and other land features; place structures to avoid irrigation systems; and provide compensation to landowners for any crop and property damage.[151]

128. No long-term impacts are anticipated to the agricultural economy from construction of the Project.[152] Impacts to agriculture are anticipated to be similar across the Proposed Route and route alternatives; thus, none of the route alternatives offers an advantage over the Proposed Route.[153]

2. Forestry

129. The Proposed Route crosses approximately 4.7 miles of forested land.[154]

130. Impacts to forested areas and forestry operations are anticipated to be moderate and can be mitigated through new plantings compatible with the Project and compensation to landowners.[155]

131. As shown in Tables 2.1 and 2.2, each of the route alternatives impact more forested acres than the Proposed Route.[156] Accordingly, the Proposed Route better meets this route selection criterion.

Table 2.1 – Forested Acres Within Right-of-Way – Proposed Route and Blueberry Route Alternative [157]

Route	Forested Acres within Right-of-Way (100 ft.)
Proposed Route	4.03
Blueberry Route Alternative	18.38

[151] Ex. 20 at 70 (EA).

[152] *See* Ex. 20 at 69-70 (EA).

[153] Ex. 20 at 96, 108 (EA).

[154] Ex. 20 at 70 (EA).

[155] Ex. 20 at 70-71 (EA).

[156] Ex. 20 at 98, 105, 110 (EA).

[157] Ex. 20 at 93 (EA).

Table 2.2 – Forested Acres Within Right-of-Way – Proposed Route and Blueberry to Red Eye Route Alternatives [158]

Route	Forested Acres within Right-of-Way (100 ft.)
Proposed Route	17.80
East of 109th Avenue Route Alternative	28.88
119th Avenue Route Alternative	22.40
Pipeline South Route Alternative	22.02
U.S. Route 71 Route Alternative	22.73

3. Mining

132. There are several active gravel pits in the Project area.[159]

133. Impacts to gravel pits are anticipated to be minimal and similar across the Proposed Route and route alternatives.[160] The Proposed Route is near two gravel pits in Blueberry Township, one active and one inactive. Because the gravel pits must be set back from the roadway, it is anticipated that the Project can be placed between the gravel pits and the roadway without impacting current or future gravel mining activities.[161]

D. Effects on Archeological and Historic Resources

134. Minnesota Rule 7850.4100(D) requires consideration of the effects on historic and archaeological resources.

135. Applicants' review of SHPO records indicated that there are eight previously recorded archeological sites and six previously recorded historic structures within one mile of the Proposed Route. None of the archeological sites is within the Proposed Route.[162] One of the historic structures is within the Proposed Route, but it is not within the proposed right-of-way, and the Project is not anticipated to impact the structure.[163]

136. There is a moderate to high potential that the Proposed Route could impact unrecorded archeological sites. Accordingly, SHPO has recommended that a Phase I

[158] Ex. 20 at 105 (EA).

[159] Ex. 20 at 71 (EA).

[160] Ex. 20 at 96, 108 (EA).

[161] Ex. 20 at 72 (EA).

[162] Ex. 20 at 73 (EA).

[163] Ex. 20 at 73 (EA).

archeological survey be completed for the Project, and Applicants have agreed to perform this survey.[164]

137. If archeological sites or resources are identified during Project construction, work will be stopped and SHPO staff will be consulted on how to proceed.[165]

138. Impacts to archeological and historic resources are anticipated to be similar across the Proposed Route and route alternatives.[166] No impacts to previously identified archaeological or historic resources are anticipated as a result of construction of the Project along the Proposed Route.[167]

E. Effects on Natural Environment

139. Minnesota's high voltage transmission line routing factors require consideration of the Proposed Route's effect on the natural environment, including effects on air and water quality resources and flora and fauna.[168]

1. Air Quality

140. Ozone and nitrous oxide emissions from the Project are anticipated to be less than state and federal standards. Impacts due to construction dust are anticipated to be minor and temporary.[169] Applicants will use dust control measures to minimize dust during Project construction.[170]

141. No significant impacts to air quality are anticipated from the Project or any of the route alternatives.[171]

2. Water Quality and Resources

142. The Project avoids or spans surface waters. Applicants will use best management practices to prevent construction sediments from impacting surface waters and follow DNR recommendations to minimize impacts at crossings of public waters. Thus, impacts to surface waters are anticipated to be minimal.[172]

143. No impacts to the 100-year floodplain and related development in the Project area are anticipated.[173]

---

[164] Ex. 20 at 73 (EA).

[165] Ex. 20 at 74 (EA).

[166] Ex. 20 at 96, 105 (EA).

[167] Ex. 20 at 73 (EA).

[168] Minn. Stat. §§ 216E.03, Subd. 7(b)(1)-(2); Minn. R. 7850.4100(E).

[169] Ex. 20 at 65 (EA).

[170] Ex. 20 at 65 (EA).

[171] Ex. 20 at 65, 97, 108 (EA).

[172] Ex. 20 at 74-75 (EA).

[173] Ex. 20 at 75 (EA).

144. Groundwater impacts are anticipated to be minimal.[174]

145. Because most wetlands within the Proposed Route can be avoided or spanned, Project impacts to wetlands are anticipated to be minimal. Applicants anticipate that the Project will qualify for a regional general permit from the United States Army Corps of Engineers ("USACE"). Applicants will restore all wetlands in accordance with USACE requirements and within the requirements of Minnesota's Wetland Conservation Act.[175]

146. As shown in Tables 3.1 and 3.2, the 119th Avenue, Pipeline South, and U.S. Route 71 Route Alternatives impact more acres of wetlands than the Proposed Route.[176] Use of the U.S. Route 71 Route Alternative would permanently change approximately 7.61 acres of forested wetlands into non-forested wetlands.[177]

Table 3.1 – Wetlands Within Right-of-Way – Proposed Route and Blueberry Route Alternative [178]

Route	Forested Wetland Acres Within Right-of-Way (100 ft.)	Total Wetland Acres Within Right-of-Way (100 ft.)
Proposed Route	1.95	3.14
Blueberry Route Alternative	3.40	4.38

[174] Ex. 20 at 76 (EA).

[175] Ex. 20 at 76-77 (EA).

[176] Ex. 20 at 94, 106 (EA).

[177] Ex. 20 at 106, 108 (EA).

[178] Ex. 20 at 94 (EA).

Table 3.2 – Wetlands Within Right-of-Way – Proposed Route and Blueberry to Red Eye Route Alternatives [179]

Route	Forested Wetland Acres Within Right-of-Way (100 ft.)	Total Wetland Acres Within Right-of-Way (100 ft.)
Proposed Route	2.03	4.13
East of 109th Avenue Route Alternative	2.02	3.73
119th Avenue Route Alternative	2.87	4.06
Pipeline South Route Alternative	5.32	8.63
U.S. Route 71 Route Alternative	7.61	10.13

3. *Flora*

147. Significant impacts to flora are not anticipated as part of the Project.[180]

148. Applicants will minimize the introduction and spread of invasive species by: revegetating disturbed areas using weed-free seed mixes; using weed-free straw and hay for erosion control; removing invasive species via herbicide and manual means consistent with easement conditions and landowner restrictions.[181]

149. Because they impact more acres of forested land, each of the route alternatives is anticipated to have a greater impact on flora than the Proposed Route.[182]

4. *Fauna*

150. The Project area includes a variety of habitats including forested areas, grasslands, agricultural fields, wetlands, and lakes and streams. There are four WMAs in the Project area: Lowe WMA, Red Eye WMA, Kitten Creek WMA, and Wood Eye WMA.[183]

[179] Ex. 20 at 106 (EA).

[180] Ex. 20 at 79 (EA).

[181] Ex. 20 at 79 (EA).

[182] Ex. 20 at 97, 110 (EA).

[183] Ex. 20 at 80 (EA).

151. Applicants will work with DNR and USFWS to identify areas of the Project where bird flight diverters are needed. USFWS has already indicated a need for bird flight diverters and raptor perch deterrents near the Red Eye WMA.[184]

152. Impacts to fauna are anticipated to be similar across the Project and route alternatives.[185] Impacts to fauna as a result of the Project are anticipated to be minimal.[186]

F. Effects on Rare and Unique Natural Resources

153. Minnesota's high voltage transmission line routing factors require consideration of the Proposed Route's effect on rare and unique natural resources.[187]

154. There are rare and unique plant communities in the Project area. There are three rare and unique animal species in the Project area: the Greater Prairie Chicken, Eastern Hog-Nosed Snake, and Creek Heelsplitter.[188]

155. In addition, the NLEB was listed by the USFWS as a threatened species on April 2, 2015; there are no known occurrences of NLEB roosting in the Project area.[189]

156. The Proposed Route is generally located away from rare communities and species in the Project area. Where the Proposed Route crosses and/or is near such communities, it follows existing rights-of-way. Thus, impacts to rare and unique species are anticipated to be minimal.[190] Impacts to rare and unique natural resources along the route alternatives are anticipated to be similar to those along the Proposed Route and minimal.[191]

G. Application of Various Design Considerations

157. Minnesota's high voltage transmission line routing factors require consideration of the Project's applied design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity.[192]

158. The Project is designed to improve electrical service and reliability in the Project area. It is also designed to accommodate future expansion of the transmission system in the area.[193]

---

[184] Ex. 20 at 81 (EA).

[185] Ex. 20 at 97, 108 (EA).

[186] Ex. 20 at 80 (EA).

[187] Minn. Stat. § 216E.03, Subd. 7(b)(1); Minn. R. 7850.4100(F).

[188] Ex. 20 at 81-82 (EA).

[189] Ex. 20 at 82 (EA).

[190] Ex. 20 at 82 (EA).

[191] Ex. 20 at 100, 106 (EA).

[192] Minn. Stat. § 216E.03, Subd. 7(a)-(b); Minn. R. 7850.1900, Subp. 2(L).

[193] Ex. 20 at 89 (EA).

H. Use or Paralleling of Existing Right-of-Way, Survey Lines, Natural Division Lines, and Agricultural Field Boundaries

159. Minnesota's high voltage transmission line routing factors require consideration of the Proposed Route's use or paralleling of existing rights-of-way, survey lines, natural division lines, and agricultural field boundaries.[194]

160. Using existing corridors reduces and minimizes impacts on planned future residential areas, commercial properties, and environmental and sensitive resources.[195]

161. As shown in Tables 4.1 and 4.2, the Blueberry, East of 109th Avenue, and 119th Avenue Route Alternatives utilize less existing right-of-way than the Proposed Route.[196]

Table 4.1 – Use of Existing Right-of-Way – Proposed Route and Blueberry Route Alternative [197]

Route	Total Length (miles)	Length Following Roadway, Pipeline, or Transmission Line Right-of-Way (miles/percent)	Length Following Field Boundaries (miles/percent)
Proposed Route	1.95	1.58 / 81%	0 / 0%
Blueberry Route Alternative	2.07	0.77 / 37%	0 / 0%

Table 4.2 – Proposed Route and Blueberry to Red Eye Route Alternatives [198]

Route	Total Length (miles)	Length Following Roadway, Pipeline, or Transmission Line Right-of-Way (miles/percent)	Length Following Field Boundaries (miles/percent)
Proposed Route	7.85	7.44 / 95%	1.84 / 23%
East of 109th Avenue Route Alternative	7.51	4.42 / 59%	2.67 / 36%
119th Avenue Route Alternative	4.55	6.75 / 89%	2.36 / 31%
Pipeline South Route Alternative	5.70	5.65 / 99%	0.52 / 9%
U.S. Route 71 Route Alternative	7.55	7.50 / 99%	1.87 / 25%

[194] Minn. Stat. § 216E.03, Subd. 7(b)(9); Minn. R. 7850.4100(H).

[195] Ex. 20 at 46 (EA).

[196] *See* Ex. 20 at 92, 104 (EA).

[197] Ex. 20 at 92 (EA).

[198] Ex. 20 at 104 (EA).

I. Use of Existing Transportation, Pipeline, and Electrical Transmission System Rights-of-Way

162. Minnesota's high voltage transmission line routing factors require consideration of the Proposed Route's use of existing transportation, pipeline and electrical transmission system rights-of-way.[199]

163. As shown in Tables 4.1 and 4.2 above, the Blueberry, East of 109th Avenue, and 119th Avenue Route Alternatives utilize less existing right-of-way than the Proposed Route.[200]

J. Electrical System Reliability

164. Minnesota's high voltage transmission line routing factors require consideration of the Project's impact on electrical system reliability.[201]

165. The Project will be constructed to meet reliability requirements.[202]

K. Costs of Constructing, Operating, and Maintaining the Facility

166. Minnesota's high voltage transmission line routing factors require consideration of the Proposed Route's cost of construction, operation, and maintenance.[203]

167. The estimated cost of the Project along the Proposed Route is $23 million, depending on final route selection and mitigation.[204] As shown in Tables 5.1 and 5.2, the Blueberry, Pipeline South, and U.S. Route 71 Route Alternatives are anticipated to have higher costs than the Proposed Route.[205]

Table 5.1 – Estimated Costs – Proposed Route and Blueberry Route Alternative [206]

Route	Estimated Cost
Proposed Route	$1.01 million
Blueberry Route Alternative	$1.25 million

[199] Minn. Stat. § 216E.03, Subd. 7(b)(8); Minn. R. 7850.4100(J).

[200] Ex. 20 at 92, 104 (EA).

[201] Minn. Stat. § 216E.03, Subd. 7(b)(10); Minn. R. 7850.4100(K).

[202] Ex. 6 at 4-1 to 4-11, 5-1 to 5-7 (Application).

[203] Minn. R. 7850.4100(L).

[204] Ex. 6 at 4-11 (Application).

[205] Ex. 20 at 95, 107 (EA).

[206] Ex. 20 at 95 (EA).

Table 5.2 – Estimated Costs – Proposed Route and Blueberry to Red Eye Route Alternatives[207]

Route	Estimated Cost
Proposed Route	$4.34 million
East of 109th Avenue Route Alternative	$3.83 million
119th Avenue Route Alternative	$4.23 million
Pipeline South Route Alternative	$5.13 million
U.S. Route 71 Route Alternative	$4.62 million

168. For all of the overhead designs, operating and maintenance costs for the transmission line will be nominal for several years because the line will be new, and minimal vegetation maintenance will be required. Annual operating and maintenance costs for the 115 kV wooden transmission structures across Great River Energy's Minnesota system average approximately $2,000 per mile of transmission right-of-way for scheduled maintenance. The Applicant's practice provides for the inspection of 115 kV transmission lines every two years. Right-of-way clearing practices include a combination of mechanical and hand clearing, along with herbicide application where allowed.[208]

L. Adverse Human and Natural Environmental Effects Which Cannot be Avoided

169. Minnesota's high voltage transmission line routing factors require consideration of the adverse human and natural environmental effects, which cannot be avoided, for each proposed route.[209]

170. Unavoidable adverse impacts include the physical impacts to the land due to the construction of the Project.[210]

M. Irreversible and Irretrievable Commitments of Resources

171. Minnesota's high voltage transmission line routing factors require consideration of the irreversible and irretrievable commitments of resources that are necessary for each proposed route.[211]

172. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the use of those resources have on future generations. Irreversible effects result primarily from the use or destruction of a specific resource that cannot be replaced within a reasonable timeframe. Irretrievable resource

[207] Ex. 20 at 107 (EA).

[208] Ex. 6 at 8-6 (Application).

[209] Minn. Stat. § 216E.03, Subd. 7(b)(5)-(6); Minn. R. 7850.4100(M).

[210] Ex. 20 at 89-90 (EA).

[211] Minn. Stat. § 216E.03, Subd. 7(b)(11); Minn. R. 7850.4100(N).

commitments involve the loss in value of an affected resource that cannot be restored as a result of action.[212]

173. The majority of the Proposed Route parallels land that has already been committed to transmission line or roadway right-of-way.[213]

174. There are few commitments of resources associated with this Project that are irreversible and irretrievable, but those few resources relate primarily to construction of the Project. Only construction resources, such as concrete, steel, and hydrocarbon fuels, will be irreversibly and irretrievably committed to this Project.[214]

175. As set forth above, because the Proposed Route makes use of existing rights-of-way, impacts the fewest forested acres, and generally compares favorably in terms of cost to the route alternatives, the record demonstrates that the Proposed Route best meets Minnesota's route selection criteria.

N. Summary of Factors Analysis

176. The Proposed Route has lesser impacts than the Blueberry Route Alternative on forestry, flora, and rare and unique resources. The Proposed Route also compares more favorably in terms of cost and use of existing rights-of-way.[215] The Proposed Route meets Minnesota's route selection criteria as well as or better than the Blueberry to Red Eye Route Alternatives in terms of impacts to forestry, flora, use of existing rights-of-way, and cost. Although the East of 109th Avenue Route Alternative and the 119th Avenue Route Alternative are near the fewest residences, the Proposed Route places like infrastructure with like.[216] The Proposed Route and route alternatives are anticipated to have similar impacts in terms of the remaining factors included in Minnesota's route selection criteria.[217]

177. Based on consideration of all routing factors, the Proposed Route is the best route for the Project.

II. NOTICE

178. Minnesota statutes and rules require Applicants to provide certain notice to the public and local governments before and during the Application for a Route Permit process.[218]

179. Applicants provided notice to the public and local governments in satisfaction of Minnesota statutory and rule requirements.[219]

---

[212] Ex. 20 at 90 (EA).

[213] Ex. 20 at 104 (EA).

[214] Ex. 20 at 90 (EA).

[215] Ex. 20 at 98, 102 (EA).

[216] Ex. 20 at 110 (EA).

[217] Ex. 20 at 98, 110 (EA).

[218] Minn. Stat. § 216E.03, Subds. 3a, 4; Minn. R. 7850.2100, Subps. 2, 4.

180. Minnesota statutes and rules also require EERA and the Commission to provide certain notice to the public throughout the Route Permit process.[220] EERA and the Commission provided the notice in satisfaction of Minnesota statutes and rules.[221]

III. COMPLETENESS OF EA

181. The EA process is the alternative environmental review approved by the Environmental Quality Board ("EQB") for high voltage transmission lines.[222] The Commission is required to determine the completeness of the EA.[223] An EA is complete if it and the record address the issues and alternatives identified in the Scoping Decision.[224]

182. The evidence on the record demonstrates that the EA is adequate because the EA and the record created at the public hearing and during the subsequent comment period address the issues and alternatives raised in the Scoping Decision.[225]

Based on the foregoing Findings of Fact and the record in this proceeding, the Commission makes the following:

CONCLUSIONS

183. The Commission has jurisdiction to consider the Application.

184. The Commission determined that the Application was substantially complete and accepted the Application on March 18, 2015.[226]

185. The EA process is the alternative environmental review approved by the EQB for high voltage transmission lines.[227] Accordingly, the EA process satisfies the requirements of the Minnesota Environmental Policy Act ("MEPA"), which does not require that an EIS be completed for the Project.[228] EERA has conducted an appropriate environmental analysis of the Project for purposes of this Route Permit proceeding and the EA satisfies Minnesota Rule

---

[219] Ex. 7 (Notice of Route Permit Application Submission); Notice (Jan. 26, 2015), eDocket Document No. 20151-106621-01; Notice (Feb. 17, 2015), eDocket Document No. 20152-107393-01.

[220] Minn. Stat. § 216E.03, Subd. 6; Minn. R. 7850.2300, Subp. 2; Minn. R. 7850.2500, Subps. 2, 7-9.

[221] Ex. 17 (EA Scoping Decision); Ex. 21 (Notice of Availability of EA); Ex. 23 (Notice of Availability of EA in EQB Monitor); Ex. 36 (Notice of Comment Period on Application Completeness); Ex. 38 (Commission Meeting Notice on Completeness); Ex. 40 (Notice of Public Information and Scoping Meeting); Compliance Filing (Oct. 26, 2015), eDocket Document No. 20150-115106-01.

[222] Minn. R. 4410.4400, Subp. 6. To the extent the Andersens suggest that Minnesota Rules Chapters 7849 and 7850 were not properly promulgated, the content of Minnesota Rules Chapters 7849 and 7850 reflect not only rule-making proceedings, but also changes made by the Revisor at the direction of the Minnesota Legislature.

[223] Minn. R. 7850.3900, Subp. 2.

[224] *Id.*

[225] *See* Ex. 17 (EA Scoping Decision); Ex. 20 (EA).

[226] Ex. 41 (Commission Order Accepting Application as Complete).

[227] *See* Minn. R. 4410.4400 Subp. 6.

[228] *See* Minn. Stat. § 116D.04 Subd. 4a (authorizing the EQB to identify alternative forms of environmental review).

7850.3700. Specifically, the EA and the record address the issues and alternatives identified in the Scoping Decision to a reasonable extent considering the availability of information, and the EA includes the items required by Minnesota Rule 7850.3700, Subpart 4, and was prepared in compliance with the procedures in Minnesota Rule 7850.3700.

186. Applicants gave notice as required by Minnesota Statutes Section 216E.04, Subdivision 4; Minnesota Rule 7850.2100, Subpart 2; Minnesota Rule 7850.2100, Subpart. 4.

187. Notice was provided as required by Minnesota Statutes Section 216E.04, Subdivision 6; Minnesota Rule 7850.3500, Subpart 1; Minnesota Rule 7850.3700, Subparts 2, 3, and 6; and Minnesota Rule 7850.3800.

188. A public hearing was conducted near the Proposed Route. Proper notice of the public hearing was provided, and the public was given the opportunity to speak at the hearing and to submit written comments. All procedural requirements for the Route Permit were met.

189. The evidence on the record demonstrates that the Proposed Route satisfies the Route Permit factors set forth in Minnesota Statutes Section 216E.04, Subdivision 8 (referencing Minnesota Statutes Section 216E.03, Subdivision 7) and Minnesota Rule 7850.4100.

190. There is no feasible and prudent alternative to the construction of the Project along the Proposed Route, and the Project is consistent with and reasonably required for the promotion of public health and welfare in light of the state's concern for the protection of its air, water, land, and other natural resources as expressed in the Minnesota Environmental Rights Act.[229]

191. The evidence on the record demonstrates that the Proposed Route is the best route for the Project.

192. The evidence on the record demonstrates that the general Route Permit conditions are appropriate for the Project.

193. Any of the foregoing Findings more properly designated Conclusions are hereby adopted as such.

[229] *See* Minn. Stat. § 116B.01.

Exhibit A – Applicants' Proposed Route

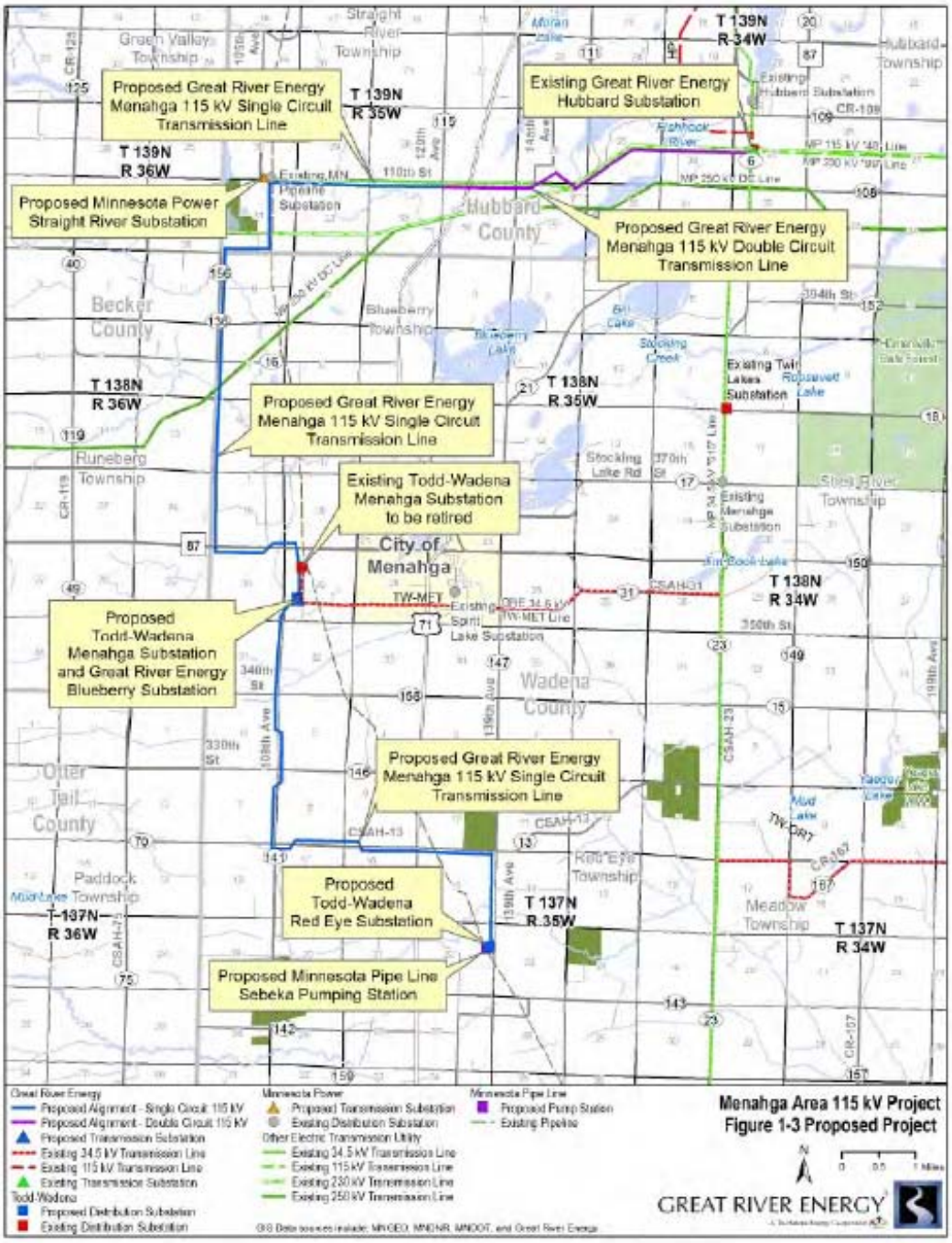

Exhibit B – Proposed Route and Route Alternatives