MPUC Docket Nos. E015,ET2/TL-22-415
E015,ET2/CN-22-416
OAH Docket No. 21-2500-39822

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

IN THE MATTER OF THE APPLICATION OF MINNESOTA POWER AND GREAT RIVER ENERGY FOR A CERTIFICATE OF NEED AND ROUTE PERMIT FOR THE NORTHLAND RELIABILITY PROJECT 345 KV TRANSMISSION LINE.

PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, AND RECOMMENDATION

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PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW AND RECOMMENDATION

In-person public hearings were held before Administrative Law Judge (ALJ) Kimberly Middendorf on July 22, 23, 24, and 25, 2024, in the above-captioned matter. The July 22, 2024 public hearing was held at Spang Town Hall, 35402 Spang Rd., Hill City, Minnesota. The July 23, 2024 public hearings were held at Brainerd High School Gichiziibi Center for the Arts, 702 S. 5th St., Brainerd, Minnesota, and at Crosby-Ironton Gym, 711 Poplar St., Crosby, Minnesota. The July 24, 2024 public hearings were held at Pierz Ballroom, 133 Main St. S., Pierz, Minnesota, and Palmer Township Hall, 4180 105th Ave., Clear Lake, Minnesota. The July 25, 2024 public hearing was held at Sauk Rapids Government Center, 250 Summit Ave. N., Sauk Rapids, Minnesota. A virtual online public hearing was held via WebEx on July 26, 2024. Written public comments were received through August 5, 2024.

The following appearances were made:

David Moeller, Senior Regulatory Counsel, Minnesota Power, and Kodi Verhalen and Valerie Herring, Taft Stettinius & Hollister, LLP, appeared on behalf of Minnesota Power.

Brian Meloy, Associate General Counsel, Great River Energy, and Haley Waller Pitts and Lisa Agrimonti, Fredrikson & Byron P.A., appeared on behalf of Great River Energy.

Richard Dornfeld, Office of the Attorney General, and Jim Sullivan, Environmental Review Manager, appeared for the Minnesota Department of Commerce, Energy Environmental Review and Analysis (DOC-EERA).

Abigail Hencheck, Minnesota Center for Environmental Advocacy, appeared for the Clean Energy Organizations (CEOs).

Craig Janezich appeared on behalf of staff for the Minnesota Public Utilities Commission (Commission).

STATEMENT OF ISSUE

Have Minnesota Power and Great River Energy (collectively, the Applicants) satisfied the factors set forth in Minn. Stat. § 216B.243 and Minn. R. Ch. 7849 for a Certificate of Need and Minn. Stat. § 216E.03 and Minn. R. Ch. 7850 for a Route Permit for the Northland Reliability Project 345 kilovolt (kV) Transmission Line and Associated Facilities Project (Project) in Itasca, Aitkin, Crow Wing, Morrison, Benton and Sherburne counties?

SUMMARY OF RECOMMENDATIONS

The ALJ concludes that the Applicants have satisfied the criteria in Minnesota law for a Certificate of Need and Route Permit and recommends that the Commission **GRANT** the Applicants a Certificate of Need and Route Permit for the Applicants' Modified Proposed Route (Modified Proposed Route) or the Applicants' Co-location Maximization Route (Co-location Maximization Route) as identified in the Applicants' response to public hearing comments filed on September 19, 2024, between the existing Iron Range Substation, a new Cuyuna Series Compensation Station and the Benton County Substation, and between the Benton County Substation and the Sherco Substation and the Big Oaks Substation.

Based on the information in the Application, Environmental Assessment (EA), testimony at the public hearings, written comments, exhibits received in this proceeding, and other evidence in the record, the ALJ makes the following:

FINDINGS OF FACT

I. APPLICANTS AND OTHER PARTIES

1. Minnesota Power is an investor-owned public utility headquartered in Duluth, Minnesota.[1] Minnesota Power supplies retail electric service to 143,000 retail customers and wholesale electric service to 14 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. Minnesota Power's transmission network is interconnected with the regional transmission grid to promote reliability and Minnesota Power is a member of the Midcontinent Independent System Operator, Inc. (MISO) and the Midwest Reliability Organization (MRO).

2. Great River Energy is a not-for-profit wholesale electric power cooperative that provides electricity to approximately 1.7 million people through its 27 member-owner cooperatives and customers. Through its member-owners, Great River Energy serves two-thirds of Minnesota geographically and parts of Wisconsin. Great River Energy's transmission network is interconnected with the regional transmission grid to promote

[1] Ex. APP-11 at 1-4 (Combined Certificate of Need and Route Permit Application (Application)) (eDocket No. 20238-198009-04).

reliability, and Great River Energy is a member of MISO and the MRO. Great River Energy is based in Maple Grove, Minnesota.[2]

3. DOC-EERA is statutorily obligated to conduct an environmental review for applications for certificates of need and route permits.[3]

4. The Minnesota Center for Environmental Advocacy represents the Clean Energy Organizations (CEO).

II. PROCEDURAL HISTORY

5. On August 1, 2022, Applicants notified the Commission that they intended to submit a Combined Certificate of Need and Route Permit Application (Application) for the Project.[4] On July 5, 2023, Applicants notified the Commission that they intended to submit a Route Permit Application for the Project pursuant to the alternative permitting process.[5]

6. On March 10, 2023, the Commission staff issued a letter requesting that Applicants submit updates regarding their Project.[6]

7. On March 24, 2023, Applicants submitted a status report regarding the Project.[7]

8. On April 19, 2023, Applicants submitted a Request for Exemptions from Certain Certificate of Need Application Content Requirements and a Notice Plan Petition.[8]

9. On April 27, 2023, the Commission issued a Notice of Comment Period on Applicants' Request for Exemptions.[9]

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[2] Ex. APP-11 at 1-6 (Application) (eDocket No. 20238-198009-04).

[3] Minn. Stat. § 216E.04, subd. 5.

[4] Ex. APP-1 (Notice of Intent to Construct, Own, and Maintain the Iron Range, Benton County – Cassie's Crossing Transmission Project) (eDocket No. 20228-188015-01).

[5] Ex. APP-9 (Notice of Intent to File a Route Permit Application) (eDocket No. 20237-197244-01).

[6] Commission Staff Update Request (eDocket No. 20233-193802-01).

[7] Ex. APP-2 (Status Update to Commission) (eDocket No. 20233-194185-01).

[8] Ex. APP-4 (Request for Exemptions) (eDocket No. 20234-194976-01); Ex. APP-3 (Notice Plan Petition) (eDocket No. 20234-194975-01).

[9] Ex. PUC-1 (Notice of Comment Period on Request for Exemption From Certain Certificate of Need Filing Requirements) (eDocket No. 20234-195293-01).

10. On May 8, 2023, Applicants submitted a second status report regarding the Project.[10]

11. On May 9, 2023, the Minnesota Department of Commerce, Division of Energy Resources (DOC-DER) filed comments on Applicants' Notice Plan Petition and Request for Exemptions.[11]

12. On May 11, 2023, comments by Gail Klosterman on the Project were filed.[12]

13. On May 15, 2023, comments by Greg Snyder on the Project were filed.[13]

14. On May 16, 2023, Applicants filed reply comments on their Notice Plan Petition and Request for Exemptions.[14] The Applicants later clarified their reply comments on March 30, 2023.[15]

15. On May 26, 2023, comments by Marla Britton on the Project were filed.[16]

16. On May 31, 2023, DOC-DER filed supplemental comments on Applicants' Notice Plan Petition and Request for Exemptions.[17]

17. On June 21, 2023, the Commission approved Applicants' Notice Plan Petition and Request for Exemptions.[18]

18. On June 22, 2023, Applicants submitted a third status report regarding the Project.[19]

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[10] Ex. APP-5 (Status Update to Commission) (eDocket No. 20235-195641-01).

[11] Ex. DER-1 (Comments--On Notice Plan Petition) (eDocket No. 20235-195709-02); Ex. DER-2 (Comments--On Request for Exemption From Certain CN Application Data Requirements) (eDocket No. 20235-195709-01).

[12] Ex. PUC-2 (Public Comment) (eDocket No. 20235-195779-01).

[13] Ex. PUC-3 (Public Comment) (eDocket No. 20235-195823-01).

[14] Ex. APP-6 (Applicants' Reply Comments for Notice Plan Petition and Exemption Request Petition) (eDocket No. 20235-195874-01).

[15] Ex. APP-7 (Applicants' Clarification of Reply Comments Filed on 05/16/2023) (eDocket No. 20235-196224-01).

[16] Ex. PUC-4 (Public Comment) (eDocket No. 20235-196183-02).

[17] Ex. DER-3 (Comments--Supplemental) (eDocket No. 20235-196236-01).

[18] Ex. PUC-5 (PUC--Order) (eDocket No. 20236-196704-01).

[19] Ex. APP-8 (Status Update to Commission) (eDocket No. 20236-196745-01).

19. On August 4, 2023, Applicants submitted their Application for the Project.[20]

20. On August 7, 2023, the Commission issued a Notice of Comment Period for the Combined Certificate of Need and Route Permit, regarding completeness of the Application and other procedural matters.[21]

21. On August 7, 2023, Applicants submitted Affidavits of Mailing in compliance with Minn. R. 7829.2500, subp. 3 and Minn. R. 7850.1700, subp. 1.[22]

22. On August 10, 2023, DOC-DER filed comments related to completeness of the Application and recommended that the Commission accept the Application as substantially complete and should be evaluated using the Commission's informal comment process.[23]

23. On August 22, 2023, DOC-EERA filed comments related to the completeness of the Application. In its comments, DOC-EERA recommended that the Commission: 1) accept the Application as substantially complete with respect to route permit application completeness requirements; 2) process the Application jointly, including preparation of an EA in lieu of an environmental report; 3) take no action to appoint an advisory task force; and 4) request a full ALJ report with recommendations.[24]

24. On August 22, 2023, Comments were also submitted by the International Union of Operating Engineers Local 49 and the North Central States Regional Council of

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[20] Ex. APP-11 (Application) (eDocket Nos. 20238-198009-04, 20238-198009-06, 20238-198009-08, 20238-198009-10, 20238-198009-12, 20238-198009-14, 20238-198009-16, 20238-198009-18, 20238-198009-20, 20238-198010-02, 20238-198010-04, 20238-198010-06, 20238-198010-08, 20238-198010-10, 20238-198010-12, 20238-198010-14, 20238-198010-16, 20238-198010-18, 20238-198010-20, 20238-198011-01, 20238-198011-03, 20238-198011-05, 20238-198011-07, 20238-198011-09, 20238-198011-11, 20238-198011-13, 20238-198011-15, 20238-198011-17, 20238-198012-01, 20238-198012-03, 20238-198012-05, 20238-198012-07, 20238-198012-09, 20238-198012-11, 20238-198012-13, 20238-198012-15, 20238-198013-01, 20238-198013-03, 20238-198013-05, 20238-198013-07, 20238-198013-09, 20238-198013-11, 20238-198013-13, 20238-198013-15).

[21] Ex. PUC-1 (Notice of Comment Period for Combined Certificate of Need and Route Permit) (eDocket No. 20228-188015-01).

[22] Ex. APP-22 (Affidavits of Mailing, Certificate of Service, and Service List) (eDocket No. 20238-198047-02).

[23] Comments by DOC-DER (eDocket No. 20238-198165-01).

[24] Ex. EERA-1 (Comments and Recommendations on Application Completeness) (eDocket No. 20238-198392-02).

Carpenters (Local 49 and Council of Carpenters),[25] LIUNA Minnesota and North Dakota (LIUNA),[26] NoCapX2020,[27] and the Citizens Utility Board of Minnesota (CUB).[28]

On August 22, 2023, the Minnesota Department of Natural Resources (MnDNR) submitted comments on the Application.[29]

25. On August 25, 2023, Applicants submitted their Notice Plan Compliance Filing.[30]

26. On August 29, 2023, a letter was submitted by Kate Swanson and Darren Nelson, Timothy Moody and Mary Stevens, Warren and Patrine Turnbloom, Al and JoAnne Kampf, Dan and Dorothy Leighton, and Randy Strange.[31] Additionally, letters were submitted by Jonathan Knutson and Don and Marie Boucher.[32]

27. On August 29, 2023, CEOs also filed reply comments.[33]

28. On August 29, 2023, Applicants submitted reply comments agreeing with DOC-DER and DOC-EERA's recommendations in its comments.[34] Applicants filed supplemental comments on Application Completeness on September 6, 2023.[35]

29. On September 11, 2023, the Crow Wing County Historical Society submitted a letter in response to the Application.[36]

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[25] Comments by Local 49 and Council of Carpenters Comments (Aug. 22, 2023) (eDocket No. 20238-198397-01).

[26] Comments by LIUNA (Aug. 22, 2023) (eDocket No. 20238-198412-02).

[27] Comments by NoCapX2020 (Aug. 22, 2023) (eDocket No. 20238-198415-02).

[28] Comments by CUB (Aug. 22, 2023) (eDocket No. 20238-198421-01).

[29] Ex. DNR-1 (Comments) (eDocket No. 20238-198420-01).

[30] Ex. APP-24 (Notice Plan Compliance Filing) (eDocket No. 20238-198491-02).

[31] Ex. PUC-13 (Public Comment) (eDocket No. 20238-198603-01).

[32] Ex. PUC-12 (Public Comment) (eDocket No. 20238-198597-01); Ex. PUC-10 (Public Comment) (eDocket No. 20238-198595-01).

[33] Reply Comments by CEOs (Aug. 29, 2023) (eDocket No. 20238-198594-01).

[34] Ex. APP-25 (Reply Comments on Certificate of Need and Route Permit Applications Completeness and Procedural Matters) (eDocket No. 20238-198592-02).

[35] Ex. APP-26 (Applicants' Supplemental Comments on Application Completeness) (eDocket No. 20239-198773-01).

[36] Ex. PUC-14 (Public Comment) (eDocket No. 20239-198833-01).

30. On September 13, 2023, comments by Karen and Budd Burthwick on the Project were filed.[37]

31. On September 22, 2023, the Commission issued a Notice of Commission Agenda Meeting regarding completeness of the Certificate of Need and Route Permit Applications and other procedural matters for October 5, 2023.[38] During the Commission's October 5, 2023, meeting, the Commission made an oral decision, which, among other things, accepted the Application as substantially complete, with a written order to follow.

32. On September 26, 2023, comments by Jonathan Winkelman on the Project were filed.[39]

33. On October 10, 2023, the Commission and DOC-DER issued a Notice of Public Information and Environmental Assessment Scoping Meetings, requesting responses to five questions regarding the Project: 1) What potential human and environmental impacts of the proposed Project should be considered in the EA? 2) Are there any methods to minimize, mitigate, or avoid potential impacts of the proposed Project that should be considered in the EA? 3) Are there any alternative routes or route segments that should be considered to address or mitigate potential impacts associated with the proposed Project? 4) Are there any unique characteristics of the Proposed Route[40] or the Project that should be considered? 5) Are there other ways to meet the stated need for the Project, for example, a different size project or a different type of facility?[41]

34. On October 19, 2023, NoCapX2020 filed comments withdrawing a Data Practices Act Request on the Project.[42]

35. On October 23, 2023, the Commission filed a Sample High-Voltage Transmission Line Route Permit.[43] The Commission also filed a PowerPoint presentation presented at the Public Information and Scoping Meetings for the Project.[44]

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[37] Ex. PUC-15 (Public Comment) (eDocket No. 20239-198898-01).

[38] Ex. PUC-16 (Notice of Commission Agenda Meeting) (eDocket No. 20239-199088-01).

[39] Ex. PUC-17 (Public Comment) (eDocket No. 20239-199165-02).

[40] Note that the notice included the route as proposed in the Application.

[41] Ex. PUC-21 (Notice of Public Information and Environmental Assessment Scoping Meetings) (eDocket No. 202310-199473-01).

[42] Comment by NoCapX2020 (Oct. 19, 2023) (eDocket No. 202310-199743-02).

[43] Ex. PUC-22 (Sample High-Voltage Transmission Line Route Permit) (eDocket No. 202310-199799-01).

[44] Public Meeting Presentation (eDocket No. 202310-199799-03).

36. The Commission and DOC-EERA held public information and environmental scoping meetings on October 23-26 (in-person) and October 27, 2024 (virtual).[45]

37. On November 13, 2023, Applicants filed Affidavits of Publication confirming that the Applicants provided notice of the public information and EA scoping session.[46] Marla Britton and Debra Woitalla filed comments on the Project.[47]

38. On November 14, 2023, Stanley and Mary Erickson filed comments on the Project.[48]

39. On November 15, 2023, the Commission issued its written Order: 1) accepting the Certificate of Need Application as substantially complete and directing that the Certificate of Need Application be reviewed using the informal review process; 2) accepting the Route Permit Application as substantially complete and directing that the Route Permit Application be reviewed under the alternative permitting process; 3) authorizing joint hearings and combined environmental review of the combined Certificate of Need and Route Permit proceedings; 4) requesting that DOC-EERA prepare an EA in lieu of an environmental report; 5) requesting that an ALJ be assigned to act as the hearing examiner for the public hearing and that the ALJ establish the types of filings necessary to facilitate proper record development and a schedule for submitting those filings through a prehearing conference as well as prepare a full report, including findings of fact, conclusions of law, and recommendations; 6) requesting that DOC-EERA work with the Applicants and MnDNR to identify areas to minimize necessary right-of-way and mitigate impacts of right-of-way expansion; 7) delegating certain authority to the Executive Secretary regarding the Certificate of Need and Route Permit proceedings; requesting that DOC-EERA ensure that the comments received by additional landowners are included in the scoping process; extending the scoping comment period by an additional ten days.[49]

40. On November 21, 2023, Applicants filed comments regarding the scope of the EA in compliance with the Commission's requests during its October 5, 2023 meeting asking Applicants to further examine route alternatives that would consolidate the proposed new double-circuit 345 kV transmission line with existing transmission lines. Applicants proposed, for evaluation in the EA, several route alternatives that address the

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[45] Ex. PUC-21 (Notice of Public Information and Environmental Assessment Scoping Meetings) (eDocket No. 202310-199473-01).

[46] Ex. APP-28 (Compliance Filing-Notice Compliance for Route Permit Application) (eDocket No. 202311-200432-02).

[47] Ex. PUC-23 (Public Comment) (eDocket No. 202311-200421-01).

[48] Ex. PUC-24 (Public Comment) (eDocket No. 202311-200492-02).

[49] Ex. PUC-25 (Order Accepting Applications as Complete and Establishing Procedural Requirements) (eDocket No. 202311-200529-01).

Commission's request. Additionally, Applicants coordinated with Commission staff and DOC-EERA to prepare a proposed procedural schedule for the Project.[50]

41. Also on November 21, 2023, MnDNR and the Minnesota Department of Transportation (MnDOT) filed comments on the scope of the EA. LIUNA filed comments regarding the importance of the Project and urged the Commission to ensure the Project's impacts on the job force is reflected in the EA. Don and Ardell Loehr, the Local 49 and Council of Carpenters, and the Leech Lake Band of Ojibwe also filed comments on the Project.[51]

42. On November 30, 2023, DOC-EERA filed comments received on the scope of the EA (in addition to comments noted above) from interested stakeholders within the Project area including the Crow Wing County Historical Society, the Minnesota Mississippi River Parkway Commission, written comments submitted by Donald Boucher, Rick, Stacy, and Tyler Stellmach, John McElfresh, Stan Erickson, M. Roakdale, Tammy and Jeff Wilkins, Alana Aldridge, Donald Bednar, Marla Britton, Debra Woitalla, Gerald and Nancy Doucette, Dan Eller, Greg and Doris Finch, Peter Finch, Greg Gorron, R. Brent and Jennifer Gunsbury, Brent Hayes, Tom Hendrickson, Tony and Cheryl Hettver, John and Leah Jacobson, Kelly and Jeff Jovanovich, Allen Kampf, Loren Kantola, Joel Kersting, Brad and Janessa Kaehler, Randi and Traci Kranz, Roney and Marianna Kranz, Daniel Leighton, Don and Ardell Loehr, Zach McKay, Timothy Moody and Mary Stevens, Jane and Mark Moore, Evan Mudd, Al Pekarek, David Peterson, Steve Piechowski, Sarah Portz, Michael Potter, Michael Ritter, Kevin and Linda Schilling, Randy Strange, Kate Swanson and Darren Nelson, Troy Turootte, Patrine Turnbloom, Luke Wehseler, Cheryl Wynn, Steve and Tina Yaurnick as well as oral comments received during the scheduled public information and EA scoping meetings.[52]

43. On December 1, 2023, Applicants filed reply comments in response to route alternatives that were put forth for evaluation in the EA by the MnDNR and

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[50] Ex. APP-29 (Applicants' EA Scoping Comments) (eDocket No. 202311-200670-01).

[51] LIUNA Public Comment (eDocket No. 202311-200671-01); Ex. PUC-26 (Public Comment) (eDocket No. 202311-200662-01); Local 49 and Council of Carpenters Public Comment (eDocket No. 202311-200645-01); Leech Lake Band of Ojibwe Public Comment (eDocket No. 202311-200628-01).

[52] Ex. EERA-4 (Written Comments on Scope of Environmental Assessment) (eDocket Nos. 202311-200858-02, 202311-200858-04, 202311-200858-06, 202311-200858-08, 202311-200858-10, 202311-200858-12, 202311-200858-14, 202311-200858-16, 202311-200858-18, 202311-200859-01, 202311-200859-03, 202311-200859-05, 202311-200859-07, 202311-200859-09, 202311-200859-11, 202311-200859-13, 202311-200859-15, 202311-200859-17, 202311-200866-02, 202311-200866-04, 202311-200866-06, 202311-200866-08, 202311-200866-10, 202311-200866-12, 202311-200866-14, 202311-200866-16, 202311-200866-18, 202311-200867-01, 202311-200867-03, 202311-200867-05, 202311-200867-07, 202311-200867-09); Ex. EERA-3 (Oral Public Comments on Scope of Environmental Assessment) (eDocket No. 202311-200862-02).

recommendations made by agencies, the Leech Lake Band of Ojibwe, and organized labor Groups filed during the scoping comment period.[53]

44. On December 5, 2023, several property owners submitted alternative route proposals.[54] Jeffrey and Tammy Wilkins also filed a map.[55]

45. On December 7, 2023, the Commission issued information requests to certain public commenters.[56]

46. On December 8, 2023, Applicants filed supplemental reply comments in response to the written comments received from members of the public and other stakeholders during the EA scoping comment period.[57]

47. On December 20, 2023, Don Loehr and Stan Erickson filed responses to the Commission's information requests.[58]

48. On December 27, 2023, CUB and the National Loon Center filed comments on the Project.[59]

49. On January 8, 2024, Kevin and Linda Schilling submitted alternative route proposals.[60]

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[53] Ex. APP-30 (Applicants' Response to Route Alternatives and Conditions Proposed to be Evaluated in the EA – Agencies, Tribal Nations, and Organizations) (eDocket No. 202312-200917-02).

[54] Comments (Multiple) (Dec. 5, 2023) (eDocket Nos. 202312-201003-02; 202312-201003-04).

[55] Comment by Wilkins (Dec. 5, 2023) (eDocket No. 202312-200984-01).

[56] Ex. PUC-28 (Information Request) (eDocket No. 202312-201051-01); Ex. PUC-29 (Information Request) (eDocket No. 202312-201050-01).

[57] Ex. APP-31 (Applicants' Response to Route Alternatives and Conditions Proposed to be Evaluated in the EA – Public Comments) (eDocket No. 202312-201101-02).

[58] Ex. PUC-33 (Other--Response Don Loehr) (eDocket No. 202312-201391-02); Ex. PUC-30 (Other-Management Plan – Stan Erickson 1 of 3) (eDocket No. 202312-201389-02); Ex. PUC-31 (Other-Management Plan – Stan Erickson 2 of 3) (eDocket No. 202312-201389-04); Ex. PUC-32 (Other-Management Plan – Stan Erickson 3 of 3) (eDocket No. 202312-201389-06).

[59] Comment by CUB (Dec. 27, 2023) (eDocket No. 202312-201585-02); Comment by National Loon Center (Dec. 27, 2023) (eDocket No. 202312-201583-01).

[60] Ex. PUC-34 (Comments--Outside of Comment Period - Kevin Schilling Letter) (eDocket No. 20241-201943-01); Ex. PUC-35 (Comments--Outside of Comment Period - Kevin Schilling Alt 1) (eDocket No. 20241-201943-03); Ex. PUC-36 (Comments--Outside of Comment Period - Kevin Schilling Alt 2 and 3) (eDocket No. 20241-201943-05).

50. On February 9, 2024, the ALJ issued a Notice of Prehearing Conference, scheduling a prehearing conference on February 16, 2024.[61]

51. On February 13, 2024, DOC-EERA submitted comments on the scoping process, including a summary of public comments received during the scoping process, and provided recommendations regarding alternative routes or modifications to be included in the scoping process.[62] In these comments, the DOC-EERA identified the following route and alignment alternatives for inclusion in the EA:[63]

Routing Alternatives	Source
Routes A1 and A2	MnDNR
Route A3	Public
Route B	MnDNR
Route C	MnDNR
Alignment Alternatives 1 and 2	Public
Route D3	Public
Alignment Alternative 3	Applicant
Alignment Alternatives 4 and 6	MnDNR
Routes E1 and E2	Applicant/MnDNR
Routes E3 through E6	Public
Route F	Public
Route G	Public
Alignment Alternatives 7 and 8	MnDNR
Alignment Alternative 9	Applicants
Alignment Alternative 10	Public
Routes H1 and H2	MnDNR
Routes H3 through H7	Public
Alignment Alternatives 12 and 13	Public
Routes J1 through J3	MnDNR
Alignment Alternatives 15, 16, and 17	Public

52. On February 13, 2024, Karen Burthwick submitted an alternative route proposal.[64]

[61] NOTICE OF AND ORDER FOR PREHEARING CONFERENCE (eDocket No. 20242-203266-02).

[62] Ex. EERA-5 (Comments and Recommendations on Scoping Process) (eDocket Nos. 20242-203365-02, 20242-203365-04, 20242-203365-06, 20242-203365-08, 20242-203365-10, 20242-203365-12, 20242-203365-14).

[63] Ex. EERA-5 (Comments and Recommendations on Scoping Process) (eDocket No. 20242-203365-02).

[64] Comment by Burthwick (Feb. 13, 2024) (eDocket No. 20242-203447-02).

53. On February 15, 2024, Jonathan Winkelman submitted an alternative route proposal.[65]

54. On February 22, 2024, the ALJ issued the First Prehearing Order that included the following events and deadlines:[66]

Milestone	Date
Public Information and Scoping Meetings	October 23-27, 2023
Commission Order on Application Acceptance	11/21/2023
Close of Scoping Comment Period	11/21/2023
Department Filing of Scoping Comments	11/30/2023
Applicants' Response to Scoping Comments	12/08/2023
Department Recommendation on Scope of the EA	02/13/2024
EA Issued	06/28/2024
Applicants File Direct Testimony	At least 14 days prior to the first public hearing date
Public Hearings (in-person and one virtual)	Week of 07/22/2024
Close of Public Hearing Comment Period	08/5/2024
Applicants Respond to Public Hearing Comments; Applicants' Proposed Findings	08/20/2024
DOC-EERA's Responses to Public Comments on EA; Reply to Proposed Findings	09/05/2024
ALJ Files Report	10/04/2024
Exceptions to ALJ Report	10/21/2024
Commission Meeting: Certificate of Need and Route Permit (Tentative Date)	11/21/2024

55. On February 23, 2024, Karen Burthwick filed a map.[67]

56. On February 28, 2024, Don and Ari Boucher; Rick, Stacy, and Tyler Stellmach; and Brad and Janessa Kaehler filed comments on the Project.[68]

57. On March 6, 2024, the Commission issued an Order (1) adopting DOC-EERA's recommendations on the scoping process, (2) requesting that DOC-EERA modify the scope of the EA to exclude certain proposals (Route I, Winkleman's proposal, COLA – Route D1, COLA – Route D2, Hillman Area – Route I, COLA – Alignment Alternative 5, LLA – Alignment Alternative 11), (3) requesting that DOC-EERA study infrastructure

[65] Comment by Winkelman (Feb. 15, 2024) (eDocket No. 20242-203464-02).

[66] FIRST PREHEARING ORDER (eDocket No. 20242-203720-01).

[67] Ex. PUC-39 (Other -Burthwick Map -Late Filing) (eDocket No. 20242-203771-02).

[68] Ex. PUC-41 (Public Comment--Don and Ari Boucher) (eDocket No. 20242-203893-02).

stacking in the EA, and (4) requesting that DOC-EERA include certain additional route alternatives in the EA (Route K, Alternative Alignment 14, and Karen Burthwick 1).[69]

58. On March 22, 2024, DOC-EERA filed its EA Scoping Decision for the Project.[70]

59. On March 27, 2024, DOC-EERA filed its Notice of EA Scoping Decision for the Project.[71]

60. On April 2, 2024, DOC-EERA filed documentation confirming that it had provided mailed notice to new landowners affected by alternatives to be studied within the EA.[72]

61. On April 4, 2024, the Commission issued a Notice of Comment Period on the Certificate of Need Application.[73]

62. From April through June 2024, several written comments were received regarding routing of the Project. Comments were provided by LeAnn Moulzolf-Brand, Russell Horsch, James Kraklau, Grant Prushek, Jed Regan, Brian Allen, and Joseph Eckert on behalf of several property owners on County Road 106 and Lens Road in Ross Lake Township.[74]

63. On May 24, 2024, comments concerning the Certificate of Need were filed by DOC-DER, MISO, and Joint Commenters (Clean Grid Alliance, Center for Rural Affairs, Fresh Energy, Minnesota Center for Environmental Advocacy, Sierra Club,

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[69] Ex. PUC-42 (Order--Pt 1 Of 7) (eDocket No. 20243-204135-01); Ex. PUC-43 (Order--Pt 2 Of 7) (eDocket No. 20243-204135-03); Ex. PUC-44 (Order--Pt 3 Of 7) (eDocket No. 20243-204135-05); Ex. PUC-45 (Order--Pt 4 Of 7) (eDocket No. 20243-204135-07); Ex. PUC-46 (Order--Pt 5 Of 7) (eDocket No. 20243-204135-09); Ex. PUC-47 (Order--Pt 6 Of 7) (eDocket No. 20243-204135-11); Ex. PUC-48 (Order--Pt 7 Of 7) (eDocket No. 20243-204135-13).

[70] Ex. EERA-6 (Department Final Environmental Assessment Scoping Decision) (eDocket No. 20243-204589-01).

[71] Ex. EERA-7 (Notice of Environmental Assessment Scoping Decision) (eDocket No. 20243-204671-02).

[72] Ex. EERA-8 (Letter to New Landowners Regarding Environmental Assessment Scoping Decision) (eDocket No. 20244-204923-01).

[73] Ex. PUC-50 (Notice Of Comment Period-- Notice Of Comment Period On The Merits Of The Certificate Of Need Application) (eDocket No. 20244-205005-01).

[74] Ex. PUC-51 (Public Comment--Received Outside Comment Period- Batch 1 04122024-4 Comments) (eDocket No. 20244-205333-02); Ex. PUC-52 (Public Comment--Brian Allen) (eDocket No. 20245-206930-01); Ex. PUC-53 (Public Comment--Jed Regan) (eDocket No. 20245-206934-01); Ex. PUC-54 (Public Comment) (eDocket No. 20246-207365-01).

Citizens Utilities Board of Minnesota, and Union of Concerned Scientists). The comments supported granting a certificate of need for the Project.[75]

64. On June 21, 2024, Applicants filed reply comments to initial comments submitted in response to the Notice of Comment Period on the Merits of the Certificate of Need Application issued by the Commission.[76]

65. On June 28, 2024, the Commission issued a Notice of Public Hearings and Availability of Environmental Assessment. This Notice stated that public hearings on Applicants' Certificate of Need and Route Permit Applications for the Project would be held on July 22, 2024 (in person), July 23, 2024 (in person), and July 24, 2024 (in person), July 25, 2024 (in person), and July 26, 2024 (virtually). The Notice also stated that a written comment period would be open until August 5, 2024 at 4:30 p.m.[77] The Notice stated that written comments should focus on:[78]

- Should the Commission grant a certificate of need for the proposed project?
- If granted, what additional conditions or requirements, if any, should be included in the certificate of need?
- Should the Commission grant a route permit for the proposed project?
- If granted, what additional conditions or requirements, if any, should be included in the route permit?

66. On June 28, 2024, DOC-EERA filed the EA for the Project.[79]

67. On July 1, 2024, and July 5, 2024, DOC-EERA filed amendments to the EA.[80]

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[75] DOC-DER Comments (eDocket No. 20245-207084-01); MISO Comments (eDocket No. 20245-207078-01); Joint Commenters Comments (eDocket No. 20245-207085-02).

[76] Ex. APP-32 (Applicants' Reply Comments on Certificate of Need) (eDocket No. 20246-207867-01).

[77] Ex. PUC-56 (Notice of Public Hearings and Availability of Environmental Assessment) (eDocket No. 20246-208131-02).

[78] Ex. PUC-56 (Notice of Public Hearings and Availability of Environmental Assessment) (eDocket No. 20246-208131-02).

[79] Ex. EERA-9 (Environmental Assessment (EA)) (eDocket Nos. 20246-208129-02; 20246-208129-04; 20246-208129-06; 20246-208129-08; 20246-208129-10; 20246-208129-12; 20246-208129-14).

[80] Ex. EERA-9 (Revised EA) (eDocket Nos. 20246-208159-02, 20246-208159-04, 20246-208159-06, 20246-208159-08, 20246-208159-10, 20246-208159-12).

68. On July 8, 2024, Applicants filed direct testimony of Zach Golkowski, Brian Hunker, and Christian Winter.[81]

69. On July 15, 2024, DOC-EERA filed a Notice indicating that it had provided the EA to various permitting agencies.[82]

70. On July 16, 2024, DOC-EERA published a Notice in the EQB Monitor that it had released the EA for the Project and provided dates for public hearings and a comment period.[83]

71. Notice of the public hearings and availability of the EA was published in newspapers of general circulation throughout the Project area. A notice appeared in the Morrison County Record on July 7, 2024. Notices appeared in the Benton County News and the Voyageur Press McGregor on July 9, 2024. Notices appeared in the Aitkin Independent Age, the Brainerd Dispatch, the Crosby-Ironton Courier, the Grand Rapids Herald, and the Mille Lacs Messenger on July 10, 2024. Notices appeared in the Mille Lacs Union Times and the Scenic Range News Bovey on July 11, 2024. Notices appeared in the Elk River Star News, the Patriot News MN, and the Sauk Rapids Herald on July 13, 2024. These published notices included the same information included in the mailed notices of public hearings and availability of the EA that were mailed by the Commission on June 28, 2024.[84]

72. Public hearings were held before the ALJ on July 22, 23, 24, 25, and July 26, 2024. The July 22, 2024 public hearing was held at Spang Town Hall, 35402 Spang Rd., Hill City, Minnesota. The July 23, 2024 public hearings were held at Brainerd High School Gichiziibi Center for the Arts, 702 S. 5th St., Brainerd, Minnesota, and at Crosby-Ironton Gym, 711 Poplar St., Crosby, Minnesota. The July 24, 2024 public hearings were held at Pierz Ballroom, 133 Main St. S., Pierz, Minnesota, and Palmer Township Hall, 4180 105th Ave., Clear Lake, Minnesota. The July 25, 2024 public hearing was held at Sauk Rapids Government Center, 250 Summit Ave. N., Sauk Rapids, Minnesota. A virtual online public hearing was held via WebEx on July 26, 2024.[85]

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[81] Ex. APP-34 (Direct Testimony and Schedules of Zach Golkowski) (eDocket No. 20247-208392-02); Ex. APP-35 (Direct Testimony and Schedules of Brian Hunker) (eDocket No. 20247-208392-03); and Ex. APP-36 (Direct Testimony and Schedules of Christian Winter) (eDocket No. 20247-208392-04).

[82] Ex. EERA-10 (EA Provided to Permitting Agencies) (eDocket No. 20247-208605-02).

[83] Ex. EERA-12 (Notice of EA Availability, Public Hearings, and Comment Period (EQB)) (eDocket No. 20247-208685-02).

[84] Affidavit of Publication of Public Hearing Notices (20248-209704-01 and 20248-209704-03).

[85] Ex. EERA-12 (Notice of EA Availability, Public Hearings, and Comment Period (EQB)) (eDocket No. 20247-208685-02).

73. Public comments on the Project were accepted by the ALJ until August 5, 2024. Public comments included comments from members of the public, MnDNR, LIUNA and Local 49 and Council of Carpenters, and Clean Energy Economy Minnesota, and are listed in Section V.B.

74. On August 5, 2024, the Applicants filed comments on the EA as well as provided additional information to respond to requests received during the public hearings.[86]

75. On August 7, 2024, the ALJ issued the Second Prehearing Order that included the following revisions to the procedural schedule for those dates falling after August 5, 2024:[87]

Close of Public Hearing Comment Period	Monday, August 5, 2024
Department Responses to Comments on the Environmental Assessment	Thursday, September 5, 2024
Applicants Respond to Public Hearing Comments; Applicants' Proposed Findings of Fact	Thursday, September 19, 2024
Department Reply to Proposed Findings	Thursday, October 3, 2024
ALJ Submits Full Report	Friday, November 8, 2024
Exceptions to ALJ Report	TBD
Commission Considers Certificate of Need and Route Permit Issuance	TBD

76. On August 21, 2024, the Applicants filed Affidavits of Publication of notice for the public hearings.[88]

77. On September 5, 2024, Minnesota Center for Environmental Advocacy, Center for Rural Affairs, Clean Grid Alliance, Fresh Energy, Sierra Club, and Union of

[86] Applicants' Comments on the EA and Additional Information Requested at Public Hearings (Aug. 5, 2024) (eDocket No. 20248-209266-01).

[87] SECOND PREHEARING ORDER (eDocket No. 20248-209312-01).

[88] Affidavits of Publication (eDocket No. 20248-209704-03).

Concerned Scientists (collectively Joint Commenters) filed a letter responding to MnDNR's August 5, 2024 comments.[89]

78. On September 5, 2024, DOC-EERA filed its response to public comments received on the EA.[90]

79. On September 19, 2024, the Applicants filed a response to public hearing comments and identified the Modified Proposed Route and the Co-location Maximization Route based on feedback received during the public hearings and public hearing comment period. The Applicants also submitted revisions to the Draft Route Permit.[91]

III. PROJECT DESCRIPTION

80. Applicants propose to construct approximately 180-miles of double-circuit 345 kV transmission line between Grand Rapids, St. Cloud, and Becker Minnesota. The Project consists of two major segments. The general Project location is shown in **Figure 1**.[92]

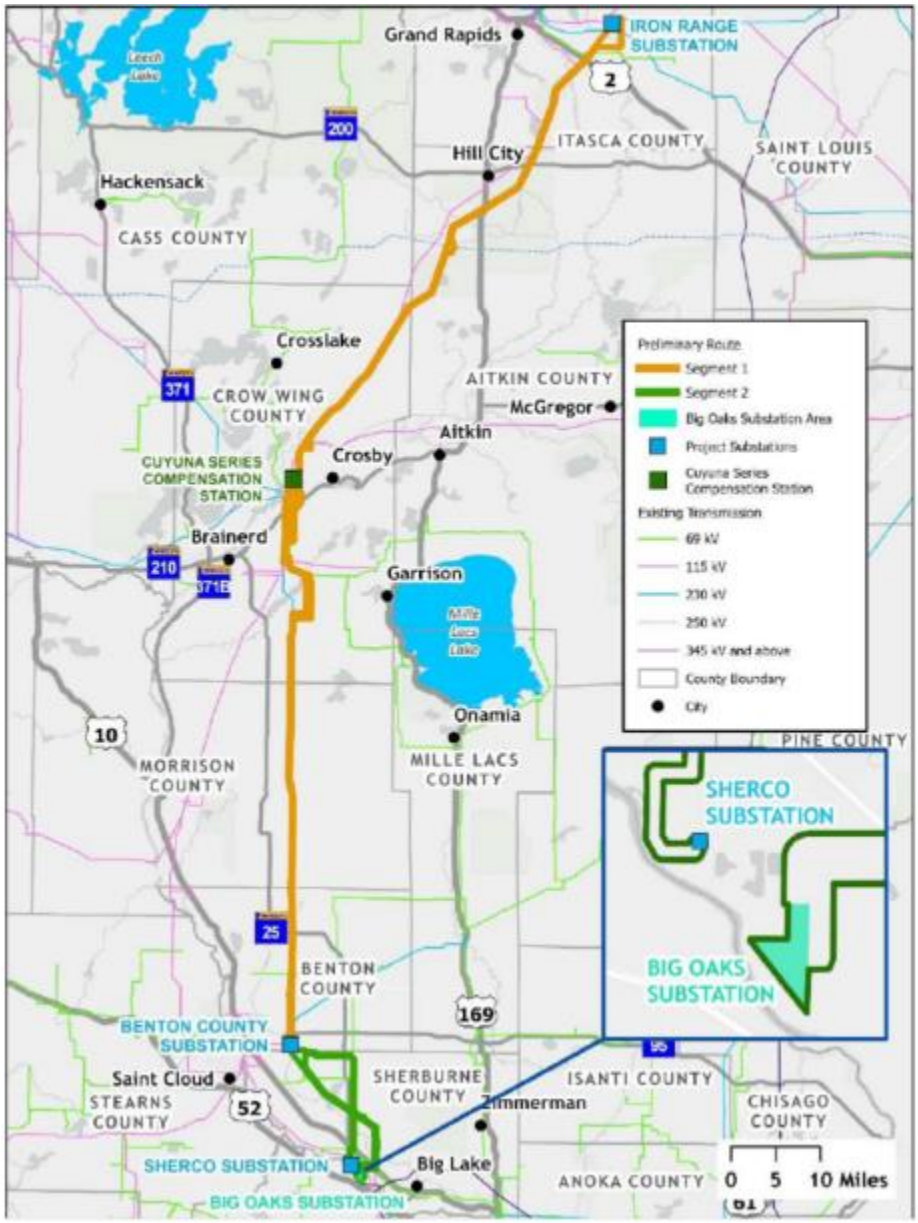
[89] Comments by Joint Commenters (Sept. 5, 2024) (eDocket No. 20249-209997-01).

[90] DOC-EERA Response to Comments on the EA (Sept. 5, 2024) (eDocket No. 20249-210005-02); DOC-EERA Response to Comments on the EA, Attachment A (Sept. 5, 2024) (eDocket No. 20249-210005-04); DOC-EERA Response to Comments on the EA, Attachment A2 (Sept. 5, 2024) (eDocket No. 20249-210005-06); DOC-EERA Response to Comments on the EA, Attachment A3 (Sept. 5, 2024) (eDocket No. 20249-210005-08); DOC-EERA Response to Comments on the EA, Attachment B (Sept. 5, 2024) (eDocket No. 20249-210005-10); DOC-EERA Response to Comments on the EA, Attachment C (Sept. 5, 2024) (eDocket No. 20249-210005-12); DOC-EERA Response to Comments on the EA, Attachment C2 (Sept. 5, 2024) (eDocket No. 20249-210005-14).

[91] Applicants' September 19, 2024 Response to Public Hearing Comments (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[92] Ex. APP-11 at 2-1 (Application) (20238-198009-04).

Figure 1. General Project Area and Application Proposed Route



81. Segment 1 involves construction of new, approximately 140-mile long, double circuit 345 kV transmission line connecting the existing Iron Range Substation, a new Cuyuna Series Compensation Station, and the existing Benton County Substation. The Benton County Substation will be expanded, and the expansion will be referred to as the Cherry Park Substation.[93]

[93] Ex. APP-34 at 7-9 (Direct Testimony of and Schedules of Zach Golkowski) (eDocket No. 20247-208392-02); Applicants' September 19, 2024 Response to Public Hearing Comments (Sept. 19, 2024) (eDocket No. 20249-_____-__).

82. Segment 2 involves the replacement of two existing high-voltage transmission lines. The first transmission line replacement includes replacing approximately 20-mile 230 kV line with two 345 kV circuits from the Cherry Park Substation to the new Xcel Energy Big Oaks Substation. The second transmission line replacement includes replacing an existing, approximately 20-mile 345 kV line with a double-circuit capable 345 kV transmission structures from Cherry Park to Xcel Energy's existing Sherco Substation.[94]

83. The Project will also involve the expansion of the existing Iron Range Substation, located near Grand Rapids, and expansion of the existing Benton County Substation, located near St. Cloud (to be called the Cherry Park Substation), and rerouting existing transmission lines at the Iron Range and Benton County substations.[95]

IV. ROUTES EVALUATED FOR THE PROJECT

A. Route and Alignment Alternatives

84. The EA analyzed the route proposed by the Applicants in the Application as well as 25 route alternatives and 15 alignment alternatives that could be used for the Project. The EA divided the Project into eight regions, as described below.[96] Table 1 from DOC-EERA's Comments and Recommendations on the Scoping Process and Routing Alternatives inventoried the alternatives analyzed in the EA and the source of each alternative[97]. Additionally, the EA included the Swatara Route Width Expansion, the Moose River Alignment Alternative, and the Sherco Solar Substation Alignment, as proposed by the Applicants' in comments on the scope of the EA.[98] Finally, in response to comments received during public hearings, the Applicants developed the Elk River Alignment Alternative, which would allow for additional combining of existing transmission lines in the Benton County – Elk River Region.[99]

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[94] Ex. APP-35 at 2 (Direct Testimony of and Schedules of Brian Hunker) (eDocket No. 20247-208392-03); Applicants' September 19, 2024 Response to Public Hearing Comments (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[95] Ex. APP-11 at 2-2 (Application) (eDocket No. 20238-198009-04).

[96] Ex. EERA-9 at 18 (EA) (eDocket No. 20246-208129-04).

[97] Ex. EERA-5 (Comments and Recommendations on Scoping Process) (eDocket Nos. 20242-203365-02, 20242-203365-04, 20242-203365-06, 20242-203365-08, 20242-203365-10, 20242-203365-12, 20242-203365-14).

[98] DOC-EERA Response to Comments on the EA at Attachment A (Sept. 5, 2024) (eDocket No. 20249-210005-04).

[99] Applicants' Comments on the EA and Additional Information Requested at Public Hearings (Aug. 5, 2024) (eDocket No. 20248-209266-01).

1. Iron Range Substation Region

85. The Iron Range Substation region, located in Trout Lake and Blackberry Townships, Itasca County, is the northernmost region of the Project. This region includes the Iron Range Substation area, which is the northern endpoint of the Project. In addition to the Applicants' Proposed Route,[100] the EA evaluated four route alternatives (A1, A2, A3 and A4) and one alignment alternative (AA15) in this region.[101]

86. Route alternative A1 is 3.4 miles long and generally follows the Applicants' Proposed Route but shifts west away from state property and onto the Applicants' property at the northern end near the Iron Range Substation. Route alternative A1 then turns south and crosses County Road 10, ultimately crossing the Swan River at a previously-disturbed bridge location. Route alternative A1 does not include any transmission line right-of-way sharing, paralleling, or double-circuiting.[102] Route alternative A1 would result in greater potential impacts to residences, follow less existing high-voltage transmission lines, and create a more challenging crossing of County Road 10.[103]

87. Route alternative A2 route alternative is 3.4 miles long and generally follows the Applicants' Proposed Route but shifts west away from state property and onto the Applicants' property at the northern end near the Iron Range Substation. Route alternative A2 veers southward, intersecting County Road 10. The route then follows County Road 445 until it reaches a junction with a lengthy driveway bordering an agricultural field. At this point, it shifts westward, crossing the Swan River at a previously disturbed bridge site. Route alternative A2 does not include any transmission line right-of-way sharing, paralleling, or double-circuiting.[104] Route alternative A2 would result in greater potential impacts to residences, follow less existing high-voltage transmission lines, and create a more challenging crossing of County Road 10.[105]

88. Route alternative A3 is 1.4 miles long and diverges from the Applicants' Proposed Route just west of County Road 10. From that point, route alternative A3 continues west for 0.5 mile, then turns southwest after crossing County Road 434, where it continues for approximately 0.85 mile, crossing the Swan River at a previously disturbed

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[100] The Applicants' "Proposed Route" represents the route the Applicants' included in the Application. Additional route options proposed by the Applicants in comments filed November 21, 2023, were included in the EA as alternatives.

[101] Ex. EERA-9 at 20 (EA) (eDocket No. 20246-208129-04).

[102] Ex. EERA-9 at 20 (EA) (eDocket No. 20246-208129-04).

[103] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[104] Ex. EERA-9 at 20 (EA) (eDocket No. 20246-208129-04).

[105] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

bridge location. Route alternative A3 would cross an existing transmission line in two locations (once to cross over the existing transmission line and once to cross back). It does not include any transmission line right-of-way sharing, paralleling, or double-circuiting.[106] Route alternative A3 would result in greater potential impacts to residences, follow less existing high-voltage transmission lines, and increase the number of crossings of the existing 230 kV 92 Line.[107]

89. Route alternative A4 is 3.7 miles long and diverts from the Applicants' Proposed Route near County Road 10, where it turns south for approximately 1.75 miles and then turns west for approximately two miles.[108] Route alternative A4 does follow any existing high-voltage transmission lines and has the potential for greater potential impacts to residences.[109]

90. Alignment alternative AA15 would shift the Applicants' Proposed Route from private property onto Itasca County tax forfeited lands. The AA15 alignment alternative is 0.4 mile long and shifts the alignment to the west south of County Road 436. Alignment alternative AA15 would require crossing over existing transmission infrastructure and then crossing back. Alignment alternative AA15 would parallel an existing transmission line right-of-way for its entire length.[110] Alignment alternative AA15 would require two additional crossings of the existing 230 kV 92 Line to avoid a very narrow portion of the proposing landowner's property.[111]

2. Hill City to Little Pine Region

91. The Hill City to Little Pine region is in Aitkin, Cass, Crow Wing, and Itasca counties, and the EA included the Applicants' Proposed Route, two route alternatives (B and C), three alignment alternatives (AA1, AA2, and AA16), the Swatara Route Width Expansion, and the Moose River Alignment Alternative.[112]

92. Route alternative B is 26.4 miles long is intended to potentially reduce natural resource impacts. Route alternative B turns west 1.5 miles north of State Highway 200 and parallels an existing transmission line right-of-way for a majority of the route

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[106] Ex. EERA-9 at 20 (EA) (eDocket No. 20246-208129-04).

[107] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[108] Ex. EERA-9 at 22 (EA) (eDocket No. 20246-208129-06).

[109] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[110] Ex. EERA-9 at 22 (EA) (eDocket No. 20246-208129-06).

[111] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[112] Ex. EERA-9 at 22 (EA) (eDocket No. 20246-208129-06); DOC-EERA Response to Comments on the EA at Attachment A (Sept. 5, 2024) (eDocket No. 20249-210005-04).

length. Route alternative B continues southwest crossing the Hill River Ditch, Willow River, Moose River, and East Lake. A portion of route alternative B, in an area where it parallels an existing transmission line right-of-way, is adjacent to the Hill City/Quadna Mountain Airport.[113] Applicants' further analysis on restrictions in this area indicated that structure heights would be limited to 36-67 feet on this route as proposed. The Applicants were unable to identify structures that, at that height, could meet the conductor-to-ground clearances of 30-40 feet minimum during maximum sag.[114] While the EA assumed that route alternative B could be constructed on structures not to exceed 80 feet, additional analysis demonstrated that structure heights in this area could not exceed 67 feet, but may be limited to as little as 36 feet, and would still be subject to Federal Aviation Administration review. Limiting construction of the structures to this height would make it impracticable to maintain the necessary conductor-to-ground clearances. The Applicants have continued to maintain that route alternative B is not feasible as proposed. Further, the Swatara Route Width Expansion is intended to be responsive to the concerns raised by the landowners who spoke at the public hearings in favor of route alternative B.[115]

93. Route alternative C is 4.6 miles long and shifts west from the Applicants' route. Route alternative C generally follows existing roads and disturbed corridors. This route turns west from the Applicants' Proposed Route along Lens Road and then turns south to follow County Road 106 for 2.6 miles. Route alternative C would cross an existing transmission line in two locations (once to cross over the existing transmission line and once to cross back).[116] Additionally, Route alternative C adds unnecessary length to the Project, places the Project in closer proximity to residences, and deviates from following existing transmission line rights-of-way. Route alternative C was not supported by the affected landowners during the public hearings and written comment period.[117]

94. Alignment alternative AA1 is 1.6 miles long and shifts west of the Applicants' Proposed Route to avoid private property. This alternative crosses State 81. Alignment alternative AA1 does not include any transmission line right-of-way sharing, paralleling, or double-circuiting. It would cross an existing transmission line in two locations (once to cross over the existing transmission line and once to cross back). It would also require at least two heavy-angle structures to accommodate proposed 90-degree and angled turns.[118] The Applicants developed a modification to alignment alternative AA1 to avoid a planned building site on the property of the proposing landowner. The modified alignment

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[113] Ex. EERA-9 at 22 (EA) (eDocket No. 20246-208129-06).

[114] Applicants' Comments on the EA and Additional Information Requested at Public Hearings at Attachment 1 (Aug. 5, 2024) (eDocket No. 20248-209266-01).

[115] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[116] Ex. EERA-9 at 24 (EA) (eDocket No. 20246-208129-06).

[117] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[118] Ex. EERA-9 at 24 (EA) (eDocket No. 20246-208129-06).

alternative AA1 includes relocating both Minnesota Power's 92 Line and 11 Lines west, to allow for the Project to be located on the existing 92 Line right-of-way. The Applicants have incorporated this modified alignment alternative into the Modified Proposed Route and Co-location Maximization Route.[119] Modified alignment alternative AA1 would increase the mid-range cost of the Project by approximately $7.1 million.[120]

95. Alignment alternative AA2 is 0.6 mile long and shifts west of the Applicants' Proposed Route to avoid private property. Alignment alternative AA2 crosses State Highway 6 and follows the highway south for approximately 0.2 miles. Alignment alternative AA2 does not include any transmission line right-of-way sharing, paralleling, or double-circuiting. It would cross an existing transmission line in two locations (once to cross over the existing transmission line and once to cross back). It would also require at least two heavy-angle structures to accommodate proposed 90-degree and angled turns.[121] Alignment alternative AA2 would not be necessary given Applicants' incorporation of modified alignment alternative AA1 into the Modified Proposed Route and Co-location Maximization Route as modified alignment alternative AA1 is intended to be responsive to the concerns of the landowner proposing alignment alternative AA2.[122]

96. The Swatara Route Width Expansion increases the route width in the Swatara area of the Hill City to Little Pine Region to provide flexibility for an alignment to reduce potential impacts to residences. The Applicants developed an alignment in this area to increase the distance between the Project and two residences in this area. As part of this modified alignment, the Applicants also propose to remove the 92 Line from its existing location and relocate the 92 Line to be co-located with the Project. The Applicants have incorporated the Swatara Route Width Expansion and its associated alignment into the Modified Proposed Route and Co-location Maximization Route.[123] The

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[119] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[120] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[121] Ex. EERA-9 at 24 (EA) (eDocket No. 20246-208129-06).

[122] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[123] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

Swatara Route Width Expansion would increase the mid-range cost of the Project by approximately $5.3 million.[124]

97. The Moose River Alignment Alternative was developed to avoid a new crossing of the Moose River to respond to a request from the MnDNR. The alignment would place the project parallel to the existing 92 Line for the span across the Moose River and an adjoining unnamed stream, then deviate around the Enbridge Swatara Station on the south side of the Moose River. The Applicants have incorporated the Moose River Alignment Alternative into the Modified Proposed Route and the Co-location Maximization Route.[125] The Moose River Alignment Alternative would increase the mid-range cost of the Project by approximately $1.1 million.[126]

98. Alignment alternative AA16 would consolidate Minnesota Power's existing 92 Line (230 kV) and 11 Line (115 kV) on the same structures between Blackberry Township and Wildwood Township in Crow Wing County for approximately 11 miles to allow the Project to be constructed on the existing 92 Line right-of-way before rejoining the Modified Proposed Route. Alignment alternative AA16 is located west of the Applicants' Proposed Route.[127] The Applicants have incorporated alignment alternative AA16 into the Co-location Maximization Route.[128] Alignment alternative AA16 would increase the overall mid-range cost of the Project by approximately $41.9 million.[129]

3. Cole Lake-Riverton Region

99. The Cole Lake-Riverton region is located in the central portion of the Project in Crow Wing County. The Cole Lake-Riverton region contains the Applicants' Proposed Route, eight route alternatives (D3, E1, E2, E3, E4, E5, F, and G) and seven alignment alternatives (AA3, AA4, AA6, AA7, AA8, AA9, and AA10). The five route alternatives labeled E1 through E5 offer route alternatives around the town of Riverton.[130]

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[124] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[125] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[126] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[127] Ex. EERA-9 at 24 (EA) (eDocket No. 20246-208129-06).

[128] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[129] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[130] Ex. EERA-9 at 24 (EA) (eDocket No. 20246-208129-06).

100. Route alternative D3 is 3.3 miles long and is shifted east and south from the Applicants' Proposed Route in an effort to reduce potential impacts. Route alternative D3 diverges south from the Applicants' Proposed Route just south of County Road 11 and heads south for approximately 2 miles, and then turns west for 1.3 miles. Route alternative D3 does not include any right-of-way sharing, paralleling, or double-circuiting; however, it would cross one existing transmission line.[131] The Applicants had studied route alternative D3 prior to filing the Application and rejected this route alternative at that time as it would deviate from existing transmission line rights of way and cross through a former mining ghost town site.[132]

101. Alignment alternative AA3 would consolidate Minnesota Power's existing 11 Line (115 kV) and 92 Line (230 kV) on the same structures for approximately five miles in Wolford Township in Crow Wing County within the Modified Proposed Route width north of the proposed Cuyuna Series Compensation Station and enable placement of the Project on the right-of-way currently used by Minnesota Power's 92 Line in this area. [133] The Applicants have incorporated alignment alternative AA3 into the Co-location Maximization Route.[134] Alignment alternative AA3 would increase the mid-range cost of the Project by approximately $29.2 million.[135]

102. Alignment alternative AA4 is a shorter version of alignment alternative AA3. Alignment alternative AA4 would double-circuit two existing transmission lines so that the Project could be constructed within existing transmission line right-of-way. Alignment alternative AA4 is approximately 0.8 miles long.[136] Alignment alternative AA4 is not preferred by the Applicants as alignment alternative AA3 is a more comprehensive solution for this area to maximize co-location with existing high-voltage transmission lines.[137]

103. Alignment alternative AA6 is 1 mile long; it would divert from the Applicants' Proposed Route north of River Road and head due south along Cole Lake Way for approximately 0.7 miles, then turn due west for 0.3 mile. Alignment alternative AA6 does

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[131] Ex. EERA-9 at 26 (EA) (eDocket No. 20246-208129-06).

[132] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[133] Ex. EERA-9 at 26 (EA) (eDocket No. 20246-208129-06); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[134] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[135] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[136] Ex. EERA-9 at 26 (EA) (eDocket No. 20246-208129-06).

[137] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

not include any right-of-way sharing, paralleling, or double-circuiting; however, it would cross one existing transmission line.[138] Alignment alternative would locate the Project closer to residences than other route and alignment options in this area.[139]

104. Route alternative E1 is approximately 7.2 miles in length and would deviate from the Modified Proposed Route starting at the Cuyuna Series Compensation Station and would replace Minnesota Power's existing 92 Line (230 kV) with the Project's new double circuit 345 kV line for approximately 1.5 miles until it crosses Little Rabbit Lake. The 92 Line would be relocated and consolidated with an existing 115 kV line in a nearby existing corridor. Following the Little Rabbit Lake crossing, the Project would then replace the existing Great River Energy Riverton – Blind Lake 69 kV Line ("RV Line") through the Cuyuna Country State Recreation Area for approximately 0.6 miles. The RV Line would be relocated and consolidated with an existing 115 kV line in a nearby corridor. South of Minnesota Power's existing Riverton 230/115 kV Substation, the Project would replace the Great River Energy Riverton - Wilson Lake 69 kV Line (RW Line) as it parallels the east side of the existing Great River Energy MR (230 kV) Line for approximately 1.2 miles. The RW Line would be relocated and consolidated with the existing MR (230 kV) Line in the same corridor. At the Highway 210 crossing, the entire corridor including the Project, the consolidated 230 kV and 69 kV lines, the 115 kV line, and an existing 34.5 kV distribution feeder, would be relocated to an alignment that balances impacts to homes on both sides of the highway. Approximately 1.4 miles south of Highway 210, the entire corridor would again be shifted to the west to limit impacts to homes along Nelson Road. In this part of the corridor, the Project would take over the centerline of the existing 230 kV line, with the consolidated 230 kV and 69 kV lines and the 115 kV line relocated to the west in the right-of-way. The Project would continue on this alignment for 1.4 miles until it rejoins the proposed alignment at Woodrow Road. This route alternative would primarily utilize existing transmission right-of-way, however additional limited right-of-way will be needed. The existing Riverton 230 kV/115 kV Substation would also need to be expanded to accommodate additional 115 kV and 34.5 kV equipment that is necessary to enable retirement of the existing Riverton 115 kV/34.5 kV Distribution Substation, which would need to be removed to facilitate relocation of existing transmission lines as described above to make room for the Project. In total, Route Alternative E1 would introduce ten additional 230 kV, 115 kV, and 69 kV line segments, four additional 34.5 kV distribution feeders, and two substations to the overall scope of the Project. Route alternative E1 was developed by the Applicants in response to the Commission's direction to the Applicants to further examine route alternatives that would consolidate the Project with existing transmission lines. The Applicants have stated that E1 is a constructable route, albeit more expensive than the corresponding segment of the Proposed Route.[140] [141] The Applicants have incorporated route alternative E1 into the Co-location Maximization

[138] Ex. EERA-9 at 26 (EA) (eDocket No. 20246-208129-06).

[139] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[140] Ex. APP-29 (Applicants' EA Scoping Comments) (eDocket No. 202311-200670-01)

[141] Ex. EERA-9 at 26 (EA) (eDocket No. 20246-208129-06).

Route.[142] Route alternative E1 would increase the mid-range cost of the Project by approximately $81.1 million.[143]

105. Route alternative E2 is 4.4 miles long and diverts from the Applicants' Proposed Route just south of State Highway 210 where it heads southwest for 1.75 miles before turning due south for 2.6 miles. Where the line turns and heads south, route alternative E2 would share existing transmission line right-of-way for approximately 2.6 miles.[144] This alternative creates additional and unnecessary diagonal property crossing length, potentially impacts a communications tower, and has additional residential impacts while not fully addressing the concerns presented by the public in this area given the number of wetlands and WMAs crossed by this route alternative.[145]

106. Route alternative E3 is a shorter version of route alternative E1**,** but does not maximize co-location with the existing transmission line corridor south of Highway 210. It is 5.2 miles long. North of Bluegill Road, route alternative E3 heads southwest for approximately 4.2 miles, generally following route alternative E1. However, just south of State Highway 210, route alternative E3 would break away from route alternative E1 and turn southeast for 1 mile.[146] The Modified Proposed Route and the Co-location Maximization Route provide more comprehensive routing alternatives through this area.[147]

107. Route alternative E4 is 11 miles long. Approximately 1 mile north of Miller Lake Road route alternative E4 heads southwest of the Applicants' Proposed Route and west of the town of Riverton, where it begins a route edging west around Hay Lake, with two Mississippi River crossings. Route alternative E4 then heads due south for approximately 4.5 miles. Route alternative E4 would share existing transmission line right-of-way for approximately 8 of its 11 miles. Route alternative E4 would cross six existing transmission lines and would require at least two additional heavy-angle structures to accommodate 90-degree and angled turns along the route.[148] In addition to requiring two crossings of the Mississippi River, route alternative E4 would require placement of the Project in close proximity to residences (including three residences within 0-75 feet). Further, the proposed alignment for route alternative E4 crosses directly over the existing

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[142] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[143] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[144] Ex. EERA-9 at 27 (EA) (eDocket No. 20246-208129-06).

[145] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[146] Ex. EERA-9 at 27 (EA) (eDocket No. 20246-208129-06).

[147] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[148] Ex. EERA-9 at 27-28 (EA) (eDocket No. 20246-208129-06).

Riverton Substation. Existing features around the substation prevent routing around the substation within the route widths evaluated in the EA. .[149] The Modified Proposed Route and the Co-location Maximization Route provide feasible and comprehensive routing alternatives through this area.[150]

108. Route alternative E5 is 8.1 miles long, and was proposed as a shorter alternative to route alternative E4. It would share existing transmission line right-of-way for approximately 6.3 miles and would also cross the Mississippi River two times. Route alternative E5 would cross six existing transmission lines and would require at least two additional heavy-angle structures to accommodate 90-degree and angled turns along the route.[151] In addition to requiring two crossings of the Mississippi River, route alternative E4 would require placement of the Project in close proximity to residences (including three residences within 0-75 feet). Further, the proposed alignment for route alternative E5 crosses directly over the existing Riverton substation. Existing features around the substation prevent routing around the substation within the route widths evaluated in the EA.[152] The Modified Proposed Route and the Co-location Maximization Route provide more reasonable routing alternatives through this area.[153]

109. Route alternative F is 2.4 miles long . Route alternative F diverts from the Applicants' Proposed Route 0.25 mile south of Woodrow Road and continues traveling south for approximately 2.5 miles before rejoining the Applicants' Proposed Route just north of State Highway 18. Route alternative F would parallel existing transmission line right-of-way for approximately 1.5 miles.[154] The Applicants' incorporation of alignment alternatives AA9 and AA10 into the Modified Proposed Route and route alternative E1 into the Co-location Maximization Route follow more existing high-voltage transmission line rights-of-way than route alternative F.[155]

110. Route alternative G is 3.5 miles long and was proposed to avoid impacts to residential areas. Route alternative G would divert from the Applicants' Proposed Route

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[149] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment E (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[150] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[151] Ex. EERA-9 at 28 (EA) (eDocket No. 20246-208129-06).

[152] Applicants' Comments on the EA and Additional Information Requested at Public Hearings at 6 (Aug. 5, 2024) (eDocket No. 20248-209266-01).; Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment E (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[153] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[154] Ex. EERA-9 at 28 (EA) (eDocket No. 20246-208129-06).

[155] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

approximately 0.35 mile north of State Highway 18 and continue south for approximately 1.75 miles. From there, it would turn due east for approximately 1.15 miles and turn north for approximately 0.75 mile to west of Burgwald Road. Route alternative G would parallel existing transmission line right-of-way for approximately 1.7 miles and would require at least one heavy angle structure to accommodate a 90-degree turn along the route.[156] The Applicants reviewed the comments and additional configurations provided during the public hearings and identified a modified alternative in this area that would be feasible with equivalent potential impacts. However, the landowners who would be affected by these modifications are not in agreement with the modified alternative and the Applicants have not incorporated Modified Route Alternative G into the Modified Proposed Route at this time.[157]

111. Alignment alternative AA7 is 0.3 mile in length and diverts from the Applicants' Proposed Route 0.7 mile north of Bluegill Road. Alignment alternative AA7 straightens out the proposed transmission line right-of-way in this area. Alignment alternative AA7 does not include any transmission line right-of-way sharing, paralleling, or double-circuiting.[158] Given the need to identify a final alignment in the area of the Cuyuna Series Compensation Station within the Project route width, incorporation of alignment alternative AA7 into the Modified Proposed Route or the Co-location Maximization Route is unnecessary.[159]

112. Alignment alternative AA8 is 1.5 miles long and diverts from the Applicants' Proposed Route where it crosses County Road 128. Alignment alternative AA8 heads southwest along the east side of County Road 128 and then follows the east side of County Road 59 due south around the Cuyuna Recreational Area to just south of State Highway 210. Alignment alternative AA8 does not include any transmission line right-of-way sharing, paralleling, or double-circuiting.[160] This alignment alternative is unnecessary given its proximity to a residence (within approximately 100 feet) and the incorporation of alignment alternative AA9 into the Modified Proposed Route and route alternative E1 into the Co-location Maximization Route.[161]

113. Alignment alternative AA9 is 1.6 miles long and diverts from the Applicants' route where it crosses County Road 128. Alignment alternative AA9 routes around the Cuyuna Recreation Area by heading southwest along the east side of County Road 128

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[156] Ex. EERA-9 at 28 (EA) (eDocket No. 20246-208129-06).

[157] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[158] Ex. EERA-9 at 28 (EA) (eDocket No. 20246-208129-06).

[159] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[160] Ex. EERA-9 at 28 (EA) (eDocket No. 20246-208129-06).

[161] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

for approximately 0.5 mile before following the west side of County Road 59 due south for approximately 1.1 miles to the south of State Highway 210. Alignment alternatives AA8 and AA9 present similar proposals; however, alignment alternative AA9 would overtake an existing 34.5 kV sub-transmission line.[162] Alignment alternative AA9 was developed to avoid following the western bank of Hay Lake. The State lands that are crossed by this alignment alternative are not federally-funded and are managed as the Cuyuna County Recreational Area. The Applicants have incorporated alignment alternative AA9 into the Modified Proposed Route.[163] Alignment alternative AA9 would increase the mid-range cost of the Project by approximately $0.1 million.[164]

114. Alignment alternative AA10 runs from approximately 0.1 mile north of Woodrow Road for 0.75 mile, then turns due south for 0.25 mile. Alignment alternative AA10 would share an existing transmission line right-of-way for approximately 0.25 mile.[165] During the route permit proceeding, the Applicants learned of a home located in closer proximity to the centerline proposed in this area of the Applicants' Proposed Route than previously identified. The Applicants have incorporated alignment alternative AA10 into the Modified Proposed Route.[166] Alignment alternative AA10 is not anticipated to increase the cost of the Project.[167]

4. Long Lake Region

115. The Long Lake region is located in the central portion of the Project, south of the Riverton region. The Long Lake region contains the Applicants' Proposed Route, eight route alternatives (H1, H2, H3, H4, H5, H6, H7, and K), and four alignment alternatives (AA12, AA13, AA14, and AA17).[168]

116. Route alternative H1 is 6 miles long and diverts eastward of the Applicants' Proposed Route just north of County Road 24 and heads south for 2 miles around an Aquatic Management Area (AMA). Route alternative H1 then turns southwest for just under 2 miles before turning due south for 1.8 miles where it would parallel an existing

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[162] Ex. EERA-9 at 28-29 (EA) (eDocket No. 20246-208129-06).

[163] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__). Alignment alternative AA9 is not necessary for the Co-location Maximization Route.

[164] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[165] Ex. EERA-9 at 29 (EA) (eDocket No. 20246-208129-06).

[166] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__). Alignment alternative AA10 is not necessary for the Co-location Maximization Route.

[167] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[168] Ex. EERA-9 at 29 (EA) (eDocket No. 20246-208129-06).

transmission line right-of-way to south of County Road 22.[169] In this area of the Project, the Applicants developed a modification of route alternatives H4 and H7 to address many of the comments received from landowners in this area to increase distances between the Project and residences, minimize use of privately-owned lands, and make the greatest use of tax forfeited lands. The Applicants have incorporated modified route alternative H4 and H7 into the Modified Proposed Route and Co-location Maximization Route. Modified route alternative H4 and H7 provides a more reasonable route for the Project that conforms to the state routing criteria than route alternative H1.[170]

117. Route alternative H2 is 8.2 miles long and routes around an AMA. South of County Road 24 this route alternative heads south for approximately 1.25 miles before turning due south along County Road 8 for 1.75 miles. From there, route alternative H2 continues south along County Road 108 to County Road 22. Route alternative H2 then turns due west along County Road 22 for approximately 2.75 miles before turning south and paralleling an existing transmission line right-of-way where it proceeds for 0.5. Route alternative H2 would require at least one heavy angle structure to accommodate a 90-degree turn in the route.[171] In this area of the Project, the Applicants developed a modification of route alternatives H4 and H7 to address many of the comments received from landowners in this area to increase distances between the Project and residences, minimize use of privately-owned lands, and make the greatest use of tax forfeited lands. The Applicants have incorporated modified route alternative H4 and H7 into the Modified Proposed Route and Co-location Maximization Route. Modified route alternative H4 and H7 provides a more reasonable route for the Project that conforms to the state routing criteria than route alternative H2.[172]

118. Route alternative H3 is 2.6 miles long and was proposed to avoid private land enrolled in a state program. Route alternative H3 heads southeast from approximately 0.75 mile north of Crust Road for 0.8 mile before turning southwest for 1.75 miles. Route alternative H3 does not include any transmission line right-of-way sharing, paralleling, or double-circuiting. It would also require at least one heavy angle structure to accommodate an angled turn in the route.[173] In this area of the Project, the Applicants developed a modification of route alternatives H4 and H7 to address many of the comments received from landowners in this area to increase distances between the Project and residences, minimize use of privately-owned lands, and make the greatest use of tax forfeited lands. The Applicants have incorporated modified route alternative H4 and H7 into the Modified Proposed Route and Co-location Maximization Route. Modified

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[169] Ex. EERA-9 at 31 (EA) (eDocket No. 20246-208129-06).

[170] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[171] Ex. EERA-9 at 31 (EA) (eDocket No. 20246-208129-06).

[172] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[173] Ex. EERA-9 at 31 (EA) (eDocket No. 20246-208129-06).

route alternative H4 and H7 provides a more reasonable route for the Project that conforms to the state routing criteria than route alternative H3.[174]

119. Route alternative H4 is 2.1 miles long and was proposed to avoid private land by rerouting through tax-forfeited land. Route alternative H4 would head southwest from approximately 0.75 mile north of County Road 22 for 2 miles. Route alternative H4 does not include any transmission line right-of-way sharing, paralleling, or double-circuiting. It would also require at least one heavy angle structure to accommodate an angled turn in the route.[175] In this area of the Project, the Applicants developed a modification of route alternatives H4 and H7 to address many of the comments received from landowners in this area to increase distances between the Project and residences, minimize use of privately-owned lands, and make the greatest use of tax forfeited lands. The Applicants have incorporated modified route alternative H4 and H7 into the Modified Proposed Route and Co-location Maximization Route. Modified route alternative H4 and H7 provides a more reasonable route for the Project that conforms to the state routing criteria than route alternative H4.[176]

120. Route alternative H5 is 2.4 miles long and was proposed to avoid private property and certain natural resources. This route turns west from approximately 0.75 mile north of County Road 22 for 0.5 mile and then due south for 0.75 mile. It then runs west along County Road 22 for 0.5 mile before heading southwest for 0.75 mile. Route alternative H5 does not include any transmission line right-of-way sharing, paralleling, or double-circuiting. It would also require at least four heavy-angle structures to accommodate 90-degree and angled turns in the route.[177] In this area of the Project, the Applicants developed a modification of route alternatives H4 and H7 to address many of the comments received from landowners in this area to increase distances between the Project and residences, minimize use of privately-owned lands, and make the greatest use of tax forfeited lands. The Applicants have incorporated modified route alternative H4 and H7 into the Modified Proposed Route and Co-location Maximization Route. Modified route alternative H4 and H7 provides a more reasonable route for the Project that conforms to the state routing criteria than route alternative H5.[178]

121. Route alternative H6 is 1.7 miles long and was proposed to cross less private property and natural resources. Route alternative H6 crosses County Road 22 and heads due west along the road for 1 mile before it progresses southwest for 0.75 mile. Route alternative H6 does not include any transmission line right-of-way sharing,

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[174] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[175] Ex. EERA-9 at 31 (EA) (eDocket No. 20246-208129-06).

[176] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[177] Ex. EERA-9 at 31-32 (EA) (eDocket No. 20246-208129-06).

[178] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

paralleling, or double-circuiting. It would also require at least three heavy-angle structures to accommodate angled turns in the route.[179] In this area of the Project, the Applicants developed a modification of route alternatives H4 and H7 to address many of the comments received from landowners in this area to increase distances between the Project and residences, minimize use of privately-owned lands, and make the greatest use of tax forfeited lands. The Applicants have incorporated modified route alternative H4 and H7 into the Modified Proposed Route and Co-location Maximization Route. Modified route alternative H4 and H7 provides a more reasonable route for the Project that conforms to the state routing criteria than route alternative H6.[180]

122. Route alternative H7 is 2 miles long and was proposed to avoid private property and certain natural resources. This route alternative begins approximately 0.5 mile south of the County Road 22 crossing. Route alternative H7 turns southwest for 0.6 mile before heading due west for 1.4 miles. Route alternative H7 does not include any transmission line right-of-way sharing or paralleling, or double-circuiting. It would also require at least one heavy angle structure to accommodate an angled turn in the route.[181] In this area of the Project, the Applicants developed a modification of route alternatives H4 and H7 to address many of the comments received from landowners in this area to increase distances between the Project and residences, minimize use of privately-owned lands, and make the greatest use of tax forfeited lands. The Applicants have incorporated modified route alternative H4 and H7 into the Modified Proposed Route and Co-location Maximization Route. Modified route alternative H4 and H7 provides a more reasonable route for the Project that conforms to the state routing criteria than route alternative H7.[182]

123. Modified route alternative H4 and H7 is approximately 2.9 miles in length and was developed by the Applicants in response to comments received during the public hearings and public hearing comment period. This route alternative maximizes the use of properties owned by Crow Wing County and has been discussed with the county and landowners in this area with no significant concerns raised to date. The Applicants request a route width of approximately 2,000 feet to allow for flexibility in placement of the to allow use of property lines along privately-owned parcels and selective placement on properties in this area through cooperation with the private landowners and the county.[183] Modified route alternative H4 and H7 would decrease the mid-range cost of the Project by approximately $2.0 million.

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[179] Ex. EERA-9 at 32 (EA) (eDocket No. 20246-208129-06).

[180] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[181] Ex. EERA-9 at 32 (EA) (eDocket No. 20246-208129-06).

[182] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[183] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__).

124. Route alternative K is 6.8 miles long and generally runs west of the Applicants' Proposed Route. Route alternative K runs south from approximately 0.25 miles north of State Highway 18 for 3.5 miles before turning southeast for 1.4 miles. Route alternative K then progresses due south for 1.9 miles. Route alternative K would share existing transmission line right-of-way for its entire length, including where the line would cross between South Long Lake and North Long Lake.[184] Route alternative K was previously considered by the Applicants prior to filing the Application and rejected at that time. Route alternative K has the high possibility of displacing two residences and would be located in close proximity to an existing resort. Additionally, there are approximately double the number of residences within 500 to 1,000 feet of route alternative K when compared to the same proximity of the Modified Proposed Route.[185]

125. Alignment alternative AA12 is 1.1 miles long and was proposed to avoid private property. Alignment alternative AA12 is located near where the line crosses County Road 22. Alignment alternative AA12 does not include any transmission line right-of-way sharing, paralleling, or double-circuiting. It would also require at least two heavy-angle structures to accommodate an angled turn in the route.[186] In this area of the Project, the Applicants developed a modification of route alternative H4 and H7 to address many of the comments received from landowners in this area to increase distances between the Project and residences, minimize use of privately-owned lands, and make the greatest use of tax forfeited lands.[187]

126. Alignment alternative AA13 is 1.9 miles long and was proposed to avoid private property and certain natural resources. Alignment alternative AA13 begins 0.5 mile south of County Road 22 and progresses southwest before heading due west for approximately 1.5 miles. Alignment alternative AA13 does not include any transmission line right-of-way sharing, paralleling, or double-circuiting. It would also require at least one heavy-angle structures to accommodate an angled turn in the route and cross one existing transmission line.[188] In this area of the Project, the Applicants developed a modification of route alternatives H4 and H7 to address many of the comments received from landowners in this area to increase distances between the Project and residences, minimize use of privately-owned lands, and make the greatest use of tax forfeited lands.[189]

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[184] Ex. EERA-9 at 32 (EA) (eDocket No. 20246-208129-06).

[185] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[186] Ex. EERA-9 at 32 (EA) (eDocket No. 20246-208129-06).

[187] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[188] Ex. EERA-9 at 32 (EA) (eDocket No. 20246-208129-06).

[189] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

127. Alignment alternative AA14 is 0.6 mile long and diverts from the Applicants' proposed alignment 0.35 mile south of County Road 24, where it progresses due south for 0.25 mile then turns southeast for 0.4 mile before rejoining the Applicants' proposed alignment south of Schilling Road. Alignment alternative AA14 does not include any transmission line right-of-way sharing, paralleling, or double-circuiting.[190] Alignment alternative AA14 would result in additional impacts to the Wolvert AMA.[191]

128. Alignment alternative AA17 is 0.3 mile long and located where the Applicants' Proposed Route crosses County Road 2. Alignment alternative AA17 is west of the Applicants' proposed alignment. Alignment alternative AA17 does not include any transmission line right-of-way sharing or paralleling, or double-circuiting. It would also require at least two heavy-angle structures to accommodate angled turns in the route. Alignment alternative AA17 would also cross an existing transmission line in two locations (once to cross over the existing transmission line and once to cross back).[192] The Applicants developed a modified alignment alternative AA17 to increase distance from a residence located south of County Road 2 and west of Great River Energy's existing MR 230 kV transmission line. This modified alignment alternative would require relocation of the existing Great River Energy MR 230 kV transmission line onto new right-of-way to allow the Project to be constructed on the existing MR Line right-of-way.[193] Modified alignment alternative AA17 would increase the mid-range cost of the Project by approximately $1.2 million.[194]

5. Morrison County Region

129. The Morrison County region is located in the south-central portion of the Project. This region crosses through Crow Wing, Morrison, and Benton County. This region contains the Applicants' Proposed Route. It includes no route or alignment alternatives.[195]

6. Benton County Elk River Region

130. The Benton County Elk River region is in the southern part of the Project and contains the Benton County Substation at its the southern end. The Benton County Elk River region contains the Applicants' Proposed Route, and three route alternatives

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[190] Ex. EERA-9 at 33 (EA) (eDocket No. 20246-208129-06).

[191] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[192] Ex. EERA-9 at 33 (EA) (eDocket No. 20246-208129-06).

[193] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[194] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[195] Ex. EERA-9 at 33 (EA) (eDocket No. 20246-208129-06).

(J1, J2, J3). The J route alternatives have a route width of 0.5 mile to provide flexibility in identifying the optimal alignment through this area.[196]

131. The Applicants' Proposed Route moves generally south throughout the Benton County Elk River region, paralleling the MR Line starting near 75th Street Northeast and ending at the Benton County Substation. This portion of the route is approximately 5 miles in length, crossing roads, agricultural fields, forested areas, and rivers. Although the Applicants' Proposed Route parallels existing transmission lines, this route generally follows the Elk River. Due to the meandering nature of the Elk River, the Applicants' Proposed Route would have multiple river crossings in addition to portions of the right-of-way being located in the river's 100-year floodplain.[197]

132. Route alternative J1 is 5.1 miles long and diverts from the Applicants' Proposed Route along 75th Street NE. Route alternative J1 heads west for 0.5 mile along 75th Street NE then turns due south along the west side of 55th Ave NE and then follows Golden Spike Road NE for 3.5 miles. Route alternative J1 then turns southeast for 1 mile along 55th Avenue NE and 35th Street NE before rejoining the Applicants' Proposed Route. Route alternative J1 does not include any transmission line right-of-way sharing or paralleling, or double-circuiting but it was designed to parallel existing transportation rights-of-way. It would also require at least six heavy-angle structures to accommodate angled turns in the route.[198] Route alternative J1 would require more new rights-of-way for the Project and result in greater impacts to agricultural lands. The J route alternatives would require additional coordination with landowners on center-pivot irrigation systems.[199]

Route alternative J2 is 8.4 miles long and diverts from the Applicants' Proposed Route along 75th Street NE. Route alternative J2 heads west for 0.5 mile along 75th Street NE then turns due south along the west side of 55th Avenue NE where it follows Golden Spike Road NE, 52nd Avenue NE, and 55th Avenue NE for approximately 7.5 miles before turning east for 0.5 mile to the Benton County Substation. This last 0.5-mile of the route alternative would parallel existing transmission line right-of-way; however, the remaining 7.9 miles of the route alternative does not include transmission line right-of-way sharing or paralleling, or double-circuiting. Route alternative J2 would also require at least six heavy-angle structures to accommodate angled turns along the route.[200] Route alternative J2 would require more new rights-of-way for the Project and result in greater

[196] Ex. EERA-9 at 35 (EA) (eDocket No. 20246-208129-06).

[197] Ex. EERA-9 at 35 (EA) (eDocket No. 20246-208129-06).

[198] Ex. EERA-9 at 37 (EA) (eDocket No. 20246-208129-06).

[199] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[200] Ex. EERA-9 at 37 (EA) (eDocket No. 20246-208129-06).

impacts to agricultural lands. The J route alternatives would require additional coordination with landowners on center-pivot irrigation systems.[201]

133. Route alternative J3 is 2.7 miles long and diverts from the Applicants' Proposed Route where it crosses Highway 23 NE. This route alternative heads southwest for approximately 0.75 mile before turning due south along 55th Avenue NE for approximately 1.4 miles where it then turns east for 0.5 mile to the Benton County Substation. Route alternative J3 would parallel an existing transportation right-of-way for the first 0.75-mile and would parallel existing transmission line right-of-way for the last 0.5-mile of the proposed route. Route alternative J3 would also require at least four heavy-angle structures to accommodate angled turns along the route.[202] Route alternative J3 would require more new rights-of-way for the Project and result in greater impacts to agricultural lands. The J route alternatives would require additional coordination with landowners on center-pivot irrigation systems.[203]

134. The Elk River Alignment Alternative would rebuild approximately 5.1 miles of existing MR Line (230 kV) and existing BP Line (69 kV) on common structures. From 2.3 miles north of the Benton County Substation, the Elk River Alignment Alternative would combine the existing MR Line (230 kV) and BP Line (69 kV) to the north for approximately 5 miles with new double-circuit 230 kV/69 kV. The Project would be constructed adjacent, to the west, of the new double-circuit 230 kV/69 kV line. At approximately 5.1 miles north of the Benton County Substation in Section 2 of Minden Township, Benton County, the Project alignment would be located west of Great River Energy's existing MR Line and BP Line. At the crossing of Golden Spike Road, the Elk River Alignment Alternative would shift to the east of the existing MR Line and BP Line centerlines to avoid impacting a residence just west of the existing lines and to minimize impacts to the Elk River. The Elk River Alignment Alternative would then continue north for approximately two miles, overtaking the existing MR Line and BP Line right-of-way with the 230 kV/69 kV double-circuit until the BP Line leaves the MR Line corridor at approximately 75th Street NE. This co-location would require 80 to 90 feet of additional right-of-way.[204] The Applicants incorporated the Elk River Alignment Alternative into the

[201] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[202] Ex. EERA-9 at 37 (EA) (eDocket No. 20246-208129-06).

[203] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[204] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

Co-location Maximization Route.[205] The Elk River Alignment Alternative would increase the overall mid-range cost of the Project by approximately $21.6 million.[206]

135. The Sherco Solar Alignment Alternative is an alignment alternative proposed by the Applicants in their November 21, 2023 scoping comments. The Applicants worked with Xcel Energy to develop this alignment alternative near the Project's interconnection with the Big Oaks Substation. The Sherco Solar Alignment Alternative changes the alignment to route east and south of Xcel Energy's Sherco Solar Substation, near the Big Oaks Substation. This alignment alleviates congestion near Xcel Energy's Sherco Solar Substation by removing a tall span of Xcel Energy's potential double-circuit 345 kV transmission line from Sherco Substation to Sherco Solar Substation.[207] The Applicants incorporated the Sherco Solar Alignment Alternative into the Modified Proposed Route and the Co-location Maximization Route.[208] The Sherco Solar Alignment Alternative would decrease the overall cost of the Project by approximately $0.6 million.[209]

7. Sherburne County Region

136. The Sherburne County region is the southernmost region of the Project. The majority of the region is contained within Sherburne County, but small portions also occur in Wright and Stearns Counties. This region starts at the Benton County Substation and ends south of Xcel Energy's new Big Oaks Substation. The Sherburne County Region includes two existing transmission lines owned by the Applicants, and work occurring in this region would consist mainly of rebuilds/upgrades to these two lines. This region includes no route or alignment alternatives. The Applicants' Proposed Route follows, and would replace, existing transmission lines, except for approximately 1.5 miles of proposed new transmission line that would connect to the future Big Oaks Substation. The 1.5 miles of new transmission line would parallel an existing road.[210].

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[205] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[206] Applicants' September 19, 2024 Response to Public Hearing Comments at Appendix 1 to Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[207] Ex. APP-35 at 4 (Hunker Direct) (eDocket No. 20247-208392-03).

[208] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[209] Applicants' September 19, 2024 Response to Public Hearing Comments at Appendix 1 to Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[210] Ex. EERA-9 at 37 (EA) (eDocket No. 20246-208129-06).

B. Full Route Options

137. The full route options identified in the EA were compiled by selecting routing alternatives or alignment alternatives within each region that could be feasibly connected to one another to create a full transmission line route between the existing Iron Range Substation, a new Cuyuna Series Compensation Substation, the existing Benton County Substation, the existing Sherco Substation, and the new Big Oaks Substation. The EA analyzed seven full route options against each other to provide the opportunity to understand what impacts might look like if one of these full routes, or a similar route, were chosen for the Project.[211]

138. The Applicants' Proposed Route is the route proposed by the Applicants in the Application.

139. The Applicants' Proposed Route with Modifications includes modifications proposed by the Applicants in response to public comments and includes routing alternatives that would further consolidate the proposed new double-circuit 345 kV transmission line with existing transmission lines, particularly in the Cole Lake-Riverton Region. This route includes alignment alternative AA3 and route alternative E1.[212]

140. Example Route Option 1. This route includes portions of the Applicants' Proposed Route, including some modifications proposed by the Applicants and routing alternatives proposed during the EA scoping comment period. This route includes route alternatives B, E1, H1 and alignment alternatives AA3 and AA16. [213]

141. Example Route Option 2. Similar to Example Route Option 1, this route includes portions of the Applicants' Proposed Route, including some modifications proposed by the Applicants and routing alternatives proposed during the EA scoping comment period. This route includes route alternatives A2, B, C, E1, H1, and J1 and alignment alternatives AA3 and AA16.[214]

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[211] Ex. EERA-9, Section 7.1-7.2 (EA) (eDocket No. 20246-208129-06); DOC-EERA Response to Comments on the EA at 6, Attachment A (Sept. 5, 2024) (eDocket Nos. 20249-210005-02, 20249-210005-04).

[212] DOC-EERA Response to Comments on the EA at 6, Attachment A (Sept. 5, 2024) (eDocket Nos. 20249-210005-02, 20249-210005-04).

[213] DOC-EERA Response to Comments on the EA, Attachment A (Sept. 5, 2024) (eDocket No. 20249-210005-04).

[214] DOC-EERA Response to Comments on the EA, Attachment A (Sept. 5, 2024) (eDocket No. 20249-210005-04).

142. Example Route Option 3 includes modifications proposed by the Applicants in response to public comments. This route includes alignment alternatives AA3 and AA9.[215]

143. Example Route Option 4 includes portions of the Applicants' Proposed Route, including some modifications proposed by the Applicants, and routing alternatives proposed during the EA scoping comment period. This route includes route alternatives A2, B, C, E1, K, and J2 and alignment alternatives AA3 and AA16 and AA3.[216]

144. Example Route Option 5 includes portions of the Applicants' Proposed Route, including some modifications proposed by the Applicants, and routing alternatives proposed during the EA scoping comment period. This route includes route alternatives A2, B, C, E1, H1, J1 and J3, and alignment alternatives AA3 and AA16.[217]

145. In its September 5, 2024 comments and attachments, DOC-EERA identified three additional example route options (Example Route Option 3, Example Route Option 4, and Example Route Option 5, described above) to provide further examples of route options that could be assembled for the Project. Each of DOC-EERA's five example route options is composed of route alternatives and alignment alternatives studied in the EA.[218]

146. In their September 19, 2024 Response to Public Hearing Comments, Applicants identified their Modified Proposed Route, which Applicants stated was developed by incorporating route/alignment alternatives and public hearing comments into the Proposed Route. Also in those comments, Applicants identified the Co-location

[215] DOC-EERA Response to Comments on the EA, Attachment A (Sept. 5, 2024) (eDocket No. 20249-210005-04).

[216] DOC-EERA Response to Comments on the EA, Attachment A (Sept. 5, 2024) (eDocket No. 20249-210005-04).

[217] DOC-EERA Response to Comments on the EA, Attachment A (Sept. 5, 2024) (eDocket No. 20249-210005-04).

[218] DOC-EERA Response to Comments on the EA (Sept. 5, 2024) (eDocket No. 20249-210005-02); DOC-EERA Response to Comments on the EA, Attachment A (Sept. 5, 2024) (eDocket No. 20249-210005-04); DOC-EERA Response to Comments on the EA, Attachment A2 (eDocket No. 20249-210005-06); DOC-EERA Response to Comments on the EA, Attachment A3 (eDocket No. 20249-210005-08); DOC-EERA Response to Comments on the EA, Attachment B (eDocket No. 20249-210005-10); DOC-EERA Response to Comments on the EA, Attachment C (eDocket No. 20249-210005-12); DOC-EERA Response to Comments on the EA, Attachment C2 (eDocket No. 20249-210005-14).

Maximization Route, which is a route that maximizes consolidation of existing infrastructure.[219]

147. The Modified Proposed Route incorporates the Swatara Route Width Expansion, the Moose River Alignment Alternative, modified alignment alternative AA1, alignment alternative AA9, alignment alternative AA10, modified route alternative H4 and H7, modified alignment alternative AA17, and the Sherco Solar Substation Alignment into the route originally proposed by the Applicants in the Application.[220]

148. The Co-location Maximization Route incorporates alignment alternative AA16, the Swatara Route Width Expansion, the Moose River Alignment Alternative, modified alignment alternative AA1, alignment alternative AA3, route alternative E1, modified route alternative H4 and H7, modified alignment alternative AA17, the Elk River Alignment Alternative, and the Sherco Solar Substation Alignment into the route originally proposed by the Applicants in the Application.[221]

C. Transmission Line Structures and Conductor Design

149. The double-circuit, 345 kV structures will be tubular steel, self-weathering, monopole structures with V-string insulators. The benefits to this structure design include a reduced footprint due to the monopole and reducing right-of-way needs by vertically orienting the two circuits using V-string insulators to limit conductor blowout.[222]

150. In Segment 2, approximately six miles of the existing Benton County Substation to Big Oaks Substation line (also referred to as the MR Line) from about 12th Street SE to Section 1 of Becker Township and approximately four miles of the Benton County Substation to Sherco Substation line (also referred to as the GRE-BS Line) from Section 1 of Becker Township to the south side of State Highway 10 will be designed and constructed on triple-circuit capable structures with a 69 kV underbuild position to accommodate the existing Great River Energy EW Line. The triple-circuit 345 kV/345 kV/69 kV structures will be tubular steel, self-weathering, monopole structures with V-string insulators for the 345 kV conductors and I-string insulators for the 69 kV conductors. The 69 kV portion that is carried on the triple-circuit structures will be constructed to 115

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[219] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[220] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[221] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[222] Ex. APP-11 at 2-5 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 (Application, Appendix K) (eDocket No. 20238-198011-05).

kV standards, but will not be capable of operating above 69 kV due to the remainder of the EW Line remaining at its existing 69 kV design capacity.[223]

151. Depending upon the final route selected by the Commission, there may be various locations along the Modified Proposed Route where the existing transmission lines will need to be realigned, relocated, reconfigured, or replaced. The structure types to be used at these locations include, but are not limited to, typical wood or steel and typical monopole or H-frame structure types. The structure designs will be driven by an effort to minimize impacts to landowners to the extent practicable.[224]

152. The Applicants are evaluating two different conductor types for the Project: a bundled twisted pair-type aluminum conductor steel reinforced (T2-ACSR) type and a bundled aluminum conductor steel supported (ACSS) type. Both conductor types must be capable of carrying 3,000 amps per the needs identified by MISO. These conductor types will meet or exceed the emergency capacity needed for the Project.[225]

153. A bundled twisted pair conductor will likely be used south of the proposed Cuyuna Series Compensation Station because, historically, the portion of the Project south of the proposed Cuyuna Series Compensation Station has experienced wind and ice events that encourage conductor galloping. Conductor galloping is a phenomenon where the conductor oscillates vertically in a high amplitude and low frequency. This galloping motion can cause nearby conductors to make contact, flashover, and cause unplanned outages. In addition, conductor galloping can create significant loading on the transmission line structures causing hardware failures or failures of structural components. Twisted pair conductor is more resistant to conductor galloping than traditional conductor types.[226]

154. A bundled ACSS conductor may be used north of the proposed Cuyuna Series Compensation Station where wind and ice events have not historically caused galloping.[227]

155. Project conductors for facilities that are realigned/rebuilt will likely be a typical ACSR or T2-ACSR conductor type. As the Applicants continue to evaluate the conductors for the Project, the specific conductors that will be used remain subject to change.[228]

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[223] Ex. APP-11 at 2-5 (Application) (eDocket No. 20238-198009-04).

[224] Ex. APP-11 at 2-5 (Application) (eDocket No. 20238-198009-04).

[225] Ex. APP-11 at 2-5 (Application) (eDocket No. 20238-198009-04).

[226] Ex. APP-11 at 2-5–2-6 (Application) (eDocket No. 20238-198009-04).

[227] Ex. APP-11 at 2-6 (Application) (eDocket No. 20238-198009-04).

[228] Ex. APP-11 at 2-6 (Application) (eDocket No. 20238-198009-04).

156. For the purposes of audible noise, electric field, and magnetic field calculations, the Applicants assumed a typical conductor size based on conductors used on similar projects in the region.[229]

157. Typical tangent type structures are shown in Application, Appendix K.

158. In certain locations, the Applicants will likely install a two-pole dead-end structure like the one shown on page 2 of Appendix K of the Application. The Applicants anticipate approximately 10 percent of the structures for the Project will be these two-pole dead-end structures. As compared to a typical tangent structure, these two-pole deadend structures are designed for more robust loading conditions and subsequently will have larger foundations. This structure type will primarily be used where sharp angles are turned but may be used in other locations to meet engineering criteria.[230]

159. Table 1 summarizes the key specifications of the expected, proposed transmission structures.[231]

Table 1. Typical Structure Design Summary

Line Type	Structure Type	Structure Material	Right-of-Way Width (feet)	Structure Height (feet)	Foundation	Foundation Diameter (feet)	Average Structure Span (feet)
Double-Circuit 345/345 kV	Monopole	Steel	150	130-170	Concrete Pier	7-10	800-1,000
Single-Circuit 230 kV	H-frame	Wood	150	65-90	Direct Embed**	NA	700-900
Single-Circuit 115 kV	H-frame	Wood	100	60-80	Direct Embed	NA	600-800
Single-Circuit 69 kV Rebuild*	Monopole	Wood	100	60-80	Direct Embed	NA	300-500
Triple-Circuit 345/345/69 kV	Monopole	Steel	150	140-180	Concrete Pier	8-10	600-800

Note: The values in the table above are typical values expected for the majority of tangent structures based on similar facilities. Actual values may vary.
* Single-circuit 69 kV transmission line will be replaced in Segment 2 of the Project for the EW Line from West Becker Switch and West End Substation, where the EW Line will be built to 115 kV capable. There is approximately 1,345 feet of single-circuit 69 kV replacement to 115 kV capable within the uncrossing area between the Benton County Substation to Big Oaks Substation line (also known to as the MR Line) and the Benton County Substation to Sherco Substation line (also known as the GRE-BS Line). GRE's 69 kV EW Line easement width varies from 70- to 100-feet in width.

[229] Ex. APP-11 at 2-6 (Application) (eDocket No. 20238-198009-04).

[230] Ex. APP-29 at 7 (Applicants' EA Scoping Comments) (eDocket No. 202311-200670-01).

[231] Ex. APP-11 at 2-6 (Application) (eDocket No. 20238-198009-04).

** Certain specialty or storm structures may be necessary. These structures may be concrete pier foundations instead of direct embed.

D. Route Width and Right-of-Way

1. Route Width

160. In general, where the Modified Proposed Route or Co-location Maximization Route follows or replaces an existing high-voltage transmission line or other lower voltage transmission lines, the Applicants are requesting a route width of 500 feet on either side of the existing transmission line centerline for a minimum total of 1,000 feet. In areas where the Modified Proposed Route follows more than one existing transmission lines, the route width requested is 500 feet from each outermost existing line (1,000 – 1,120 feet wide).[232]

161. Where the Modified Proposed Route or Co-location Maximization Route uses new right-of-way, the Applicants are requesting a route width of 1,500 feet on either side of the proposed centerline for a total of 3,000 feet. The wider route width is requested to allow for flexibility to minimize impacts to resources and to work with landowners.[233]

162. The Applicants are requesting wider route widths in specific areas along the existing transmission line rights-of-way. These areas include the following:[234]

- South of the Iron Range Substation – the Applicants request a route width of one mile to allow for flexibility in entering and exiting the substation in Sections 19 and 20 of Trout Lake Township in Itasca County.

- Minnesota Power's HVDC line – where the Modified Proposed Route crosses Minnesota Power's existing ±250 kV HVDC line in Section 31 of Macville Township in Aitkin County, Applicants request a route width of 4,400 feet. An Enbridge pumping station and associated 230 kV tap line owned by Great River Energy are located east of the 92 Line and the Modified Proposed Route would need to cross over both the HVDC line and tap line. The Applicants are requesting a wider route width in this area to provide flexibility to cross the HVDC line at mid-span, thus minimizing the height of the structures and to avoid the existing infrastructure in the area.

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[232] Ex. APP-11 at 2-3 (Application) (eDocket No. 20238-198009-04).

[233] Ex. APP-11 at 2-3 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 1, 25-27, 28-31, 50-51, and 59 (Application, Appendix J) (eDocket Nos. 20238-198009-12; 20238-198009-20; 20238-198010-02; 20238-198010-06; 20238-198010-08).

[234] Ex. APP-11 at 2-3–2-4 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 1, 12-13, 23-25, 48-49, 50-51, 56-59, and 62 (Application, Appendix J) (eDocket Nos. 20238-198009-12; 20238-198009-14; 20238-198009-16; 20238-198009-18; 20238-198009-20; 20238-198010-04; 20238-198010-06; 20238-198010-08).

- River Road in Wolford Township – South of the Mississippi River near River Road and Cole Lake Way northwest of Crosby in Section 21 of Wolford Township in Crow Wing County, Minnesota Power's 13 Line joins the 11 Line and 92 Line from the east. The Applicants are requesting a route width of up to one mile (expanding to the east) on the east side of the existing lines to provide flexibility to avoid impacts to existing residences.

- Cuyuna Series Compensation Station – to allow for the siting of the new Cuyuna Series Compensation Station and flexibility in routing the Project transmission lines into and out of the new Substation in Sections 5, 6, 7, and 8 of Irondale Township in Crow Wing County, the Applicants request a route width of 1.25 miles.

- Golden Spike Road – the Applicants request that the route width be expanded to the east by 400 feet, to a total route width of 1,400 feet, to allow for routing the Project to minimize impacts to residences located near the existing lines, proximity to Elk River, and allows for a more perpendicular crossing of Golden Spike Road in Section 2 of Minden Township in Benton County.

- North of the Benton County Substation – the Applicants request a route width of 0.75 mile to allow for flexibility in entering and exiting the substation in Section 35 of Minden Township in Benton County.

- GRE-BS Line and MR Line Crossing – the Applicants request a route width of 2,500 feet where the existing MR Line and GRE-BS Line cross in Section 1 in Becker Township in Sherburne County to allow for the uncrossing of those lines when they are rebuilt.

- North of County Road 23 SE – the Applicants request a route width of 1,450 feet to potentially shift the existing centerline to minimize the crossing of an unnamed lake north of County Road 23 SE in Section 7 of Becker Township in Sherburne County.

- North of County Road 24 – the Applicants request a route width of 1,850 feet to potentially shift the existing centerline to the east to minimize the crossing of an unnamed lake in Section 28 and 29 of Becker Township in Sherburne County.

- Big Oaks Substation – to ensure a sufficient area is identified to interconnect the Project with the future Big Oaks Substation in Sections 7 and 18 of Becker Township in Sherburne County, the Applicants request a route width of 4,960 feet.

- Modified Route Alternative H4 and H7 – The Applicants request an expanded route width for this route alternative to ensure that all privately owned and county owned parcels the intended centerline crosses are included in the route width to allow for the Applicants to work with these landowners on a final alignment in this area.

- Swatara Route Width Expansion – The Applicants request an expanded route width north and west of Swatara, where Minnesota Power's existing 92 Line turns

from a northeast-southwest diagonal orientation to a north-south orientation, to provide additional flexibility to minimize impacts to residences. The expanded route width would increase the route width in this area by approximately 4,000 feet east-west (at its widest portion) and by approximately 4,000 feet north-south.

- Cole Lake Way Expanded Route Width – Applicants requested an expanded route width in this area in response to landowner comments submitted during the public information and scoping comment period.

- Iron Range Substation Expansion Area - Applicants requested an expanded route width in this area to accommodate final substation design and construction.

- Benton County Substation Expanded Route Width – Applicants requested an expanded route width in this area as a result of ongoing coordination related to cultural resources.[235]

2. Right-of-Way

163. The Project requires a 150-foot-wide right-of-way (75 feet on each side of the centerline). However, to the extent practicable, the new double-circuit 345 kV transmission line in Segment 1 will be co-located with existing high-voltage transmission lines or other rights-of-way, thereby facilitating the partial sharing of right-of-way and lessening the overall easement required from landowners for the Project. Segment 2 is intended to primarily follow the existing centerline of the high-voltage transmission lines, with the majority of the new line utilizing the existing right-of-way, except as discussed in Section IV.A herein.[236]

To the extent the final route selected by the Commission requires rebuilding, realigning, and/or relocating existing facilities, those facilities would also require right-of-way.[237]

3. Associated Facilities

a. Iron Range 500 kV/345 kV Substation Expansion

164. The existing Minnesota Power Iron Range 500 kV Substation will be expanded by approximately 15 acres entirely on Minnesota Power-owned property to facilitate interconnection of the Project at its northern endpoint. The existing 500 kV bus will be modified to incorporate four additional 500 kV circuit breakers in a ring bus

[235] Ex. APP-29 at 2-4 (Applicants' EA Scoping Comments) (eDocket No. 202311-200670-01); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[236] Ex. APP-11 at 2-4 through 2-5 (Application) (eDocket No. 20238-198009-04).

[237] *See*, *e.g.* Ex. APP-29 (Applicants' EA Scoping Comments) (eDocket No. 202311-200670-01); Applicants' Comments on the EA and Additional Information Requested at Public Hearings (Aug. 5, 2024) (eDocket No. 20248-209266-01).

configuration. The new five-position ring bus will accommodate the existing Dorsey – Iron Range 500 kV international transmission line, Iron Range 500 kV/230 kV transformer, and Iron Range 500 kV capacitor bank, as well as two new positions for interconnection of the 500 kV/345 kV transformers required for the Project. New 500 kV overhead bus will connect the existing 500 kV substation yard to the new 345 kV substation yard. The new 345 kV yard will include two 500 kV/345 kV transformer banks (each consisting of three single phase transformers with a common installed spare) with rated capacity of 1,200 MVA as well as a four-position 345 kV bus interconnecting the two new transformers and the new double-circuit 345 kV transmission line. New 345 kV shunt reactors will also be connected to the 345 kV bus. The 15-acre expansion is an estimation and the size, shape and precise location could potentially change per engineering design standards.[238]

b. Cuyuna 345 kV Series Compensation Station

165. The Project requires a new series compensation station near the midpoint of each new Iron Range – Benton 345 kV transmission line. A series compensation station inserts a capacitor bank in series with each of the phases of a high-voltage transmission line and includes an integrated, custom-designed system including many power capacitors and their associated protective bypass equipment. A series compensation station differs from a substation in that there are no transformers or other power transformational equipment to modify the voltage of the high-voltage transmission system. Minnesota Power's new Cuyuna Series Compensation Station will include the 345 kV series capacitor banks necessary for the reliable operation and optimal performance of the Project. In the original Project concept approved by MISO in July 2022, the series compensation station was expected to be located at the existing Minnesota Power Riverton 230 kV/115 kV Substation. Upon further analysis of the site, Minnesota Power determined that there was not sufficient space for the siting of the new series compensation station at the Riverton Substation due to physical and environmental constraints.[239]

166. A new site was identified approximately two miles north of the existing Riverton Substation and land has been acquired by Minnesota Power. The new 25-acre 345 kV Cuyuna Series Compensation Station will be located on this new site. In addition to the series capacitor banks for each of the new 345 kV lines, the Cuyuna Series Compensation Station will include new 345 kV bus and breakers and associated equipment necessary to facilitate the interconnection and operation of the Project. A portion of the site will also be developed as a construction laydown yard and permanent material storage yard due to its advantageous location near the midpoint of the Project.

[238] Ex. APP-11 at 2-7 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 1 (Application, Appendix J) (eDocket No. 20238-198009-12).

[239] Ex. APP-11 at 2-7 (Application) (eDocket No. 20238-198009-04).

Development of these facilities will take place entirely on property owned by Minnesota Power.[240]

c. Benton County 345 kV Substation Expansion (Cherry Park Substation)

167. The existing Great River Energy Benton County Substation will be expanded by approximately 8.5 acres and will be called the Cherry Park Substation – the current footprint is approximately nine acres – to facilitate interconnection of the Project. The expansion will take place entirely on property owned by Great River Energy, likely to the west of the existing substation.[241]

168. The existing Benton County 345 kV bus will be converted to a breaker-and-a-half configuration to accommodate the installation of four new 345 kV transmission lines, the relocation of one existing 345 kV transmission line, and the reconfiguration of the bus topology of two existing 345 kV/230 kV power transformers. Two new 345 kV lines will go to Minnesota Power's expanded Iron Range Substation, two new 345 kV lines will go to Xcel Energy's new Big Oaks Substation, and the existing 345 kV line to Xcel Energy's existing Sherco Substation will be re-terminated. The bus topology reconfiguration of the two existing 345 kV/230 kV power transformers will include splitting the 345 kV & 230 kV buses for each transformer into separate 345 kV and 230 kV bus positions (today 345 kV and 230 kV bus positions are shared). The Project will also include the installation of two 345 kV shunt reactors, one for each of the new 345 kV transmission lines to the Iron Range Substation and a new electrical equipment enclosure with high security equipment. The existing fence will be replaced with a high security fence.[242]

d. Relocation, Reconfiguration, and Realignment of Existing Transmission Lines

169. There are several locations along the Project route where existing transmission lines will be realigned or relocated to make room for Project transmission lines or substation facilities.[243] Some of those locations were identified in the Application,

[240] Ex. APP-11 at 2-7–2-8 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 25-26 (Application, Appendix J) (eDocket No. 20238-198009-20).

[241] Ex. APP-11 at 2-8 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 50-51 (Application, Appendix J) (eDocket No. 20238-198010-06).

[242] Ex. APP-11 at 2-8 (Application) (eDocket No. 20238-198009-04).

[243] Ex. APP-11 at 2-8 (Application) (eDocket No. 20238-198009-04).

and others may be needed based on the final route approved by the Commission, as described in the Applicants' filings.[244]

170. At Minnesota Power's existing Iron Range Substation, existing Minnesota Power 115 kV and 230 kV transmission lines (also referred to as the 11 Line and 92 Line, respectively) will be rerouted around the site for the proposed 500 kV/345 kV expansion of the substation. At the new Cuyuna Series Compensation Station, an existing Minnesota Power 230 kV transmission line will be relocated and/or reconfigured around the site for the proposed 345 kV series compensation station to avoid establishing new 345 kV over 230 kV line crossings. Both of these relocations are proposed to take place on property owned by Minnesota Power.[245]

171. At the Benton County Substation, relocation and/or reconfiguration of existing transmission lines may be required on property owned by Great River Energy to accommodate the proposed incoming double-circuit 345 kV transmission lines.[246]

172. Along the Modified Proposed Route, there are several locations in Segment 1 where existing transmission lines will be realigned for the Project 345 kV double-circuit transmission line. These realignments are proposed to enable the Project to minimize impacts to residences, or other structures, along with other sensitive features without establishing new 345 kV over 230 kV line crossings. Segment 1 realignment locations are described below:[247]

1. In Section 31 of Blackberry Township and Section 6 of Splithand Township, Itasca County, the Proposed Route is located on the east side of Minnesota Power's existing 92 Line. At this point, the existing 115 kV 11 Line crosses the 230 kV 92 Line from the west to the east, then crosses back to the west about 1.5 miles to the south. To avoid additional line crossings, the 115 kV 11 Line will be routed in a new 100-foot right-of-way that stays on the west side of the 230 kV 92 Line for approximately 1.5 miles and the Proposed Centerline will continue on the east side of the 92 Line.[248]

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[244] Ex. APP-29 (Applicants' EA Scoping Comments) (eDocket No. 202311-200670-01); Ex. APP-31 (Applicants' Response to Route Alternatives and Conditions Proposed to be Evaluated in the EA – Public Comments) (eDocket No. 202312-201101-02); Ex. APP-36 (Direct Testimony and Schedules of Christian Winter) (eDocket No. 20247-208392-04).

[245] Ex. APP-11 at 2-8 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 1 and 24-25 (Application, Appendix J) (eDocket No. 20238-198009-20).

[246] Ex. APP-11 at 2-9 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 50-51 (Application, Appendix J) (eDocket No. 20238-198010-06).

[247] Ex. APP-11 at 2-9 (Application) (eDocket No. 20238-198009-04).

[248] Ex. APP-11 at 2-9 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 4-5 (Application, Appendix J) (eDocket No. 20238-198009-12).

2. In Granite Township, Morrison County, the Proposed Centerline is located on the west side of the MR Line. In Section 19, to avoid impacting a grove of trees, which provides screening for a home on the west side of the MR Line, the Proposed Centerline will be shifted to the current MR Line right-of-way and the MR Line will be shifted east to a new 150-foot right-of-way for approximately 0.55 miles.[249]

3. In Section 31 of Granite Township, Morrison County, the Proposed Centerline and the MR Line will be shifted to the east because of an existing agricultural building west of the current MR Line right-of-way. The Proposed Centerline will be shifted to the current MR Line right-of-way and the MR Line will be shifted east to a new 150-foot right-of-way for approximately 0.7 miles.[250]

4. In Section 23 of Pierz Township, Morrison County, the Proposed Centerline and the MR Line will be shifted to the east because of existing agricultural buildings and a farmstead just west of the current MR Line right-of-way. The Proposed Centerline will be shifted to the current MR Line right-of-way and the MR Line will be shifted east to a new 150-foot right-of-way for approximately 0.65 miles.[251]

5. In Sections 26 and 35 of Buckman Township, Morrison County, the Proposed Centerline and the MR Line will be shifted to the east because of existing agricultural buildings and two farmsteads just west of the current MR Line right-of-way. The Proposed Centerline will be shifted to the current MR Line right-of-way and the MR Line will be shifted east to a new 150-foot right-of-way for approximately 0.95 miles.[252]

6. In Section 2 of Minden Township, Benton County, the Proposed Centerline is west of the existing MR Line and Great River Energy's BP Line. At the crossing of Golden Spike Road, the existing MR Line and BP Line will be shifted to the east to allow the Proposed Centerline to avoid impacting a residence just west of the existing lines and to minimize impacts to the Elk River. The existing lines will be shifted to 250 feet of new right-of-way east of the Proposed Centerline for approximately 0.35 miles.[253]

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[249] Ex. APP-11 at 2-9 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 38-39 (Application, Appendix J) (eDocket Nos. 20238-198010-02; 20238-198010-04).

[250] Ex. APP-11 at 2-9 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 39 (Application, Appendix J) (eDocket No. 20238-198010-04).

[251] Ex. APP-11 at 2-9 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 40-41 (Application, Appendix J) (eDocket No. 20238-198010-04).

[252] Ex. APP-11 at 2-10 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 43-44 (Application, Appendix J) (eDocket No. 20238-198010-04).

[253] Ex. APP-11 at 2-10 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at 48-49 (Application, Appendix J) (eDocket Nos. 20238-198010-04; 20238-198010-06).

7. The Project also improves resiliency and safety for maintenance work by allowing for "uncrossing" two existing high-voltage transmission lines. Currently, the two existing high-voltage transmission lines in Segment 2, which are being replaced as part of the Project, cross over one another – i.e., the existing 345 kV GRE-BS Line traverses over the top of the existing 230 kV MR Line. Crossing of high-voltage transmission lines increases resiliency risk as should one of the lines fall it risks not only a fault (i.e., unexpected de-energization) but also taking down the other transmission line. In addition, performing maintenance at the crossing creates a safety risk, as under normal operating conditions one line must remain energized while work is occurring on the other line. Therefore, where practical, new lines are designed to minimize the number of crossings. The Project will rebuild the existing Segment 2 transmission lines and reconfigure them such that the new lines will not cross, as shown in Map 3-1 of the Application.[254]

8. Any realignments required for either the Modified Proposed Route or the Co-location Maximization Route as discussed in Section IV.A herein.

4. Design Options to Accommodate Future Expansion

173. The Project is designed to meet current and projected future needs of the local and regional transmission network.[255]

a. Segment 2 – Benton County to Sherco 345 kV Transmission Line Double-Circuit Capability

174. Initially, the proposed Benton County to Sherco transmission line will be constructed as a single-circuit 345 kV transmission line on double-circuit capable structures built to accommodate a future second 345 kV circuit when conditions warrant. This configuration provides future optionality to double the transmission capacity of the Benton County to Sherco transmission line with no additional right-of-way or structures and with minimal impacts at the time additional transmission capacity is needed.[256]

175. Maximizing the use of existing transmission or other rights-of-way is especially prudent given the presence of agricultural center-pivot irrigation, residential development, and proposed solar generation. The proposed double-circuit capable structures between the Benton County Substation and the Sherco Substation results in a marginal incremental cost, approximately 20 percent, compared to single-circuit 345 kV

[254] Ex. APP-11 at 3-38 (Application) (eDocket No. 20238-198009-04).

[255] Ex. APP-11 at 2-10 (Application) (eDocket No. 20238-198009-04).

[256] Ex. APP-11 at 2-10 (Application) (eDocket No. 20238-198009-04).

structures. However, should the second circuit be added in the future, it is projected to save at least 30 percent relative to a stand-alone option.[257]

b. Segment 2 – 69 kV Upgrade to 115 kV Future Operation

176. Approximately ten-miles of the proposed 345 kV transmission line between the Benton County Substation and the Sherco Substation and the 345 kV transmission line between the Benton County Substation and the new Big Oaks Substation are proposed to be designed to carry a 115 kV circuit on triple-circuit structures. The existing Great River Energy 69 kV EW Line will be co-located on these structures. To meet potential future load growth, the Applicants propose to design and build the 69 kV to 115 kV standards. This line will be operated at 69 kV and will not be capable of being operated at a voltage higher than 100 kV until further significant modifications outside of the scope of the Project are constructed as the remainder of the EW Line will not be reconstructed at this time to 115 kV standards. Accordingly, it is not a "high-voltage transmission line," and neither a certificate of need nor a route permit is required for the proposed configuration.[258]

177. This design provides future optionality to increase the local load serving transmission capacity with no new right-of-way or structures within the Proposed Route. This will also minimize damage and disturbance to the underlying property by not needing to replace the conductor in the future. In addition, constructing the lines to a 115 kV standard provides greater working clearances for line maintenance.[259]

c. Substations

178. Options to accommodate future expansion will be incorporated into the design of Project substations. Space will be reserved at the Iron Range Substation, Cuyuna Series Compensation Station, and Benton County Substation to accommodate future 345 kV line interconnections as necessary for future development of the regional transmission backbone. Additional space will also be reserved at the Iron Range Substation and Cuyuna Series Compensation Station to accommodate future 345 kV/230 kV transformer interconnections to support the underlying 230 kV system. These future expansion options will require additional modifications and site development that are outside the scope of the Project.[260]

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[257] Ex. APP-11 at 2-10 (Application) (eDocket No. 20238-198009-04). Comparison is conservative as it ignores impacts of inflation and incremental costs associated with future economic development in the area.

[258] Ex. APP-11 at 2-11 (Application) (eDocket No. 20238-198009-04); *see* Minn. Stat. § 216B.2421, subd. 2(3); Minn. Stat. § 216E.01, subd. 4.

[259] Ex. APP-11 at 2-11 (Application) (eDocket No. 20238-198009-04).

[260] Ex. APP-11 at 2-10–2-11 (Application) (eDocket No. 20238-198009-04).

E. Project Schedule

179. Construction for the Project is expected to begin in the summer or fall of 2025. The Applicants anticipate Project in-service to be in June 2030. Table 2 provides a permitting and construction schedule summary, with anticipated end dates identified.[261]

Table 2. Anticipated Project Schedule

Activity	Anticipated Date
Application Filed	August 2023
Public Information and Scoping Meetings	Fall/Winter 2023-2024
Environmental Assessment Issued	Winter/Spring 2024
Public Hearings	Spring/Summer 2024
Certificate of Need and Route Permit Issued	Summer 2024
Land Acquisition Begins	Winter/Spring 2024[20]
Project Construction Begins	Summer/Fall 2025
Project In-Service	June 2030[21]

F. Project Costs

180. The estimated cost to construct the Proposed Route included in the Application is approximately $970 million to $1.4 billion (in 2022 dollars) depending on the final route and alignment selected. The mid-range estimate for the Proposed Route is $1.2 billion (in 2022 dollars).[262]

181. The estimated cost to construct the Modified Proposed Route is approximately $980 million to $1.4 billion (in 2022 dollars). The mid-range estimate to construct the Modified Proposed Route is $1.2 billion (in 2022 dollars).[263]

182. The estimated cost to construct the Co-location Maximization Route is approximately $1.1 billion to $1.6 billion. The mid-range estimate to construct the Co-location Maximization Route is $1.4 billion.[264]

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[261] Ex. APP-11 at 2-20 (Application) (eDocket No. 20238-198009-04).

[262] Ex. APP-11 at 2-12 (Application) (eDocket No. 20238-198009-04); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. _____).

[263] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. _____).

[264] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

G. Permittees

183. Minnesota Power and Great River Energy are the requested permittees for the Project.[265]

V. PUBLIC, LOCAL GOVERNMENT, AND FEDERAL AND STATE AGENCY PARTICIPATION

184. Throughout the process, there were multiple opportunities for stakeholders and potentially affected landowners, local government units, tribal agencies, and federal and state agencies or to participate in the Project. This engagement provided the Applicants with valuable insight into landowner and public agency preferences regarding development of the Project.[266]

185. Applicants hosted six stakeholder workshops in October 2022, to gain input and insights from agencies, local leaders and key stakeholders. The purpose of these workshops was to introduce community leaders to the Project, learn more about their communities, answer their questions, and gather information on opportunities and constraints within the Study Area. The workshop format consisted of a presentation, a question-and-answer portion, a mapping exercise and discussion, and a comment form.[267]

A. Applicants' Public Outreach

186. The Applicants made significant efforts to reach out to the public before filing the Application.[268] The Applicants have maintained a Project website, e-mail address, and phone line to allow members of the public to reach the Applicants with any questions about the Project and obtain detailed mapping of the Proposed Route.[269]

187. The Project team developed a public engagement plan in late summer 2022 that consisted of two engagement phases: Route Corridor and Preliminary Route notifications. The phases consisted of several engagement methods that included in-person stakeholder workshops, virtual self-guided public open houses, in-person public open houses, direct mailings, social media posts, a dedicated email and hotline to field questions and comments, an interactive online comment map, a Project website, detailed maps that could be downloaded and printed from the Project website, and mailed Project information packets.[270]

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[265] Ex. APP-11 at 1-13 (Application) (eDocket No. 20238-198009-04).

[266] Ex. APP-11 at 8-11 to 8-17 (Application) (eDocket No. 20238-198009-04).

[267] Ex. APP-11 at 8-11 (Application) (eDocket No. 20238-198009-04).

[268] Ex. APP-11 at 1-13 (Application) (eDocket No. 20238-198009-04).

[269] Ex. APP-11 at 1-13 (Application) (eDocket No. 20238-198009-04).

[270] Ex. APP-11 at 8-10 (Application) (eDocket No. 20238-198009-04).

1. Engagement Phase 1: Route Corridor

188. The Applicants hosted the first phase of engagement after the fall workshops from January 23 through February 17, 2023, to provide opportunities to learn about the Project, provide input on the Route Corridor, and ask questions either at an in-person event, online, or through phone, email, or mail.[271]

189. The Applicants mailed and emailed letters with an enclosed Route Corridor map to Project stakeholders, including federal, state and local agencies, Tribal representatives, and non-government organizations. A total of 581 letters were mailed on January 3, 2023. An additional reminder email was sent to the same stakeholders on January 23, 2023.[272]

190. Applicants mailed postcards to a total of 8,430 landowners within the Study Area on January 6, 2023. The mailing list was generated from county parcel data records within the Route Corridor. The postcard included information about the Project, engagement opportunities, how to provide a comment, and contact information.[273]

191. The Applicants sent the Project press release to 275 media outlets on January 12, 2023. Media outreach resulted in local media coverage, including stories in the Benton County News and Patriot News. The Applicants utilized Facebook, Twitter, and Instagram to promote the Northland Reliability Project in-person public open houses and virtual engagement opportunities in January and February 2023.[274]

192. The Applicants placed paid advertisements in 13 local newspapers with distribution in the Project area announcing the public open houses and other engagement opportunities.[275]

193. As it relates to in-person open houses, the Applicants hosted seven open house locations with both midday and early evening options offered to accommodate schedules, for a total of 14 public open houses. Each open house provided the same information including Project displays and detailed maps for the attendees to review and provide input. Attendees were paired with a Great River Energy or Minnesota Power staff person who provided a guided tour, walking the attendee(s) through the displays and maps and answering their questions along the way. Attendees also had the opportunity to sit with a GIS/mapping specialist to view their specific locations of concern, discuss potential constraints or opportunities for their parcel(s), and get a PDF map emailed to them. The feedback received through in-person and virtual open houses was considered

[271] Ex. APP-11 at 8-12 (Application) (eDocket No. 20238-198009-04).

[272] Ex. APP-11 at 8-12 (Application) (eDocket No. 20238-198009-04).

[273] Ex. APP-11 at 8-13 (Application) (eDocket No. 20238-198009-04).

[274] Ex. APP-11 at 8-13 (Application) (eDocket No. 20238-198009-04).

[275] Ex. APP-11 at 8-13 (Application) (eDocket No. 20238-198009-04).

by the Applicants as part of the routing process. Overall, 252 participants attended the open houses.[276]

194. The Applicants hosted a self-paced virtual open house which included the same content presented during the in-person public open houses in a website-type format. It provided an opportunity for viewers to attend at their convenience to learn more about the Project, the routing process and provide input.[277]

195. The Applicants created packets of Project information, which were available for download from the Project website, self-guided virtual open house, mail, or email. A total of 16 packets were requested. The packet of materials included the same information from the in-person and virtual open houses.[278]

196. The Applicants hosted an additional open house as requested by a community member along Segment 2 to allow neighbors and community members, who missed the scheduled open houses, to have another opportunity to learn about the Project, ask questions, and provide input on routing. The Applicants did not send out notices for this open house, and the community member contacted nearby residents and invited them to attend. This open house took place on March 1, 2023 from 10 a.m. to Noon at the Palmer Township Hall. There was no formal presentation. This open house provided the same information as the Phase 1 open houses in January and February, including Project displays and detailed maps for the attendees to review and provide input. A total of 23 participants attended the open house.[279]

197. Throughout Engagement Phase 1, there were more than 300 public comments collected in a variety of ways, both in-person and virtually through the Project hotline, email, interactive comment map, online comment form, mailed comment form, online constraints and opportunities form, in-person comment form, GIS station and tabletop maps comments. All comments were reviewed and considered. The majority of the comments were directed at the Route Corridor land use and routing.[280]

2. Engagement Phase 2: Preliminary Route

198. During Engagement Phase 2, the Applicants invited the public to attend public open houses for the Project, ask questions and provide input on the preliminary route. There were six open houses offered May 2 – 4, 2023.[281]

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[276] Ex. APP-11 at 8-13 (Application) (eDocket No. 20238-198009-04).

[277] Ex. APP-11 at 8-14 (Application) (eDocket No. 20238-198009-04).

[278] Ex. APP-11 at 8-14 (Application) (eDocket No. 20238-198009-04).

[279] Ex. APP-11 at 8-14 (Application) (eDocket No. 20238-198009-04).

[280] Ex. APP-11 at 8-15 (Application) (eDocket No. 20238-198009-04).

[281] Ex. APP-11 at 8-15 (Application) (eDocket No. 20238-198009-04).

199. There were no formal presentations but instead attendees were welcome to come anytime during the time options to learn more about the Project. Each open house provided the same information including Project displays and detailed maps for the attendees to review and provide input. Attendees were paired with an Applicant staff person who acted as a tour guide, walking the attendee(s) through the displays and maps and answering their questions along the way. Attendees also had the opportunity to sit with a GIS specialist to view their specific locations of concern, discuss potential constraints or opportunities for their parcel(s), and get a PDF map emailed to them. All comments and input provided to GIS specialists were recorded and considered. A total of 213 participants attended the series of open houses.[282]

200. The Applicants hosted a second self-paced virtual open house available from May 1 to 12, 2023, and included the same content presented during the in-person public open houses. It provided an opportunity for viewers to attend at their convenience to learn more about the Project, the routing process and provide input. Information about the self-guided virtual open house was included on notification and outreach materials in addition to being linked from the Project website. There were 234 users who visited the virtual open house 318 times.[283]

201. The Applicants created packets of Project information, which were made available for download from the Project website, self-guided virtual open house, mail, or email. A total of 34 packets were requested. The packet of materials included the same information from the in-person and virtual open houses. A pre-addressed comment form was also included for packet recipients to provide input to the Project team.[284]

202. Throughout Engagement Phase 2, more than 200 public comments were collected in a variety of ways, both in-person and virtually through the Project hotline, email, interactive comment map, online comment form, mailed comment form, online constraints and opportunities form, in-person comment form, GIS station and tabletop maps comments. All comments were reviewed and considered. The majority of the comments were directed at the Preliminary Route land use and routing.[285]

B. Public Comments

203. Comments on the EA and the overall Project were gathered during in-person and virtual public hearings as well as through written comments during the public hearing comment period, which closed on August 5, 2024. Members of the public also provided comments during the completeness comment period, and during the public information and scoping meeting comment period.

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[282] Ex. APP-11 at 8-15 (Application) (eDocket No. 20238-198009-04).

[283] Ex. APP-11 at 8-16 (Application) (eDocket No. 20238-198009-04).

[284] Ex. APP-11 at 8-16 (Application) (eDocket No. 20238-198009-04).

[285] Ex. APP-11 at 8-17 (Application) (eDocket No. 20238-198009-04).

1. Comments at Public Hearings[286]

204. Brian Huberty, with the Minnesota Forestry Association, provided comments regarding concerns his organization has with the EA's consideration of impacts to woodlands as well as the quality of notice to landowners about the Project.[287] Mr. Huberty also submitted written comments on behalf of the Minnesota Forestry Association at the public hearing.[288]

205. Joel Kersting, who noted that he has a sled dog business, provided comments about the impacts of the Proposed Route on his property and recommended that route alternative B be chosen as the route in the area near his property. [289]

206. Janet Bahe, noted that she is a neighbor of Mr. Kersting's and also has a sled dog business as well as a gravel pit, provided comments about the impacts of the Proposed Route on her property and recommended that route alternative B be chosen as the route in the area near her property.[290]

207. David Peterson provided comments about the benefits of utilizing alignment alternative AA16 for the Project and utilizing existing easements for new transmission line projects.[291]

208. Liv Mostad-Jensen provided comments opposing route alternative A1 due the impacts to homes in the area and supports the Proposed Route or other alternatives.[292]

209. Steve Smokey commented on historic resources and impacts of the Proposed Route on his property and recommended considering upgrading the current transmission lines in the area within the existing easements.[293]

210. John McElfresh provided comments regarding the impacts of alignment alternative AA12 to his property and discussed positives attributes of route alternative K.

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[286] Applicants include descriptions of these comments below for reference, but do not adopt or endorse comments unless otherwise specifically noted.

[287] Hill City 6:00 p.m. Public Hearing Transcript (Tr.) at 13-15 (July 22, 2024) (Huberty).

[288] Pub. Hrg. Ex. B (eDocket No. 20248-209508-03).

[289] Hill City 6:00 p.m. Tr. at 15-20 (July 22, 2024) (Kersting).

[290] Hill City 6:00 p.m. Tr. at 20-22 (July 22, 2024) (Bahe).

[291] Hill City 6:00 p.m. Tr. at 22-25 (July 22, 2024) (Peterson).

[292] Hill City 6:00 p.m. Tr. at 25-26 (July 22, 2024) (Mostad-Jensen).

[293] Hill City 6:00 p.m. Tr. at 26-32 (July 22, 2024) (Smokey).

Mr. McElfresh also inquired about the Project's construction schedule and inquired about the locations of poles on his property.[294]

211. Tim Lefevere provided comments about how alignment alternative AA12 would impact his property and discussed why he supports route alternative A4 due its limited impact to residents.[295]

212. Jeffrey Nelson provided comments about why he supports alignment alternative AA15 and how the Proposed Route would impact his property. Mr. Nelson also inquired as to use of public land for the Project and what is involved in crossing a new transmission line over an existing one.[296]

213. Greg Finch provided comments about how the Proposed Route would impact his property and expressed concern about the public using cleared right-of-way for recreational use on his land. Mr. Finch supported alternatives that would avoid impacted his property.[297]

214. Alan Anderson provided comments regarding his support for route alternative E5 . Mr. Anderson commented about his opposition to the Proposed Route, route alternatives E1 and E3, and alignment alternatives AA8 and AA9 in and around the Little Rabbit Lake area. Mr. Anderson also raised various concerns about the EA and notice to landowners in the area.[298]

215. Dennis Anderson provided comments about the impact of proposed routes along the western side of his property and recommended route alternatives among E1-E5 that avoided impacts to his property .[299]

216. Stan Erickson provided comments regarding support for route alternatives that avoid impacting his property, such as route alternative H3 and opposes route alternatives that impact his property, which he stated includes forested land that is enrolled in state MnDNR programs. Mr. Erickson also noted that a route for the Project should avoid the Wolvert Aquatic Management Area.[300]

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[294] Hill City 6:00 p.m. Tr. at 32-54 (July 22, 2024) (McElfresh).

[295] Hill City 6:00 p.m. Tr. at 55-57 (July 22, 2204) (Lefevere).

[296] Hill City 6:00 p.m. Tr. at 57-62 (July 22, 2024) (Nelson).

[297] Brainerd 11:00 a.m. Tr. at 16-17 (July 23, 2024) (Finch).

[298] Brainerd 11:00 a.m. Tr. at 18-34 (July 23, 2024) (A. Anderson).

[299] Brainerd 11:00 a.m. Tr. at 34-38 (July 23, 2024) (D. Anderson).

[300] Brainerd 11:00 a.m. Tr. at 40-44 (July 23, 2024) (Erickson).

217. Tina Yaunick provided comments about the impacts of the Project to her property, including trees that would be cleared and concerns about the proximity of the proposed transmission line to her home, including privacy and safety concerns.[301]

218. Kenneth Breitling provided comments and raised various questions about how the Project would impact his property and how he would be able to use his property and ensure privacy after the Project is constructed.[302]

219. Robert Brown provided comments about how the Proposed Route would cross his property by approximately one mile and indicated support for route alternative F.[303]

220. Nancy Doucette submitted comments about climate change and the potential impact that clearing trees for the Project would have on the natural environment and that existing rights-of-way should not be widened to build new transmission lines.[304]

221. Bill Potvin provided comments about how route alternative H2 would impact his property in a variety of ways, including proximity to homes and impacts to human settlements more broadly, environmental impacts to waterways and clearing of trees, noise impacts, as well as safety concerns for children, and noted higher costs associated with this route alternative. Mr. Potvin also noted higher impacts of route alternative H1, which should also be avoided.[305]

222. John Trettel provided comments about route alternatives H1 through H7. Mr. Trettel noted benefits of route alternatives H1 and H2.[306]

223. Jason Krakle provided comments noting that route alternatives H1 and K would "eliminate my property."[307]

224. Leroy Wytella provided comments inquiring about compensation to impacted landowners related to land use.[308]

225. Aimee Anderson provided comments opposing the Proposed Route in the Little Rabbit Lake and Rowe Lake area and supporting route alternative E5 for a variety

[301] Brainerd 11:00 a.m. Tr. at 45-47 (July 23, 2024) (Yaunick).

[302] Brainerd 11:00 a.m. Tr. at 47-53 (July 23, 2024) (Breitling).

[303] Brainerd 11:00 a.m. Tr. at 54-56 (July 23, 2024) (Brown).

[304] Brainerd 11:00 a.m. Tr. at 56-59 (July 23, 2024) (Doucette).

[305] Brainerd 11:00 a.m. Tr. at 59-63 (July 23, 2024) (Potvin).

[306] Brainerd 11:00 a.m. Tr. at 63-64 (July 23, 2024) (Trettel).

[307] Brainerd 11:00 a.m. Tr. at 65 (July 23, 2024) (Krakle).

[308] Brainerd 11:00 a.m. Tr. at 65-67 (July 23, 2024) (Wytella).

of reasons, including following existing rights-of-way, affecting few residents, and impacts fewer wetlands.[309]

226. Lori Larson provided comments about the natural environment and wildlife located near Little Rabbit Lake.[310]

227. Dan Cruser provided comments about increasing property values in the Little Rabbit Lake area.[311]

228. Marla Britton and Deb Woitalla provided comments about how the Project would impact their property, including health concerns that they have for themselves and livestock on their property. Ms. Britton and Ms. Woitalla proposed route alternatives for consideration.[312]

229. Kim Latterell provided comments about the impacts of the Proposed Route to her property and the benefits of route alternative E5.[313]

230. Don and Marie Boucher provided comments about their opposition to alignment alternative AA6 due to impacts to their property, and support for alignment alternative AA4. The Bouchers state that if Alignment AA6 is approved, all four sides of their property will have transmission lines running through.[314]

231. Rick Stellmach provided comments opposing alignment alternative AA6 and support for alignment alternative AA4. Mr. Stellmach states that alignment alternative AA6 would run along his property and result in a buffer of trees being removed along his property and would result in a building site being removed.[315]

232. Mark and Jane Moore provided comments about alignment alternatives AA4 and AA6, indicating that neither alternative directly impacts their property, but would impact their community.[316]

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[309] Brainerd 11:00 a.m. Tr. at 67-68 (July 23, 2024) (A. Anderson). Ms. Anderson also spoke at the public hearing in Crosby. Crosby 6:00 p.m. Tr. at 51-55 (July 23, 2024) (A. Anderson).

[310] Brainerd 11:00 a.m. Tr. at 69-70 (July 23, 2024) (Larson).

[311] Brainerd 11:00 a.m. Tr. at 70-72 (July 23, 2024) (Cruser).

[312] Crosby 6:00 p.m. Tr. at 15-18 (July 23, 2024) (Britton and Woitalla).

[313] Crosby 6:00 p.m. Tr. at 18-20 (July 23, 2024) (Latterell).

[314] Crosby 6:00 p.m. Tr. at 20-26 (July 23, 2024) (Boucher).

[315] Crosby 6:00 p.m. Tr. at 27-29 (July 23, 2024) (R. Stellmach).

[316] Crosby 6:00 p.m. Tr. at 30-31 (July 23, 2024) (Moore).

233. Jonathan Knutson provided comments about his overall concerns with the Project, concerns with notice and transparency about the Project, and concerns about the EA.[317]

234. Lori Thompson provided comments about overall need for the Project and commented on her conservation efforts on her land and use and enjoyment of her property and concern about how the Project would impact her property.[318]

235. Mary Nasvik provided comments about which route alternatives her family supports and opposes in the area near their property located in the Little Rabbit Lake area. Ms. Nasvik also commented on the adequacy of the EA and quality of maps provided in notices to landowners.[319]

236. Joe Eckert provided comments on his opposition to route alternative C and how this route alternative would impact landowners in the area and the natural environment.[320]

237. Julia McCann and Marie Zachman provided comments about how the Proposed Route would impact their property by running along the west side of it. Ms. McCann stated that she does not support any route alternative, but noted concerns she has about potential impacts to Gillespie Lake, which she stated the Project would span.[321]

238. William Smith provided comments about Project notice and concerns about interactions with a land agent who visited his property. Mr. Smith also commented about transparency of information related to the Project and potential impacts to the environment and aesthetic impacts to his property, as well as concerns about cleared trees and whether they would be left on his property.[322]

239. Todd Stellmach provided comments opposing alignment alternative AA6, which he stated would run along Cole Lake Way, and stated that the Project should utilize rights-of-way for existing lines.[323]

240. Brian Allen provided comments about route alternatives that would impact his property, including the Proposed Route, route alternative H7, and alignment alternative AA13. Mr. Allen spoke to certain concerns he had about engagement by the Applicants with landowners and talked about his investments in his property and concerns

[317] Crosby 6:00 p.m. Tr. at 31-36 (July 23, 2024) (Knutson).

[318] Crosby 6:00 p.m. Tr. at 36-40 (July 23, 2024) (Thompson).

[319] Crosby 6:00 p.m. Tr. at 40-51 (July 23, 2024) (Nasvik).

[320] Crosby 6:00 p.m. Tr. at 56-59 (July 23, 2024) (Eckert).

[321] Crosby 6:00 p.m. Tr. at 59-62 (July 23, 2024) (McCann and Zachman).

[322] Crosby 6:00 p.m. Tr. at 63-70 (July 23, 2024) (Smith).

[323] Crosby 6:00 p.m. Tr. at 70-72 (July 23, 2024) (T. Stellmach).

about how the Project would impact structures on his land. Mr. Allen also proposed a new route alternative that would mitigate impacts to his property and would avoid impacting trees and shrubs along his property.[324]

241. Robert Havert provided comments about concerns he had with Great River Energy staff surveying his property with a drone.[325]

242. Joanne Johnson provided comments about compensation to landowners due to impacts of the Project.[326]

243. Mandy Spicuka commented about concerns related to landowners in the Project area being able to tell how the Project would impact their properties.[327]

244. Stephanie Hart provided comments about archaeological and historical architectural resources that should be considered in determining a final route for the Project.[328]

245. John and Sue Bauers provided comments about how route alternative A1 would impact their property and the natural environment in the area.[329]

246. Dale Bereman inquired about easements required for the Project and compensation to impacted landowners.[330]

247. Al Pekarek provided comments about renewable energy and issues related to the climate from a geological perspective.[331]

248. Jed Regan provided comments about how the Project would impact his vineyard and which route alternatives that he would support. Mr. Regan discussed how the Proposed Route and route alternatives H1, H5, and H6 would all impact his vineyard and how route alternative H7 and alignment alternative AA13 would not impact his vineyard.[332]

249. Ashley Britz provided comments about how the Project would impact her property along her front yard and commented that the line should located on the west

[324] Clear Lake Tr. at 17-22 (July 24, 2024) (Allen).

[325] Clear Lake 6:00 p.m. Tr. at 23-26 (July 24, 2024) (Havert).

[326] Clear Lake 6:00 p.m. Tr. at 26-29 (July 24, 2024) (Johnson).

[327] Clear Lake 6:00 p.m. Tr. at 29-31 (July 24, 2024) (Spicuka).

[328] Clear Lake 6:00 p.m. Tr. at 31 (July 24, 2024) (Hart).

[329] Pierz 11:00 a.m. Tr. at 16-18 (July 24, 2024) (Bauers).

[330] Pierz 11:00 a.m. Tr. at 18-20 (July 24, 2024) (Bereman).

[331] Pierz 11:00 a.m. Tr. at 20-23, 38-42 (July 24, 2024) (Pekarek).

[332] Pierz 11:00 a.m. Tr. at 28-38 (July 24, 2024) (Regan).

side of the road opposite her property. Ms. Britz commented about the Project being routed along Route 169.[333]

250. Fred Underhill inquired of the Applicants regarding the number of poles for the Project in any given area.[334]

251. Bob Wimmer provided comments about the drain tile on his property and inquired about whether he would be compensated if it is damaged by the Project and asked about the replacement of existing transmission lines rather than building a new transmission line. Finally, Mr. Wimmer asked about the sale of Minnesota Power.[335]

252. Kit Henkemeyer stated that several of her properties would be affected by route alternative J2. Ms. Henkemeyer expressed her opposition to route alternative J2 due to potential impacts to property valuation, human health, aesthetic, recreational use, and environmental concerns. Ms. Henkemeyer advocated for the Applicants' Proposed Route, which would reduce overall impacts.[336]

253. Jonelle Saldana opposed route alternative J1 because it would impact her family home and the environment.[337]

254. Earl Schreifels explained that route alternatives J1 and J2 would affect his property, and he would like to see the line follow its existing route.[338]

255. Sandy Von Wahlde expressed support for route alternative K because it follows the existing route. Ms. Von Wahlde stated that other routes would impact her property where she plans to retire and the environment. Ms. Von Wahlde also asked about property valuation and asked a question about why the Project deviates around Long Lake to the east. Applicants responded to her question.[339]

256. Jonathan Winkelman objected to Applicants' Proposed Route, stating that the new line should not be built next to the existing line, and the new line should be rebuilt or built along a different route. Mr. Winkelman also express concerns about public notice of meetings.[340]

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[333] Pierz 11:00 a.m. Tr. at 24-27 (July 24, 2024) (Britz).

[334] Pierz 11:00 a.m. Tr. at 42-43 (July 24, 2024) (Underhill).

[335] Pierz 11:00 a.m. Tr. at 43-48 (July 24, 2024) (Wimmer).

[336] Sauk Rapids 11:00 a.m. Tr. at 17-21 (July 25, 2024) (Henkemeyer).

[337] Sauk Rapids 11:00 a.m. Tr. at 22-25 (July 25, 2024) (Saldana).

[338] Sauk Rapids 11:00 a.m. Tr. at 25-26 (July 25, 2024) (Schreifels).

[339] Sauk Rapids 11:00 a.m. Tr. at 26-28, 69-71 (July 25, 2024) (Von Wahlde).

[340] Sauk Rapids 11:00 a.m. Tr. at 28-30 (July 25, 2024) (J. Winkelman).

257. Dick Kollmann explained that Applicants' Proposed Route and route alternative J1 would affect his property, including his home and pasture. Mr. Kollmann stated that while he would prefer neither route, if the Project were approved, the new line should replace the existing line in the current right-of-way.[341]

258. Paul Wesenberg stated that route alternative J2 would impact the oak woods near his property and the wildlife.[342]

259. Katherine Malikowski opposed the Project and the existing line as designed. Ms. Malikowski discussed impacts to her home and family farm, animals, humans, potential weather damage, farming, lack of landowner benefits, and noise. Ms. Malikowski also asked a question about frequency of maintenance of the lines. Applicants stated that they would respond to her question by filing a written answer in this case.[343]

260. Cory Wruck opposed route alternative J1 because it would impact more homes than the existing route, including his property. Mr. Wruck discussed impacts, including aesthetics, wetlands, project costs, property damage, and health.[344]

261. Randy Dorn expressed concern that route alternatives J1 through J3 were not consistent with central Minnesota's private and public conservation efforts.[345]

262. David Peck asked questions about Project design, property damage and loss of value, and landowner compensation. Applicants responded to his questions.[346]

263. Mike Konz asked questions about the future and purpose of the existing line as well as Project design. Applicants responded to his questions.[347]

264. Wayne Brenny asked questions about compensation for easements and how prior easements are affected by new easements. Applicants addressed his questions.[348]

265. Isaac Winkelman explained that the Project would affect his property and expressed concerns about habitat fragmentation, using the existing corridor, and tree

[341] Sauk Rapids 11:00 a.m. Tr. at 30-33 (July 25, 2024) (Kollmann).

[342] Sauk Rapids 11:00 a.m. Tr. at 33-35 (July 25, 2024) (Wesenberg).

[343] Sauk Rapids 11:00 a.m. Tr. at 35-39, 67-68 (July 25, 2024) (Malikowski).

[344] Sauk Rapids 11:00 a.m. Tr. at 39-41 (July 25, 2024) (Wruck).

[345] Sauk Rapids 11:00 a.m. Tr. at 41-43 (July 25, 2024) (Dorn).

[346] Sauk Rapids 11:00 a.m. Tr. at 43-52 (July 25, 2024) (Peck).

[347] Sauk Rapids 11:00 a.m. Tr. at 52-55, 71-72 (July 25, 2024) (Konz).

[348] Sauk Rapids 11:00 a.m. Tr. at 56-59 (July 25, 2024) (Brenny).

cutting. Mr. Winkelman asked a question about making adjustments to Project design related to the H-frame. Applicants responded to his question.[349]

266. Judy Zanoth discussed concerns about impacts to aesthetics, health, and wildlife.[350]

267. Lynn Welsh asked a question about eminent domain. The ALJ responded to her question.[351]

268. Jim Sullivan asked a question about how to obtain information about the decision in this case. The Commission and the ALJ responded to his question.[352]

269. Jerry Dalberg opposed route alternative J1, which affects his and other properties, and stated that MnDNR should have been present to answer questions about the alternative route.[353]

270. Cindy Abraham discussed concerns about Project design related to the lines running next to each other.[354]

271. Beth Schlangen stated that the Project route should follow the existing route and highways.[355]

272. Terry Yager expressed concerns about the need for the Project and impacts to wildlife.[356]

273. Jean Ronayne commented that her family's cabin is located within the Cole Lake Riverton region, and that she would like to preserve the property for future generations. Ms. Ronayne discussed the effect the Project may have on her property's value. Lastly, Ms. Ronayne stated concerns about the effect the Project may have on wildlife in the area.[357]

274. Pat Rosvold expressed opposition to the Proposed Route through Little Rabbit and Rowe Lake. Ms. Rosvold pointed to the EA and discussed wetlands and

[349] Sauk Rapids 11:00 a.m. Tr. at 59-64, 81-82 (July 25, 2024) (I. Winkelman).

[350] Sauk Rapids 11:00 a.m. Tr. at 64-66 (July 25, 2024) (Zanoth).

[351] Sauk Rapids 11:00 a.m. Tr. at 72-74 (July 25, 2024) (Welsh).

[352] Sauk Rapids 11:00 a.m. Tr. at 74-75 (July 25, 2024) (Sullivan).

[353] Sauk Rapids 11:00 a.m. Tr. at 76-77 (July 25, 2024) (Dalberg).

[354] Sauk Rapids 11:00 a.m. Tr. at 77-78 (July 25, 2024) (Abraham).

[355] Sauk Rapids 11:00 a.m. Tr. at 78-79 (July 25, 2024) (Schlangen).

[356] Sauk Rapids 11:00 a.m. Tr. at 79-80 (July 25, 2024) (Yager).

[357] Virtual 12:00 p.m. Tr. at 18, 21-22, 23 (July 26, 2024) (J. Ronayne).

waterways as well as migratory birds and diverse animals located in the area. Ms. Rosvold expressed concern with route alternatives E4 and E5. [358]

275. Katie Gruber opposed the alternative routes proposed by the Applicants; specifically, Ms. Gruber took issue with route alternative J2, which would be placed directly on her property. Ms. Gruber discussed the effects of the Project, and specifically the effects of the alternative route, on land value, human settlement, aesthetics, agriculture and wildlife, cost, and accuracy of the MnDNR mapping .[359]

276. Terry Ronayne suggested that an alternative route through the Cuyuna area should be considered. Ms. Ronayne asked about notification for a final route determination, and a Company Representative was able to explain the notification process once a final route is selected and approved.[360]

277. Cyndi Perkins expressed her support of route alternatives E4 and E5. Ms. Perkins asked questions regarding the application review process and how the weight of the evidence is reviewed by the ALJ.[361]

278. Victoria Kipka questioned the need for the Project, and commented on her family's farmland and how the position of the transmission lines affects tractors driving around the lines. Ms. Kipka also discussed concerns for wildlife and asked what might happen if a tornado comes through the area.[362]

279. Annah Jacobson asked about the proposed width of the Project, and a Great River Energy representative answered her question.[363]

280. Jeff Johnson expressed concern about route alternative D3. Mr. Johnson explained that the Project should strive to minimize its impact to the existing ecosystem and wildlife, communities, and people living near the Project. Mr. Johnson suggested that the Project should use existing current powerline right-of-way.[364]

281. Sarah Ronayne reiterated comments about the impact the Project has to nature and wildlife, with specific reference to Rowe Mine Lake. Ms. Ronayne asked about the Project's notification process.[365]

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[358] Virtual 12:00 p.m. Tr. at 26, 29, 30-31, 83-84 (July 26, 2024) (P. Rosvold).

[359] Virtual 12:00 p.m. Tr. at 32-34 (July 26, 2024) (Gruber).

[360] Virtual 12:00 p.m. Tr. at 36, 37, 40-41 (July 26, 2024) (T. Ronayne).

[361] Virtual 12:00 p.m. Tr. at 44-45 (July 26, 2024) (Perkins).

[362] Virtual 12:00 p.m. Tr. at 46, 47, 50 (July 26, 2024) (Kipka).

[363] Virtual 12:00 p.m. Tr. at 51, 53 (July 26, 2024) (Jacobson).

[364] Virtual 12:00 p.m. Tr. at 54, 55-56 (July 26, 2024) (Johnson).

[365] Virtual 12:00 p.m. Tr. at 59, 60 (July 26, 2024) (S. Ronayne).

282. Lisa Jacobson opposed the Project and specifically spoke about the nature and wildlife surrounding her property near Rowe Mine. Ms. Jacobson also asked about the proposed width of the Project and why the Applicants cannot upgrade the existing system, and Great River Energy and Minnesota Power representatives clarified that the right-of-way for the Project is going to be 150-foot wide and the need for the Project.[366]

283. Mitchell Ronayne expressed support for route alternatives E4 and E5. Mr. Ronayne also suggested that Applicants explore a northeast option that would not impact his family's property.[367]

284. Cammy Yaunick asked questions about route alternative H2 and indicated that her home is within the 150-foot right-of-way. A Great River Energy representative answered Ms. Yaunick's questions and clarified the proposed and alternative routes.[368]

285. Alfred Glick asked about the final decision-making authority granted to the Commission in relation to the Project. Mr. Glick also asked the Applicants about the reliability and resiliency of the Project.[369]

286. Sean Toth discussed the impact the Project would have to his property as well as environmental concerns for American woodcock that are present on his land. Mr. Toth expressed his preference for an alternative route in the area of his property because it would minimize the negative impact to his land.[370]

287. Lori Lee explained that she has recreational property in Brainerd, and that the Project affects her directly. Ms. Lee stated that she prefers the parts of route alternative E1 that line up with the existing corridor.[371]

2. Public Hearing Comment Period – Written Comments

288. Liv Mostad-Jensen submitted written comments concerning route alternative A1, including potential impacts to houses, and raising concerns about Project notice.[372]

[366] Virtual 12:00 p.m. Tr. at 66, 67, 69, 70-71 (July 26, 2024) (Jacobson).

[367] Virtual 12:00 p.m. Tr. at 73, 74-75 (July 26, 2024) (M. Ronayne).

[368] Virtual 12:00 p.m. Tr. at 88-90 (July 26, 2024) (Yaunick).

[369] Virtual 12:00 p.m. Tr. at 91, 93-97 (July 26, 2024) (Glick).

[370] Virtual 12:00 p.m. Tr. at 99-101 (July 26, 2024) (Toth).

[371] Virtual 12:00 p.m. Tr. at 109-111 (July 26, 2024) (Lee).

[372] Comment by Mostad-Jensen (July 2, 2024) (eDocket No. 20247-208264-01).

289. John Trettel submitted comments opposing route alternatives H3, H4, H5, and H6 due to potential residential and environmental impacts.[373]

290. The Andersons submitted written comments opposing route alternative E1 and supporting route alternatives E2, E4, and E5 as they make greater use of existing utility rights of way and would have a reduced potential to impact wildlife.[374]

291. Milton Johnston submitted comments in support of route alternative H7 to reduce potential impacts on private landowners and maximize use of lands owned by Crow Wing County.[375]

292. Heath Burthwick submitted comments in support of following existing transmission line rights of way .[376]

293. Brian Allen submitted comments opposing the Applicants' Proposed Route as the proposed centerline cross over an area he is working on developing for a garage and dwelling. He also provided a route alternative for consideration.[377]

294. Russell Horsch submitted written comments opposing route alternative C as it is more expensive than the Proposed Route and deviates from existing transmission line rights-of-way.[378]

295. Joseph Eckert submitted written comments in support of the Applicants' Proposed Route and opposing route alternative C. He opposed the MnDNR's route alternative C primarily because the area is largely undisturbed and unnecessarily deviates from the existing transmission line rights-of-way.[379]

296. Bill and Cindy Potvin (in addition to Brent and Traci Potvin) submitted written comments in support of the Applicants' Proposed Route or route alternative K as potential impacts to residences are less than other route alternatives in the area.[380]

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[373] Comment by Trettel (July 2, 2024) (eDocket No. 20247-208299-02).

[374] Comment by D. Anderson, A. Anderson, S. Egan, and J. Anderson (June 21, 2024) (eDocket No. 20247-208348-01).

[375] Comment by Johnston (July 8, 2024) (eDocket No. 20247-208440-01).

[376] Comment by Burthwick (July 5, 2024) (eDocket No. 20247-208438-01).

[377] Comment by Allen (July 8, 2024) (eDocket No. 20247-208429-02) and Pub. Hrg. Ex. Y (eDocket No. 20248-209513-10).

[378] Comment by Horsch (July 9, 2024) (eDocket No. 20247-208465-01).

[379] Comment by Eckert (July 15, 2024) (eDocket No. 20247-208626-01).

[380] Comment by Potvin (July 17, 2024) (eDocket No. 20247-208724-01) (eDocket No. 20247-209049-01); (Aug. 5, 2024) (eDocket No. 20248-209294-01).

297. Tami Wruck submitted written comments in support of using existing transmission line rights of way instead of route alternatives J1 through J3.[381]

298. Chris Henkemeyer submitted comments in support of the Applicants' Proposed Route and opposing route alternative J2 because of potential impacts to residences, farmland, and recreational uses.[382]

299. Leonard and Jeanette DeLong submitted comments in support of the Applicants' Proposed Route and opposing route alternative J2 due to potential residential and wildlife impacts and the increased cost of route alternative J2.[383]

300. Isaac Winkelman submitted written comments indicating he owns land along Applicants' Proposed Route and questions the need for a new transmission line in the area in light of demand for energy in northern Minnesota.[384]

301. Alan Anderson submitted written comments regarding his support for route alternative E5 in the area near his property and his opposition to the Proposed Route, route alternatives E1 and E3, and alignment alternatives AA8 and AA9 in and around the Little Rabbit Lake area. Mr. Anderson also raised various concerns about the EA and notice to landowners in the area.[385]

302. Mary Nasvik submitted written comments in support of route alternative E5 stating it would reduce potential impacts on wetlands and the overall natural environment.[386]

303. James Kraklau submitted written comments opposing route alternative H1 due to the proximity to his property.[387]

304. Aileen Zhang submitted written comments supporting the Applicants' Proposed Route and opposing route alternatives J1 through J3 due to their potential impacts to residences and the overall cost of the route alternatives.[388]

305. Stan Erickson and Don Loehr submitted comments regarding support for route alternatives that avoid impacting his property, such as route alternative H2 and route

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[381] Comment by Wruck (July 22, 2024) (eDocket No. 20247-208860-01).

[382] Comment by Henkemeyer (July 23, 2024) (eDocket No. 20247-208859-01) (Aug. 1, 2024) (eDocket No. 20248-209208-02).

[383] Comment by DeLong (July 22, 2024) (eDocket No. 20247-208988-02).

[384] Comment by Winkelman (July 23, 2024) (eDocket No. 20247-208886-02).

[385] Pub. Hrg. Ex. G (eDocket No. 20248-209512-04).

[386] Pub. Hrg. Ex. S (eDocket No. 20248-209512-06).

[387] Comment by Kraklau (July 24, 2024) (eDocket No. 20247-208988-02).

[388] Comment by Zhang (July 25, 2024) (eDocket No. 20247-208986-01).

alternative H3 with the use of route alternative H1 and opposing the Applicants' Proposed Route. Messrs. Erickson and Loehr also indicate that property along the Applicants' Proposed Route is enrolled in an MnDNR sustainable forestry program.[389]

306. Marla Britton submitted comments that her property has multiple transmission lines located on it and she is concerned about further use and enjoyment of the property as well as the operation of her farm.[390]

307. Deb Woitalla submitted written comments supporting the comments of Ms. Britton.[391]

308. Pete and Laura Marshall submitted comments opposing the Applicants' Proposed Route due to its proximity to their property and the potential to see the Project from their land.[392]

309. Kathy and Larry Thompson submitted comments in support of route alternative K and opposing route alternatives H1 and H2 as the H route alternatives would be located across his pastureland and have the potential to impact wetlands.[393]

310. Eric Thompson submitted written comments in support of route alternative K and opposing route alternatives H1 and H2. Mr. Thompson indicates that route alternative K is supported because it would follow existing transmission lines and have the potential to impact fewer people. Mr. Thompson also indicates concerns about archaeological resources along route alternatives H1 and H2.[394]

311. Clarence and Judith Zanoth submitted comments in support of the Applicants' Proposed Route because it follows existing transmission lines and opposing route alternatives J1 and J2.[395]

312. Kevin and Linda Schilling submitted comments opposing the Applicants' Proposed Route and requesting that all residences be at least 300 feet from any transmission lines.[396]

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[389] Comment by Erickson and Loehr (July 25, 2024) (eDocket No. 20247-208964-01).

[390] Comment by Britton (July 28, 2024) (eDocket No. 20247-209045-01).

[391] Comment by Woitalla (July 28, 2024) (eDocket No. 20247-209043-01).

[392] Comment by Marshall (July 26, 2024) (eDocket No. 20247-209041-01).

[393] Comment by K. and L. Thompson (July 28, 2024) (eDocket No. 20247-209028-01).

[394] Comment by E. Thompson (July 28, 2024) (eDocket No. 20247-209026-01).

[395] Comment by Zanoth (July 16, 2024) (eDocket No. 20247-209024-01).

[396] Comment by Schilling (July 23, 2024) (eDocket No. 20247-209098-02) (eDocket No. 20248-209216-06).

313. John and Susan Bauers submitted written comments opposing route alternative A1 due to its proximity to their property and recent improvements to their property.[397]

314. Joel Kersting submitted comments supporting route alternative B and states specialty structures can be used to accommodate the Project near the airport.[398]

315. Dale and Jane Reuter submitted comments requesting that the Project be stacked with existing lines along the Applicants' Proposed Route or be located along route alternative J1.[399]

316. Zubulon Ostman and Anne Mrosla submitted written comments opposing route alternatives J1 through J3 to avoid potential impacts to business operations and the environment.[400]

317. Tim and Sue Sasse submitted comments in support of the Applicants' Proposed Route as route alternatives in the Riverton area have the potential to impact more residences.[401]

318. Thomas and Darlene Tauber submitted comments opposing the Applicants' Proposed Route due to the proximity to their property and its lack of use of existing transmission lines in that area.[402]

319. Mark and Jane Moore submitted written comments in support of alignment alternative AA4 and opposing the Applicants' Proposed Route and alignment alternative AA6 due to the proximity of the opposed routes to their property.[403]

320. Marion Kuklock submitted comments opposing the creation of new transmission line rights-of-way in Minden Township, Benton County and impacts of a more expensive route on utility rates.[404]

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[397] Comment by Bauers (July 25, 2024) (eDocket No. 20247-209129-02) (eDocket No. 20248-209208-04) (eDocket No. 20248-209163-02).

[398] Comment by Kersting (eDocket No. 20248-209216-04).

[399] Comment by Reuter (July 31, 2024) (eDocket No. 20248-209216-02).

[400] Comment by Ostman/Mrosla (July 25, 2024) (eDocket No. 20248-209208-14).

[401] Comment by Sasse (Aug. 1, 2024) (eDocket No. 20248-209208-12).

[402] Comment by Tauber (July 25, 2024) (eDocket No. 20248-209208-10).

[403] Comment by Moore (Aug. 1, 2024) (eDocket No. 20248-209208-08).

[404] Comment by Kuklock (July 22, 2024) (eDocket No. 20248-209208-06).

321. Steve and Rosemary Goulet submitted comments opposing route alternatives J1 through J3 due to potential impacts on farmland and property values when existing transmission line rights-of-way could be followed.[405]

322. Katherine and Kevin Malikowski submitted comments questioning why the Project cannot be placed underground and why the Project was needed.[406]

323. Yvonne Malikowski submitted comments questioning why existing transmission lines cannot be improved through upgrades to equipment and expressed concerns related to potential impacts to the environment.[407]

324. Lew and Donna Benzhafer submitted comments recommending the use of existing transmission lines and minimizing impacts to human settlement, aesthetics, and the natural environment.[408]

325. Cynthia Abraham submitted comments supporting the consolidation or upgrade of existing transmission lines.[409]

326. Bill and Chrissy Bowker submitted comments in support of the Applicants' Proposed Route and opposing alignment alternative AA12 due to its proximity to their property.[410]

327. Robert and Peggy Forstner submitted written comments in support of the Proposed Route and opposing route alternatives E4 and E5 due to the increased residential impacts by the E4 and E5 route alternatives.[411]

328. Grant Prushek submitted comments expressing concerns about how vegetation would be removed for the Project and wants the option to have stumps that are cleared from the right-of-way.[412]

329. Nancy and Jerry Doucette submitted comments supporting route alternative F over the Applicants' Proposed Route due to reduced impacts to residences and a lower cost, but that "building up, not out" is the best option.[413]

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[405] Comment by Goulet (July 24, 2024) (eDocket No. 20248-209206-01).

[406] Comment by Malikowski (July 25, 2024) (eDocket No. 20248-209206-01).

[407] Comment by Y. Malikowski (July 25, 2024) (eDocket No. 20248-209206-01).

[408] Comment by Benzhafer (July 25, 2024) (eDocket No. 20248-209206-01).

[409] Comment by Abraham (Aug. 1, 2024) (eDocket No. 20248-209206-01).

[410] Comment by Bowker (Aug. 1, 2024) (eDocket No. 20248-209206-01).

[411] Comment by Forstner (Aug. 1, 2024) (eDocket No. 20248-209206-01).

[412] Comment by Prushek (July 23, 2024) (eDocket No. 20248-209206-01).

[413] Comment by Doucette (Aug. 2, 2024) (eDocket No. 20248-209231-01).

330. The Little Rabbit Lake area property owners submitted comments criticizing portions of the EA, supporting route alternatives E4 and E5, criticizing Project notice to landowners outside route alternatives, and opposing the Applicants' Proposed Route.[414] The Little Rabbit Lake area property owners also submitted additional written comments on August 13, 2024.[415]

331. Randy Barnes submitted comments supporting route alternative E4 and opposing the Applicants' Proposed Route due to the proximity to his home, Rowe Mine pit, and Hay Lake.[416]

332. Jonathan Winkelman submitted comments supporting route alternatives J1 and J2 due to the proximity of the Applicants' Proposed Route to his property.[417]

333. Daniel and Cammy Yaunick with Craig and Kendra Yaunick submitted written comments opposing route alternative H2 due to its proximity to their property and farm.[418]

334. Lacy and Josh Johnson submitted comments opposing route alternatives J1 through J3 as they do not follow existing transmission lines and the potential impacts to animals on their land.[419]

335. Shirley Hale submitted comments opposing alignment alternative AA4 due to potential impacts to recreational uses of her property.[420]

336. Janet Bahe and Bob Johnson submitted comments supporting route alternative B and opposing the Applicants' Proposed Route due to his proximity to their home and dog sled business.[421]

337. Ben Nelson submitted comments generally raising concerns with the Project and potential future development of his property.[422]

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[414] Comment by Little Rabbit Lake (Aug. 5, 2024) (eDocket No. 20248-209301-02) (eDocket No. 20248-209301-04) (eDocket No. 20248-209301-06).

[415] Comment by Little Rabbit Lake (Aug. 12, 2024) (eDocket No. 20248-209433-01).

[416] Comment by Barnes (Aug. 4, 2024) (eDocket No. 20248-209255-01).

[417] Comment by Winkelman (Aug. 4, 2024) (eDocket No. 20248-209255-01).

[418] Comment by Yaunick (Aug. 4, 2024) (eDocket No. 20248-209255-01).

[419] Comment by Johnson (Aug. 4, 2024) (eDocket No. 20248-209255-01).

[420] Comment by Hale (Aug. 5, 2024) (eDocket No. 20248-209255-01).

[421] Comment by Bahe/Johnson (Aug. 2, 2024) (eDocket No. 20248-209255-01).

[422] Comment by Nelson (Aug. 2, 2024) (eDocket No. 20248-209255-01).

338. Jon Bogart submitted written comments supporting the Applicants' Proposed Route and opposing route alternative C as it deviates from following existing transmission lines and would create new impacts to the environment.[423]

339. Zach Spicer submitted comments supporting the Applicants' Proposed Route due to its use of existing rights-of-way and opposing route alternative C.[424]

340. Chris Miller submitted written comments supporting the Applicant's Proposed Route due to its use of existing rights-of-way and opposing route alternative C.[425]

341. Janessa and Bradley Kaehler submitted comments supporting alternative alignment AA4 and opposing alternative alignment AA6 due to potential impacts to their property.[426]

342. Ross Gilsrud submitted comments supporting the Applicants' Proposed Route versus route alternative C to reduce impacts to wildlife, including beaver dams and duck habitat.[427]

343. David and Tammy Peck submitted comments raising concerns about impacts of the Project on an existing solar contract.[428]

344. Dan and Tania Eller submitted comments supporting route alternatives E1 through E5 as they avoid potential impacts to their property.[429]

345. Dale and Lori Thompson submitted comments questioning the need of the Project because they will not benefit from it as well as potential impacts to the environment.[430]

346. The Clean Energy Economy submitted comments supporting the Project to provide greater reliability and access to renewable generation in the region.[431]

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[423] Comment by Bogart (Aug. 3, 2024) (eDocket No. 20248-209256-01).

[424] Comment by Spicer (Aug. 5, 2024) (eDocket No. 20248-209256-01).

[425] Comment by Miller (Aug. 5, 2024) (eDocket No. 20248-209256-01).

[426] Comment by Kaehler (Aug. 5, 2024) (eDocket No. 20248-209256-01).

[427] Comment by Gilsrud (Aug. 5, 2024) (eDocket No. 20248-209256-01).

[428] Comment by Peck (Aug. 5, 2024) (eDocket No. 20248-209256-01).

[429] Comment by Eller (Aug. 5, 2024) (eDocket No. 20248-209256-01).

[430] Comment by Thompson (Aug. 3, 2024) (eDocket No. 20248-209244-01).

[431] Comment by Clean Energy Economy (Aug. 5, 2024) (eDocket No. 20248-209270-01).

347. Bradley Bodle submitted comments opposing route alternative C and supporting the Applicants' Proposed Route to avoid impacts to his property.[432]

348. Heidi Grinde submitted comments opposing route alternative H2 to avoid impacts to her property and over concerns the right-of-way will be used by ATVs and snowmobiles.[433]

349. Victoria Kipka submitted comments questioning why transmission lines continue to be constructed.[434]

350. Aimee Anderson submitted comments supporting route alternative E5 due to reduced impacts to the environment and residences.[435]

351. Kate Swanson and Daren Nelson submitted written comments supporting route alternative E5 as it would avoid impacts to Hay Lake and uses existing rights-of-way and opposes route alternative E2 and alignment alternative AA8.[436]

352. Rick and Stacy Stellmach submitted comments supporting alternative alignment AA4 due to reduced impacts on human settlement and the natural environment and opposing alignment alternative AA6 due to its proximity to their home.[437]

353. Nicholas Eades submitted comments supporting the Proposed Route instead of route alternative C to make use of existing transmission line rights of way.[438]

354. Dennis Anderson submitted written comments about impacts of the Proposed Route on his property and benefits of utilizing existing easements in route alternatives E1 through E5.[439]

355. Steven Smokey submitted written comments related to historical uses around Hill City and concerns about route alternative B.[440]

356. Corbin Knotts submitted comments supporting the underground construction of the Project near the Cuyuna County Recreational Area and opposing route

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[432] Comment by Bodle (Aug. 4, 2024) (eDocket No. 20248-209309-02).

[433] Comment by Grinde (Aug. 5, 2024) (eDocket No. 20248-209294-01).

[434] Comment by Kipka (Aug. 5, 2024) (eDocket No. 20248-209294-01).

[435] Comment by A. Anderson (Aug. 5, 2024) (eDocket No. 20248-209294-01).

[436] Comment by Swanson/Nelson (Aug. 5, 2024) (eDocket No. 20248-209294-01).

[437] Comment by Stellmach (Aug. 5, 2024) (eDocket No. 20248-209294-01).

[438] Comment by Eades (Aug. 5, 2024) (eDocket No. 20248-209294-01).

[439] Comment by D. Anderson (Aug. 5, 2024) (eDocket No. 20248-209294-01).

[440] Comment by Smokey (Aug. 5, 2024) (eDocket No. 20248-209294-01) (eDocket No. 20248-209437-02).

alternatives E1 and E3, alignment alternatives AA8 and AA9, and the Applicants' Proposed Route due to potential impacts to recreation and aesthetics.[441]

357. Chance Flemming submitted comments raising concerns that Minnesota Power is being acquired by a foreign company and all the area power plants are being shut down.[442]

358. Cheryl and Tony Hettver submitted comments in support of route alternative K or route alternative H2 and opposing the Project overall and the Applicants' Proposed Route as it traverses their property.[443]

359. Susan Carlson submitted comments supporting alignment alternatives AA8 and AA9 to avoid the Cuyuna County State Recreation Area and opposing route alternatives E1 and E3 as they cross Little Rabbit Lake.[444]

360. Charles Carlson submitted comments supporting alignment alternatives AA8 and AA9 to avoid the Cuyuna County State Recreation Area and opposing route alternatives E1 and E3 as they cross Little Rabbit Lake.[445]

361. Duane Christopher submitted comments opposing route alternative H2 due to potential impacts to property values and health effects.[446]

362. Craig Yaunick Family submitted comments opposing route alternative H2 due to its proximity to his property and potential impacts to future uses.[447]

363. Phillip Rockensock submitted comments supporting the Applicants' Proposed Route as it follows existing transmission line rights-of-way.[448]

364. Lisa Jacobson submitted comments opposing routing the Project in an area that impacts her property.[449]

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[441] Comment by Knotts (Aug. 5, 2024) (eDocket No. 20248-209294-01).

[442] Comment by Flemming (Aug. 5, 2024) (eDocket No. 20248-209295-01).

[443] Comment by Hettver (Aug. 5, 2024) (eDocket No. 20248-209295-01).

[444] Comment by S. Carlson (Aug. 5, 2024) (eDocket No. 20248-209295-01).

[445] Comment by C. Carlson (Aug. 5, 2024) (eDocket No. 20248-209295-01).

[446] Comment by Christopher (Aug. 5, 2024) (eDocket No. 20248-209295-01).

[447] Comment by Yaunick (Aug. 5, 2024) (eDocket No. 20248-209295-01).

[448] Comment by Rockensock (Aug. 5, 2024) (eDocket No. 20248-209295-01).

[449] Comment by Jacobson (Aug. 5, 2024) (eDocket No. 20248-209295-01).

365. Evan Mudd submitted comments supporting route alternatives E4 and E5 to avoid impacts to recreational uses.[450]

366. Katie Mudd submitted comments opposing alternatives that would impact the Cuyuna Lakes area.[451]

367. Ryan and Sara Collison submitted comments supporting route alternative E5 to minimize impacts to human settlement and wildlife.[452]

368. LIUNA submitted comments supporting the construction of the Project.[453]

369. Local 49 and Council of Carpenters submitted comments supporting the construction of the Project.[454]

370. Crow Wing County submitted comments encouraging the use of existing transmission line rights-of-way (route alternatives E1, E3, E4, and E5) and opposing route alternative C.[455]

371. Dave and Kay Sponsel submitted comments supporting the route that would cause less of an impact to the public landing at Little Rabbit Lake and to the east and north of Rowe Lake.[456]

372. Slade and Tara Johnson submitted comments in support of alignment alternative AA10 to be located behind their home and limit impacts to the public.[457]

373. Thomas and Jolene Flemming submitted comments supporting the use of existing transmission lines for the Project.[458]

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[450] Comment by E. Mudd (Aug. 6, 2024) (eDocket No. 20248-209296-02).

[451] Comment by K. Mudd (Aug. 6, 2024) (eDocket No. 20248-209296-02).

[452] Comment by Collison (Aug. 5, 2024) (eDocket No. 20248-209296-02).

[453] Comment by LIUNA (Aug. 5, 2024) (eDocket No. 20248-209275-02).

[454] Comment by Local 49 and Council of Carpenters (Aug. 6, 2024) (eDocket No. 20248-209280-01).

[455] Comment by Crow Wing County (Aug. 5, 2024) (eDocket No. 20248-209288-01).

[456] Comment by Sponsel (Aug. 7, 2024) (eDocket No. 20248-209321-02).

[457] Comment by Johnson (Aug. 9, 2024) (eDocket No. 20248-209406-01).

[458] Comment by Flemming (Aug. 12, 2024) (eDocket No. 20248-209440-02).

374. Richard and Constance Krollman submitted comments requesting that if the Project is approved, that it use existing rights-of-way and not be located along route alternative J1.[459]

375. Jeffrey and Tammy Wilkins submitted comments in support of alignment alternative AA10 to avoid impacts to homes by routing behind their residences.[460]

376. Gerry Augst submitted comments regarding visual impacts of the Project from his home a quarter mile away.[461]

377. Sarah Elliott submitted comments opposing route alternative c to avoid impacts to pastureland and cattle.[462]

378. The MnDNR filed comments related to the analysis in the EA, identifying the MnDNR's preferred route for the Project. In its comments, the MnDNR also discussed its view of early coordination efforts between MnDNR and the Applicants to inform route selection and to coordinate on permits and licenses potentially required for the Project, provided comments on the EA regarding a variety of issues of general concern to the MnDNR, discussed regulatory considerations, permits, and approvals potentially required for the Project related to the MnDNR's permitting and regulatory responsibilities, and provided specific comments on the EA by section, including a discussion of the MnDNR's preferred route alternatives for the Project by region and a discussion of the MnDNR's proposed conditions for a Route Permit, including Natural Heritage Review of rare resources and mitigation of potential impacts, coordination with the U.S. Fish and Wildlife Service (USFWS), use of facility lighting to mitigate effects of blue light, use of environmentally-friendly dust control measures, and use of wildlife-friendly erosion control.[463]

379. The Applicants filed comments on the EA and provided additional information in response to requests received during the public hearings. In these comments, the Applicants provided clarifications on the EA, provided an analysis of route alternative B to demonstrate that its proximity to the Hill City Airport made the alternative infeasible, provided cost information to correct information in the EA related to the various route and alignment alternatives, and proposed revisions to the Draft Route Permit conditions proposed at Appendix H of the EA. The Applicants also provided information on its work with contractors for the Project and reinforced the Applicants' commitment to work cooperatively with landowners on survey access and reinforce the importance of cooperation with its contractors. Finally, the Applicants provided additional analysis and

[459] Comment by Krollman (Aug. 7, 2024) (eDocket No. 20248-209438-01).

[460] Comment by Wilkins (Aug. 19, 2024) (eDocket No. 20248-209581-02).

[461] Comment by Augst (Aug. 20, 2024) (eDocket No. 20248-209650-01).

[462] Comment by Elliott (Aug. 21, 2024) (eDocket No. 20248-209712-01).

[463] Comments by MnDNR (Aug. 5, 2024) (eDocket No. 20248-209262-01).

information related to the co-location of existing transmission lines near the Elk River in Sherburne County.[464]

3. Response to Public Comments on EA

380. The Joint Commenters submitted comments responding to MnDNR comments, explaining that Minnesota Law provides that only an EA is necessary when Applicants elect to use the alternative review process.[465]

381. DOC-EERA responded to comments submitted on the EA by the public, the Applicants, MnDNR, and the Minnesota Forestry Association. DOC-EERA noted that overall, public comments raised concerns about a variety of potential impacts of the Project, such as impacts to the natural environment, wildlife, habitat, displacement, property values, agriculture, aesthetics, and other potential impacts, such as health and safety impacts. DOC-EERA also noted that comments also advocated for particular route alternatives as well as potential consolidation of transmission lines or overall need for the Project compared to alternatives, such as generation. DOC-EERA responded to these comments, and in certain instances, substantively modified the EA as appropriate.[466]

C. Local Government and Federal and State Agencies Outreach

382. The Applicants initiated outreach to federal, state, and local agencies and tribal representatives through Project notification emails and online meetings. As part of pre-application outreach, Applicants mailed initial outreach letters to representatives from Tribal Nations on August 8, 2022. The initial outreach letters to federal, state, and local agencies were sent on September 15, 2022.[467]

383. On January 3, 2023, 581 letters with an enclosed Route Corridor map were mailed and emailed to federal, state, local agencies, and tribal representatives detailing an overview of the Project and engagement opportunities. An additional reminder email was sent to the same stakeholders on January 23, 2023. The federal, state, local agencies, and representatives from Tribal nations remained on the proposed Project's stakeholder list and were mailed and emailed notifications of public and virtual open houses to provide comments about the proposed Project.[468]

384. In April and May of 2023, the Applicants mailed over 300 letters to relevant local government units and representatives from Tribal Nations on April 26, 2023, and May 15, 2023, respectively. The notice letter described the Project and offered an

[464] Applicants' Comments on the EA and Additional Information Requested at Public Hearings (Aug. 5, 2024) (eDocket No. 20248-209266-01).

[465] Comments by Joint Commenters (Sept. 5, 2024) (eDocket No. 20249-209997-01).

[466] Comments by DOC-EERA (Sep. 5, 2024) (eDocket No. 20249-210005-02).

[467] Ex. APP-11 at 8-1 (Application) (eDocket No. 20238-198009-04).

[468] Ex. APP-11 at 8-13 (Application) (eDocket No. 20238-198009-04).

opportunity to request a consultation meeting regarding the Project. Applicants ran several social media campaigns and paid advertisements to promote the seven Project open houses.[469]

385. The Application identifies agencies that Applicants contacted through meetings or a notification email prior to the Applicants filing the Application outside of the public outreach identified in the following subsections.[470]

1. Federal Agencies

a. U.S. Fish and Wildlife Service

386. The Applicants sent an initial Project introduction letter to the USFWS in September 2022. In March 2023, the Applicants organized a conference call with USFWS to discuss the Project and potential impacts to protected species. USFWS provided an overview of potential permitting pathways. In May of 2023, the Applicants submitted an IPaC[471] for the Proposed Route and completed the Determination Key for the threatened and endangered species and the northern long eared bat. As the Project develops, the Applicant will continue to coordinate with the USFWS.[472]

b. U.S. Army Corps of Engineers

387. Applicants have coordinated with the U.S. Army Corps of Engineers (USACE) on a Section 214 Agreement for consultation, Project review, and permitting. The USACE was invited to monthly meetings with MnDNR.[473]

c. U.S. Department of Agriculture, Natural Resources

388. Applicants sent an initial Project introduction letter to the U.S. Department of Agriculture, Natural Resources (NRCS) in September 2022. As the Project develops, the Applicants will coordinate with NRCS if any easement lands are crossed.[474]

d. U.S. Department of Defense Military Aviation and Installation Assurance Siting Clearinghouse

389. The Applicants received a letter in July 2023 from the U.S. Department of Defense (DOD) Military Aviation and Installation Assurance Siting Clearinghouse

[469] Ex. APP-11 at Appendix F (Application) (eDocket No. 20238-198009-06).

[470] Ex. APP-11 at Section 8.1 (Application) (eDocket No. 20238-198009-04).

[471] "IPaC" refers to USFWS Information, Planning, and Consultation.

[472] Ex. APP-11 at 8-2 (Application) (eDocket No. 20238-198009-04).

[473] Ex. APP-11 at 8-3 (Application) (eDocket No. 20238-198009-04).

[474] Ex. APP-11 at 8-3 (Application) (eDocket No. 20238-198009-04).

indicating that the Project will have a minimal impact on military operations in the area. As the Project develops, the Applicants will continue to coordinate with the DOD.[475]

e. Federal Aviation Administration

390. The Applicants sent an initial Project introduction letter to the Federal Aviation Administration (FAA) in September 2022. On November 3, 2022, the Applicants organized a conference call with FAA and MnDOT Aeronautics staff to discuss the Project and potential impacts to several public use airports in proximity to the Route Corridor. FAA staff also attended Project open houses in May 2023 and in a subsequent email provided additional information on potential effects to public use airports near the Proposed Route. Another conference call with FAA and MnDOT Aeronautics staff was held on July 14, 2023.[476]

2. Tribal Nations

391. The paragraphs below summarize the Applicants' outreach with Tribal Nations, as presented in the Application. Applicants' further coordination with interested Tribal Nations since the filing of the Application is discussed in Section X.D herein.

a. Leech Lake Band of Ojibwe

392. Following the initial outreach in August 2022, Applicants met with the Leech Lake Band of Ojibwe on March 9, 2023. The meeting involved the Band's Interim Environmental Director, Sustainability Coordinator, and Environmental Deputy Director. During the meeting, the Applicants presented an overview of the Project Study Area and Route Corridor, reviewed GIS mapping, and discussed potential impacts on cultural or natural resources. The Leech Lake Band of Ojibwe requested and received the GIS shapefiles of the Proposed Route and presentation the same day.[477]

393. On April 17, 2023, the Applicants updated the Leech Lake Band of Ojibwe via email regarding the routing process, including GIS data of the preliminary route, and a follow-up meeting was held on April 27, 2023, where the Applicants reviewed the Project details and discussed preliminary cultural resources literature review results. The Leech Lake Band of Ojibwe requested the finalized report. Subsequent communications on April 27 and May 30, 2023, provided detailed Project mapping and information on water crossings, cultural resources review, and federal permits. On July 18, 2023, Amy Burnette of the Leech Lake Band of Ojibwe THPO expressed interest in previous archaeological survey reports and participating in a joint tribal meeting. GIS shapefiles of the Proposed Route, Proposed Right-of-Way, and Proposed Centerline were provided the same day.

[475] Ex. APP-11 at 8-3 (Application) (eDocket No. 20238-198009-04).

[476] Ex. APP-11 at 8-3 (Application) (eDocket No. 20238-198009-04).

[477] Ex. APP-11 at 8-3 (Application) (eDocket No. 20238-198009-04).

Applicants commit to continuing engagement with the Leech Lake Band of Ojibwe throughout the Project.[478]

b. Lower Sioux Indian Community

394. After submitting initial outreach letters in August 2022, Applicants met with the Lower Sioux Indian Community on January 20, 2023, in a joint meeting with Sherburne County, Mille Lacs Band of Ojibwe, and Upper Sioux Community regarding the proposed Big Elk Lake Park. On May 9, 2023, the Applicants sent a Project update email to Cheyanne St. John, the Lower Sioux Indian Community THPO, detailing the refined Preliminary Route and providing relevant GIS shapefiles of the Proposed Route.[479]

395. On June 27, 2023, the Applicants met with St. John to provide a Project update and discuss the pre-field survey visual reconnaissance. St. John expressed interest in participating in the visual reconnaissance and identified sensitive areas along the Proposed Route, including the Two Inlets at Bdé Heȟáka - Omashkooz Zaaga'igaans Regional Park (formally Big Elk Lake Park), Cuyuna Substation, and Pierz areas. Following this, the Applicants provided GIS shapefiles of the Proposed Route, Proposed Right-of-Way, and Proposed Centerline. Engagement with the Lower Sioux Indian Community will continue throughout the Project.[480]

c. Mille Lacs Band of Ojibwe

396. The Mille Lacs Band of Ojibwe expressed interest in the Project after initial outreach letters in August 2022, responding in August and December 2022. The first meeting with the Mille Lacs Band of Ojibwe was held on January 20, 2023, with other tribal and county representatives regarding the proposed Two Inlets at Bdé Heȟáka - Omashkooz Zaaga'igaans Regional Park (formally Big Elk Lake Park). GIS data of the Route Corridor and updated reservation boundaries were provided shortly after. A separate meeting on February 8, 2023, focused on Project details, including right-of-way needs, vegetation maintenance, and the impact on historical and natural resources. The Mille Lacs Band of Ojibwe highlighted significant cultural and natural areas, requesting more information, which was provided in April 2023.[481]

397. A second meeting held on May 5, 2023, identified additional cultural interest areas, such as historic reservations and indigenous trailways, which will be included in the Cultural Resource Survey Strategy. Following this, further communication with the newly appointed THPO, Mike Wilson, took place, leading to a meeting on June 26, 2023, to discuss the pre-field survey visual reconnaissance. Wilson indicated areas of interest along the Proposed Route and expressed interest in participating in the visual

[478] Ex. APP-11 at 8-4 (Application) (eDocket No. 20238-198009-04).

[479] Ex. APP-11 at 8-4 (Application) (eDocket No. 20238-198009-04).

[480] Ex. APP-11 at 8-4 (Application) (eDocket No. 20238-198009-04).

[481] Ex. APP-11 at 8-5 (Application) (eDocket No. 20238-198009-04).

reconnaissance. Engagement with the Mille Lacs Band of Ojibwe will continue throughout the Project.[482]

d. Upper Sioux Community

398. After initial outreach letters in August 2022, Applicants first met with the Upper Sioux Community on January 20, 2023, in a joint meeting with Sherburne County, Mille Lacs Band of Ojibwe, and Lower Sioux Indian Community. A separate meeting on March 2, 2023, with the Upper Sioux Community's THPO, Samantha Odegard, to review Project details and the Route Corridor. Ms. Odegard highlighted undocumented and documented sites potentially impacted by previous transmission line construction and recommended fieldwork to identify cultural resources, suggesting Tribal Representatives could participate.[483]

399. On April 10, 2023, a follow-up meeting with Ms. Odegard discussed the initial review results of the Project Route Corridor, focusing on the Riverton area and Big Elk Lake Park. Ms. Odegard continued reviewing the Proposed Route, providing a summary on April 13, 2023, followed by GIS data on April 17, 2023. A third meeting on May 5, 2023, confirmed plans for a Tribal Cultural Property survey in June 2023. Ms. Odegard identified additional areas with archaeological potential and recommended a pre-field survey windshield reconnaissance. The final meeting on June 27, 2023, reiterated the Upper Sioux Community's interest in participating in the visual reconnaissance, and GIS shapefiles of the Proposed Route were provided on June 30, 2023. Engagement with the Upper Sioux Community will continue throughout the Project.[484]

3. State Agencies

a. Minnesota State Historic Preservation Office, Office of State Archaeologist, and Indian Affairs Council

400. The paragraphs below summarize the Applicants' outreach, as presented in the Application. Applicants' further coordination since the filing of the Application is discussed in Section X.D herein.

401. Following initial outreach letters in September 2022, the Applicants held a meeting on March 27, 2023, with the Minnesota State Historic Preservation Office (SHPO), Office of State Archaeologist (OSA), and Minnesota Indian Affairs Council (MIAC). The meeting included a Project overview, discussion of the anticipated cultural resources regulatory context, and a review of Tribal engagement efforts. Preliminary results from the ongoing Phase 1a cultural resources literature review were also discussed. The focus then shifted to two regions within the Project Study Area: the

[482] Ex. APP-11 at 8-5 (Application) (eDocket No. 20238-198009-04).

[483] Ex. APP-11 at 8-6 (Application) (eDocket No. 20238-198009-04).

[484] Ex. APP-11 at 8-6 (Application) (eDocket No. 20238-198009-04).

National Register of Historic Places Eligible Cuyuna Iron Range Historic Mining Landscape District and the Long Lake Area. To avoid a pinch point near the Riverton Substation, an alternate route through part of the historic mining district was considered. SHPO noted that the district's industrial landscape might not be adversely affected by the transmission line, but more information was needed to assess the impact.[485]

402. Regarding the Long Lake Area, the Applicants acknowledged the environmental and archaeological constraints of routing the new transmission line adjacent to the existing one across the isthmus between Upper South Long Lake and South Long Lake. SHPO indicated this area is likely significant to the Mille Lacs Band, who should be consulted. The Mille Lacs Band of Ojibwe has been part of the Project's engagement efforts. The cultural resource literature review was distributed to SHPO and OSA on June 12, 2023.[486]

b. Minnesota Department of Natural Resources

403. The Applicants introduced the Project to MnDNR in September 2022, with MnDNR staff attending stakeholder meetings in October 2022 and agreeing to regular updates. An initial meeting was held on December 20, 2022, and included staff from Ecological and Water Resources and Lands and Minerals, where the Applicants provided an overview and discussed timing. Regular update meetings followed, with MnDNR providing information on land status and review processes.[487]

404. In May 2023, the Applicants submitted a formal natural heritage review through the Minnesota Conservation Explorer for the Proposed Route and an initial MnDNR Utility Crossing Permit. Results of the heritage review were provided on June 30, 2023, and the utility crossing permit process is ongoing.[488]

405. On June 30, 2023, MnDNR summarized their early coordination review, and a follow-up meeting on July 25, 2023, discussed these comments and additional Project details. The Applicants will continue working with MnDNR to minimize impacts to sensitive species and habitats and facilitate necessary permits.[489]

c. Minnesota Department of Transportation

406. The Applicants introduced the Project to MnDOT in September 2022. MnDOT Aeronautics joined a meeting with the FAA on November 3, 2022, and offered to review the corridor and its potential impacts on airports, including Hill City – Quadna Mountain Airport, Brainerd Airport, and St. Cloud Airport. MnDOT provided an initial

[485] Ex. APP-11 at 8-7 (Application) (eDocket No. 20238-198009-04).

[486] Ex. APP-11 at 8-7 (Application) (eDocket No. 20238-198009-04).

[487] Ex. APP-11 at 8-7 (Application) (eDocket No. 20238-198009-04).

[488] Ex. APP-11 at 8-8 (Application) (eDocket No. 20238-198009-04).

[489] Ex. APP-11 at 8-8 (Application) (eDocket No. 20238-198009-04).

review of these airports on January 31, 2023. MnDOT Aeronautics staff also attended an open house meeting in May 2023 and later provided information on potential effects on Hill City and St. Cloud airports. Another conference call with the FAA and MnDOT Aeronautics was held on July 14, 2023.[490]

407. Subsequently, three meetings were held with the MnDOT's Office of Land Management and Office of Environmental Services on March 30, May 1, and June 29, 2023, respectively. The Applicants provided Project overviews and updates on route development and stakeholder engagement. MnDOT reviewed crossings of state highways, scenic highways, and potential environmental issues. Prior to the June meeting, MnDOT provided comments and recommendations, including a memo on contaminated materials, which were discussed during the meeting. Additional meetings will be held as the Project progresses.[491]

d. Minnesota Board of Water and Soil Resources

408. The Applicants sent an initial Project introduction letter to Minnesota Board of Water and Soil Resources (BWSR) in September 2022. As the Project is developed, the Applicants will coordinate with BWSR to obtain any necessary permits or approvals.[492]

4. Local Government Units

409. The Applicants sent initial Project introduction letters to Itasca, Aitkin, Crow Wing, Morrison, Benton, and Sherburne counties in September 2022. All respective county officials were invited to the stakeholder workshops in October 2022. The Applicants attended an Itasca County board meeting in February 2023 to provide an update on the Project. As it relates to Aitkin County, the Applicants attended to county board meetings in March and June 2023 to provide updates on the Project. Regarding Crow Wing County, the Applicants offered to attend a board meeting to provide an update to county officials. The Applicants attended two Morrison County board meetings in April and June 2023 to provide an update to the county. In February and May of 2023, the Applicants attended two Benton County board meetings. The Applicants attended two Sherburne County board meetings in February and June 2023, as well as a combined meeting on January 20, 2023, Sherburne County Parks Staff, Upper Sioux Community, and Lower Sioux Indian Community to specifically discuss the Two Inlets at Bdé Heȟáka - Omashkooz Zaaga'igaans Regional Park in Palmer Township.[493]

[490] Ex. APP-11 at 8-8 (Application) (eDocket No. 20238-198009-04).

[491] Ex. APP-11 at 8-8 (Application) (eDocket No. 20238-198009-04).

[492] Ex. APP-11 at 8-9 (Application) (eDocket No. 20238-198009-04).

[493] Ex. APP-11 at 8-9 to 8-10 (Application) (eDocket No. 20238-198009-04).

VI. FACTORS FOR A CERTIFICATE OF NEED

410. Minn. Stat. § 216B.243 identifies the criteria the Commission must evaluate when assessing the need for a large energy facility, which includes:

> (1) the accuracy of the long-range energy demand forecasts on which the necessity for the facility is based;
>
> (2) the effect of existing or possible energy conservation programs under Minn Stat. §§ 216C.05 to 216C.30 and 216B.243 or other federal or state legislation on long-term energy demand;
>
> (3) in the case of a high-voltage transmission line, the relationship of the proposed line to regional energy needs, as presented in the transmission plan submitted under Minn. Stat. § 216B.2425;
>
> (4) promotional activities that may have given rise to the demand for this facility;
>
> (5) benefits of this facility, including its uses to protect or enhance environmental quality, and to increase reliability of energy supply in Minnesota and the region;
>
> (6) possible alternatives for satisfying the energy demand or transmission needs including but not limited to potential for increased efficiency and upgrading of existing energy generation and transmission facilities, load-management programs, and distributed generation;
>
> (7) the policies, rules, and regulations of other state and federal agencies and local governments;
>
> (8) any feasible combination of energy conservation improvements, required under Minn. Stat. § 216B.241, that can (i) replace part or all of the energy to be provided by the proposed facility, and (ii) compete with it economically;
>
> (9) with respect to a high-voltage transmission line, the benefits of enhanced regional reliability, access, or deliverability to the extent these factors improve the robustness of the transmission system or lower costs for electric consumers in Minnesota;
>
> (10) whether the applicant is in compliance with applicable provisions of Minn. Stat. §§ 216B.1691 and 216B.2425, subdivision 7, and has filed or will file by a date certain an application for certificate of need under Minn. Stat. § 216B.243 or for certification as a priority electric transmission project under Minn. Stat. § 216B.2425 for any transmission facilities or upgrades identified under Minn. Stat. § 216B.2425, subdivision 7;

(11) whether the applicant has made the demonstrations required under Minn. Stat. § 216B.243, subdivision 3a; and

(12) if the applicant is proposing a nonrenewable generating plant, the applicant's assessment of the risk of environmental costs and regulation on that proposed facility over the expected useful life of the plant, including a proposed means of allocating costs associated with that risk.[494]

411. Minn. R. 7849.0120 further provides that the Commission shall grant a certificate of need if it determines that:

A. the probable result of denial would be an adverse effect upon the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states, considering:

(1) the accuracy of the applicant's forecast of demand for the type of energy that would be supplied by the proposed facility;

(2) the effects of the applicant's existing or expected conservation programs and state and federal conservation programs;

(3) the effects of promotional practices of the applicant that may have given rise to the increase in the energy demand, particularly promotional practices which have occurred since 1974;

(4) the ability of current facilities and planned facilities not requiring certificates of need to meet the future demand; and

(5) the effect of the proposed facility, or a suitable modification thereof, in making efficient use of resources;

B. a more reasonable and prudent alternative to the proposed facility has not been demonstrated by a preponderance of the evidence on the record, considering:

(1) the appropriateness of the size, the type, and the timing of the proposed facility compared to those of reasonable alternatives;

(2) the cost of the proposed facility and the cost of energy to be supplied by the proposed facility compared to the costs of reasonable alternatives and the cost of energy that would be supplied by reasonable alternatives;

(3) the effects of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives; and

[494] Minn. Stat. § 216B.243, subd. 3.

(4) the expected reliability of the proposed facility compared to the expected reliability of reasonable alternatives;

C. by a preponderance of the evidence on the record, the proposed facility, or a suitable modification of the facility, will provide benefits to society in a manner compatible with protecting the natural and socioeconomic environments, including human health, considering:

(1) the relationship of the proposed facility, or a suitable modification thereof, to overall state energy needs;

(2) the effects of the proposed facility, or a suitable modification thereof, upon the natural and socioeconomic environments compared to the effects of not building the facility;

(3) the effects of the proposed facility, or a suitable modification thereof, in inducing future development; and

(4) the socially beneficial uses of the output of the proposed facility, or a suitable modification thereof, including its uses to protect or enhance environmental quality; and

D. the record does not demonstrate that the design, construction, or operation of the proposed facility, or a suitable modification of the facility, will fail to comply with relevant policies, rules, and regulations of other state and federal agencies and local governments.

412. There is sufficient evidence in the record for the ALJ to assess the Proposed Project using the criteria and factors set out above.

VII. APPLICATION OF THE CERTIFICATE OF NEED CRITERIA TO THE PROPOSED PROJECT

A. The Probable Result of Denial Would Be an Adverse Effect Upon the Future Adequacy, Reliability, or Efficiency of Energy Supply to the Applicant, to the Applicant's Customers, or to the People of Minnesota and Neighboring States, Considering Minn. R. 7849.0120(A).

413. Minn. R. 7849.0120(A) requires various analyses of the proposed facility against various information provided by the applicant related to its own forecasts, system capabilities, and conservation efforts as outlined in Minn. R. 7849.0270, Minn. R. 7849.0280, Minn. R. 7849.0290, Minn. R. 7849.0300, and Minn. R. 7849.0340.

414. Minnesota Power and Great River Energy are the applicants in this proceeding and provided this information, consistent with the requested and Commission-approved exemptions and modifications, in their Application.[495]

1. Accuracy of the Applicant's Forecast of Demand for the Type of Energy That Would be Supplied by the Proposed Facility.

415. Minn. R. 7849.0120(A)(1) requires consideration of "the accuracy of the applicant's forecast of demand for the type of energy that would be supplied by the proposed facility" when determining if denial of a Certificate of Need application would have an adverse effect.

416. Minnesota Power and Great River Energy provided forecast information from Minnesota Power's and Great River Energy's most recent Annual Electric Utility Forecast Reports (AFRs) and any forecast information used by the Applicants or MISO in analyzing the need for the Project.[496]

417. DOC-DER concluded "that the Applicants' forecast of demand for the type of energy that would be supplied by the proposed facility is reasonable."[497]

418. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(A)(1).

2. Effects of the Applicant's Existing or Expected Conservation Programs

419. Minn. R. 7849.0120(A)(2) is based on Minn. Stat. § 216B.243, subd. 3(2), which provides that "no proposed large energy facility shall be certified for construction unless the applicant can show that demand for electricity cannot be met for cost effectively through energy conservation and load management."

420. Applicants provided a summary of the conservation and demand-side management information that was provided as part of Applicants' individual Integrated Resource Plan and Conservation and Improvement Plan (CIP) filings. The Applicants also provided information regarding how conservation and energy efficiency was considered by MISO in its evaluation of the Project.[498]

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[495] Ex. APP-11 at Appendix A, Appendix C, Appendix E, Appendix P, Appendix Q (Application) (eDocket Nos. 20238-198009-06; 20238-198011-13; 20238-198011-15 (TS)).

[496] Ex. APP-11 at Appendix P (Application) (eDocket Nos. 20238-198011-13; 20238-198011-15 (TS)).

[497] DOC-DER Comments at 7 (May 24, 2024) (eDocket No. 20245-207084-01).

[498] Ex. APP-11 at Appendix Q (Application) (eDocket No. 20238-198011-17).

421. DOC-DER concluded that "the Applicants' existing or expected conservation programs cannot address the claimed need."[499]

422. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(A)(2).

3. Effects of Promotional Practices of the Applicant That May Have Given Rise to the Increase in the Energy Demand

423. Minn. R. 7849.0120(A)(3) is based on Minn. Stat. § 216B.243, subd. 3(4), which provides that the Commission shall evaluate whether applicant has undertaken promotional activities that may have given rise to the demand for this facility.

424. The Applicants confirmed that they have not conducted any promotional activities or events that have triggered the need for the Project. Rather, the Project is driven by regional reliability issues related to the clean energy transition and meeting public policy objectives.[500]

425. DOC-DER concluded that "promotional practices of the Applicants have not created the reliability issues to be addressed by the proposed Project."[501]

426. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(A)(3).

4. The Ability of Current Facilities and Planned Facilities Not Requiring a Certificate of Need to Meet the Future Demand

427. Minn. R. 7849.0120(A)(4) mandates that consideration be given to whether current facilities or facilities not requiring a certificate of need could meet the future demand.

428. The Project is needed to address some of the most challenging transmission system reliability issues in northern and central Minnesota related to the region's transition away from coal-fired generation, including serious regional voltage and transient stability issues identified by the Applicants and MISO.[502]

429. Likewise, DOC-DER concluded that "current facilities and planned facilities not requiring certificates of need will not be able to meet the future demand and that upgrades to existing facilities would be an inferior alternative."[503]

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[499] DOC-DER Comments at 8(May 24, 2024) (eDocket No. 20245-207084-01).

[500] Ex. APP-11 at 3-44 (Application) (eDocket No. 20238-198009-04).

[501] DOC-DER Comments at 8 (May 24, 2024) (eDocket No. 20245-207084-01).

[502] Ex. APP-11 at 1-8 (Application) (eDocket No. 20238-198009-04).

[503] DOC-DER Comments at 9 (May 24, 2024) (eDocket No. 20245-207084-01).

430. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(A)(4).

5. The Effect of the Proposed Facility, or a Suitable Modification Thereof, in Making Efficient Use of Resources

431. Minn. R. 7849.0120(A)(5) mandates that consideration be given to whether the proposed facility, or a suitable modification thereof, is making efficient use of resources.

432. Applicants provided information to support that if the Project is delayed, there will be both regional and local reliability consequences, including loss in performance of the MISO LRTP Tranche 1 Portfolio and a delay in the cessation of coal-fired generation at Minnesota facilities due to reliability constraints.[504]

433. DOC-DER concluded that the "Project will make efficient use of both existing transmission resources (via co-location) and generation resources (via reduced line losses."[505]

434. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(A)(5).

6. Conclusion Regarding Minn. R. 7849.0120(A)

435. In its comments with respect to this criterion, DOC-DER concluded that "the probably result of denial would be an adverse effect upon the future adequacy, reliability, or efficiency of energy supply to the Applicants, to the Applicants' customers, and to the people of Minnesota and neighboring states."[506]

436. MISO also explained that the "overall system would also be more secure with the addition of the Project, which addresses additional voltage and transient stability limitations."[507]

437. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(A) for the Proposed Project.

[504] Ex. APP-11 at 3-43–3-44 (Application) (eDocket No. 20238-198009-04).

[505] DOC-DER Comments at 9 (May 24, 2024) (eDocket No. 20245-207084-01).

[506] DOC-DER Comments at 9 (May 24, 2024) (eDocket No. 20245-207084-01).

[507] MISO Comments at 1 (May 24, 2024) (eDocket No. 20245-207078-01).

B. A More Reasonable and Prudent Alternative to the Proposed Facility Has Not Been Demonstrated by a Preponderance of the Evidence on the Record, Considering Minn. R. 7849.0120(B).

1. Appropriateness of the Size, Type, and Timing of the Proposed Facility Compared to Those of Reasonable Alternatives

438. Minn. R. 7849.0120(B)(1) requires that the size, type, and timing of the proposed facilities be evaluated relative to reasonable alternatives. The "size" refers to the quantity of power transfers that a particular alternative enables and whether it is sufficient to meet the identified need. "Type" refers to the transformer nominal rating, rated capacity, surge impedance loading, and nature (AC or DC) of the power transported. Timing refers to the in-service date for the proposed facilities.[508]

439. The Applicants considered lower voltage solutions involving additions to the local 115 kV and 230 kV transmission system as an alternative to the Project. The voltage stability concerns mitigated by the Project are caused by outage of the Forbes – Chisago 500 kV Line. The Project mitigates these concerns by establishing an electrically parallel path that will stay in service when the Forbes – Chisago 500 kV Line is lost. For any solution, including the Project, to be effective in mitigating these voltage stability concerns the Applicant's studies found that the solution must have a similar electrical impedance to the Forbes – Chisago 500 kV Line. To achieve the required impedance and be able to accommodate the necessary power transfer levels, the Applicants' analysis indicates multiple 230 kV or 115 kV corridors would need to be developed. The increases in the total number of new transmission rights-of-way for the 230 kV and 115 kV alternatives would have considerable human and environmental impacts, in addition to higher costs. Based on this analysis, lower voltages such as 230 kV and 115 kV are not a more reasonable or prudent alternative to the Project.[509]

440. The Applicants considered higher voltage solutions involving new 500 kV and 765 kV transmission as an alternative to the Project. The Applicants considered a 765 kV alternative. Because there is currently no 765 kV transmission in the MISO region north and west of Illinois, expensive transformation would be required to interconnect with existing 500 kV and 345 kV systems at the Iron Range Substation and the Benton County Substation. Combined with the increased construction costs and right-of-way requirements for a higher voltage line, the overall increase of cost, impacts, and operational complexity would not be worth the additional capacity gained by a 765 kV build compared to the Project. The Applicants have assessed the current and future

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[508] *In the Matter of the Application of ITC Midwest LLC for a Route Permit for the Minnesota – Iowa 345 kV Transmission Line Project in Jackson, Martin and Faribault Counties*, Docket No. ET6675/TL-12-1337, ORDER GRANTING ROUTE PERMIT at 2 incorporating by reference ALJ FINDINGS OF FACT, CONCLUSIONS OF LAW, AND RECOMMENDATIONS at Finding 247 (Nov. 25, 2014).

[509] Ex. APP-11 at 4-8 (Application) (eDocket No. 20238-198009-04).

needs of the region and concluded that double-circuit 345 kV provides the greatest degree of capacity, expandability, and long-term flexibility.[510]

441. The Applicants considered a 500 kV alternative in the Northern Minnesota Beyond Baseload Study and MISO also considered a 500 kV alternative. The Project needs to match the impedance of the existing Forbes – Chisago 500 kV Line, so a single circuit 500 kV line similar to the Forbes – Chisago 500 kV Line is a reasonable alternative to consider. In developing the Project, the Applicants developed a comparison of the pros and cons of 500 kV and double-circuit 345 kV.[511]

442. The proposed double-circuit 345 kV configuration for the Project has more benefits overall than a single-circuit 500 kV alternative. The 500 kV alternative has slightly lower losses and slightly higher incremental transfer capability, but it comes at a slightly higher cost with less redundancy and flexibility. In selecting double-circuit 345 kV for the Project, the Applicants considered the redundancy benefits of the double-circuit configuration compared to a single-circuit alternative, as well as the increased flexibility for future expansion and interconnection as the needs of the local and regional grid continue to evolve. One of the major benefits of 345 kV is that future connections to the Project substation and series compensation facilities come at a lower cost, impact, and complexity compared to 500 kV. Given similar performance and near-term cost, the Applicants concluded that the added long-term flexibility of 345 kV was the best solution for the Project. Based on this analysis, higher voltages such as 765 kV and 500 kV are not a more reasonable or prudent alternative than the Project.[512]

443. In written comments, MISO explained the extensive analysis that had been conducted to develop the LRTP Tranche 1 Portfolio.[513]

444. DOC-DER concluded that the size proposed for the Project is reasonable, and that 345 kV AC is preferable in this case.[514]

[510] Ex. APP-11 at 4-9 (Application) (eDocket No. 20238-198009-04).

[511] Ex. APP-11 at 4-9 (Application) (eDocket No. 20238-198009-04).

[512] Ex. APP-11 at 4-10 (Application) (eDocket No. 20238-198009-04).

[513] MISO Comments (May 24, 2024) (eDocket No. 20245-207078-01).

[514] DOC-DER Comments at 9-10 (May 24, 2024) (eDocket No. 20245-207084-01).

445. The projected in-service date for the Project is June 2030.[515]

446. DOC-DER concluded that the Applicants' proposed timing for the Project is reasonable, and no party disputed the need for the Project by the in-service date.[516]

447. Overall, DOC-DER concluded "that the size, the type, and the timing of the proposed Project is reasonable when compared to those of the available alternatives."[517]

448. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(B)(1).

2. The Cost of the Proposed Facility and the Cost of the Energy to be Supplied by the Proposed Facility Compared to the Costs of Reasonable Alternatives and the Cost of Energy that Would be Supplied by Reasonable Alternatives

449. The Applicants provided extensive analysis of various wire and non-wire alternatives to the Project. The primary need for the Project is to address some of the most challenging transmission system reliability issues in northern and central Minnesota related to the region's transition away from coal-fired generation. Each alternative either does not meet the stated needs of the Project or is not cost-effective when compared to the Project.[518]

450. The Project is part of the MISO LRTP Tranche 1 Portfolio, which has been determined by MISO to meet the criteria for being designated a Multi-Value Project (MVP) according to the MISO tariff. Therefore, the Project, along with all other projects in the LRTP Tranche 1 Portfolio, qualifies for regional cost allocation.[519]

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[515] Ex. APP-11 at 4-10 (Application) (eDocket No. 20238-198009-04). While the in-service date of Segment 1 of the Project and the portion of Segment 2 from the Benton County Substation and Sherco Substation are within the control of the Applicants, the final in-service date for the Benton County Substation to Big Oaks Substation portion of the Project in Segment 2 will align with the in-service date of the proposed Big Oaks Substation, which is part of a separate project (Docket Nos. E017,ET2,E002,ET10,E015/CN-22-538 and E002,ET2,ET10,E015,E017/TL-23-159). Ex. APP-11 at 4-10 (Application) (eDocket No. 20238-198009-04).

[516] DOC-DER Comments at 11 (May 24, 2024) (eDocket No. 20245-207084-01).

[517] DOC-DER Comments at 12 (May 24, 2024) (eDocket No. 20245-207084-01).

[518] Ex. APP-11 at 4-1–4-25 (Application) (eDocket No. 20238-198009-04).

[519] Ex. APP-11 at 2-14 (Application) (eDocket No. 20238-198009-04).

451. DOC-DER concluded that "the Applicants' proposed Project is the least cost alternative and that making the Benton County-Sherco segment double circuit capable is reasonable."[520]

452. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(B)(2).

3. The Effects of the Proposed Facility Upon the Natural and Socioeconomic Environments Compared to the Effects of Reasonable Alternatives

453. DOC-EERA prepared an EA for the Project that evaluates the natural and socioeconomic effects of the Proposed Route and alternatives.[521] The EA discussed both system and route alternatives and generally determined that system alternatives would not be feasible alternatives to the Project.

454. According to DOC-EERA, potential impacts are anticipated to be minimal and not vary significantly among the full route options for the following routing factors and elements: noise, property values, electronic interference, cultural values, zoning and land-use compatibility, public services, EMF, implantable medical devices, stray voltage, induced voltage, air quality, federal- and state-protected species, and electric system reliability.[522]

455. On the whole, impacts are anticipated to be moderate for all route options. However, the Modified Proposed Route is the least expensive.[523]

456. Joint Commenters explained the benefits to natural and socioeconomic benefits from the Project, including: additional integration of renewable energy; strengthening the transmission system again severe weather; promoting economic growth; and, reducing emissions and improving environmental quality through Minnesota.[524]

457. Constructing the Project is anticipated to bring socioeconomic benefits to the State. In Minnesota, approximately 75-100 workers will be needed for construction of the Project. DOC-EERA concluded that "[t]he project would improve the socioeconomics

[520] DOC-DER Comments at 13 (May 24, 2024) (eDocket No. 20245-207084-01).

[521] Ex. EERA-9 (EA) (eDocket Nos. 20246-208129-02; 20246-208129-04; 20246-208129-06; 20246-208129-08; 20246-208129-10; 20246-208129-12; 20246-208129-14).

[522] Ex. EERA-9 at 409 (EA) (eDocket No. 20246-208129-14).

[523] Ex. EERA-9 at 412 (EA) (eDocket No. 20246-208129-14).

[524] Joint Commenters Comments at 5-6 (May 24, 2024) (eDocket No. 20245-207085-02).

of the region through the creation of jobs, generation of tax revenue, and providing more reliable electrical service to the surrounding communities."[525]

458. Likewise, DOC-DER concluded that the CO2 reductions as a result of the Project "has a substantial impact."[526]

459. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(B)(3).

4. The Expected Reliability of the Proposed Facility Compared to the Expected Reliability of Reasonable Alternatives

460. The Project will address serious regional voltage and transient stability issues in northern and central Minnesota and also provide voltage support, improve system strength, and provide local sources of power delivery. The Project will also increase the ability to move power between regions which helps ensure Minnesota has access to resources during extreme weather events.[527]

461. Likewise, DOC-DER concluded that alternatives to the Project "would result in equivalent or inferior reliability."[528]

462. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(B)(4).

5. Conclusion Regarding Minn. R. 7849.0120(B)

463. No other party submitted a more reasonable and prudent alternative to the Applicants' Proposed Project that satisfies all the requirements of Minn. R. 7849.0110 and 7849.0120.

Likewise, DOC-DER concluded "that a more reasonable and prudent alternative to the proposed facility has not been demonstrated by a preponderance of the evidence on the record."[529]

464. There is no other reasonable and prudent alternative to the Project on the record and therefore, Minn. R. 7849.0120(B) is satisfied.

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[525] Ex. EERA-9 at 94 (EA) (eDocket No. 20246-208129-08).

[526] DOC-DER Comments at 14 (May 24, 2024) (eDocket No. 20245-207084-01).

[527] Ex. APP-11 at 1-8 (Application) (eDocket No. 20238-198009-04).

[528] DOC-DER Comments at 14 (May 24, 2024) (eDocket No. 20245-207084-01).

[529] DOC-DER Comments at 14 (May 24, 2024) (eDocket No. 20245-207084-01).

C. By a Preponderance of Evidence on the Record, the Proposed Facility, or a Suitable Modification of the Facility, Will Provide Benefits to Society in a Manner Compatible With Protecting the Natural and Socioeconomic Environments, Including Human Health.

1. The Relationship of the Proposed Facility, or Suitable Modification Thereof, to Overall State Energy Needs

465. Minn. R. 7849.0120(C)(1) requires an assessment of the relationship of the Project to overall energy needs of Minnesota.

466. The Project is needed to maintain transmission system reliability and optimize regional transfer capability as coal-fired generation ceases operations in northern Minnesota and significant renewable generation comes online in the upper Midwest.[530] The Project will address serious regional voltage and transient stability issues in northern and central Minnesota and also provide voltage support, improve system strength, and provide local sources of power delivery. The Project will also increase the ability to move power between regions which helps ensure Minnesota has access to resources during extreme weather events.[531]

467. Should the Project be delayed, northern and central Minnesota would be exposed to severe reliability issues up to and including potential blackouts. The Project is needed to resolve numerous stability issues and overloads as legacy fossil fuel generation continues to transition to non-baseload operation or retirement. Reliability risks would be highest in the winter months when the need for electricity is highest in northern Minnesota. As the Project was evaluated and optimized by MISO as part of a broader regional portfolio, the reliability risk implications also extend beyond Minnesota.[532]

468. DOC-DER agreed with Applicants' analysis, stating that "the proposed Project was designed by MISO as part of a package of projects to address reliability needs all across the MISO footprint and that the proposed Project will individually benefit state energy needs."[533]

469. Minnesota Power and Great River Energy have demonstrated that the Project will advance Minnesota's state energy needs.

470. Minnesota Power and Great River Energy have satisfied Minn. R. 7879.0120(C)(1).

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[530] Ex. APP-11 at 1-1 (Application) (eDocket No. 20238-198009-04).

[531] Ex. APP-11 at 1-8 (Application) (eDocket No. 20238-198009-04).

[532] Ex. APP-11 at 4-24 (Application) (eDocket No. 20238-198009-04).

[533] DOC-DER Comments at 15 (May 24, 2024) (eDocket No. 20245-207084-01).

2. The Effects of the Proposed Facility, or a Suitable Modification Thereof, Upon the Natural and Socioeconomic Environments Compared to the Effects of Not Building the Facility

471. Minn. R. 7849.0120(C)(2) requires an assessment of the Project's potential natural and socioeconomic environment impacts when compared to the no build alternative.

472. The Project is needed to maintain regional reliability as utilities and Minnesota add new clean energy resources and modify the way they use existing fossil-fuel plants.[534] Without the Project there will be serious reliability issues associated with retirement of coal-fired generation units, and thus MISO will require the units to remain online. The transition away from fossil-fuel plants and their replacement with new generation enabled by the Project and MISO LRTP Tranche 1 Portfolio are a critical component for utilities to comply with Minnesota's carbon-free by 2040 standard. In addition to the risk of not meeting Minnesota policy objectives, as the Project is part of a broader portfolio, a delay increases the risk of other states meeting their policy objectives.[535]

473. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(C)(2) for the Proposed Project.

3. The Effects of the Proposed Facility, or a Suitable Modification Thereof, in Inducing Future Development

474. Minn. R. 7849.0120(C)(3) concerns assessing the effects of the proposed facility in inducing future development.

475. The Project is not intended to induce future development, but it may support future economic development that otherwise would not be possible if the Project and the MISO LRTP Tranche 1 Portfolio were not constructed.[536]

476. Likewise, Joint Commenters noted that "the Project will reduce burdens associated with renewable energy integration . . . [and] provides a pathway for developments that will be critically important to Minnesota's energy future."[537]

477. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(C)(3) for the Project.

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[534] Ex. EERA-9 at 56 (EA) (eDocket No. 20246-208129-06).

[535] Ex. APP-11 at 4-24–4-25 (Application) (eDocket No. 20238-198009-04).

[536] Ex. APP-11 at 3-44 (Application) (eDocket No. 20238-198009-04).

[537] Joint Commenters Comments at 8 (May 24, 2024) (eDocket No. 20245-207085-02).

4. The Socially Beneficial Uses of the Output of the Proposed Facility, or a Suitable Modification Thereof, Including Its Uses to Protect or Enhance Environmental Quality

478. Minn. R. 7849.0120(C)(4) provides that the socially beneficial uses of the output of the Project, including its uses to protect or enhance environmental quality, shall be assessed before certification.

479. The purpose of the Project is to maintain critical transmission reliability for the Applicants' customers and the broader MISO region as the region undergoes a transition from fossil-fuel generation resources to cleaner energy resources. The Project supports public policy goals such as Minnesota's carbon-free by 2040 standard and its interim targets. The Project is expected to reduce annual CO_2 emissions by at least 1,156 to 3,093 thousand tons. Additionally, the Project supports the reliable interconnection of new lower CO_2 emission generation in Minnesota and the surrounding region. When the additional potential generation is added to the analysis, the Project is expected to reduce annual CO_2 emission by upwards of 5,178 to 8,634 thousand tons.[538]

480. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(C)(4).

5. Conclusion Regarding Minn. R. 7849.0120(C)

481. Minnesota Power and Great River Energy have satisfied Minn. R. 7849.0120(C) for the Proposed Project.

D. <u>The Record Does Not Demonstrate That the Design, Construction, or Operation of the Proposed Facility, or A Suitable Modification of the Facility, Will Fail to Comply with Relevant Policies, Rules, and Regulations of Other State and Federal Agencies and Local Governments.</u>

482. Minn. R. 7849.0120(D) requires an evaluation of the Project to ensure that it will comply with relevant policies, rules, and regulations of state and federal agencies and local governments.

483. The Applicants have committed that the Project will comply with all applicable state and federal agency rules and regulations as well as those of local governments.[539]

484. Likewise, DOC-DER concluded that "the record does not demonstrate that the design, construction, or operation of the proposed facility, or a suitable modification

[538] Ex. APP-11 at 3-44–3-45 (Application) (eDocket No. 20238-198009-04); Joint Commenters Comments at 8 (May 24, 2024) (eDocket No. 20245-207085-02).

[539] Ex. APP-11 at 9-1–9-7 (Application) (eDocket No. 20238-198009-04).

of the facility, will fail to comply with relevant policies, rules, and regulations of other state and federal agencies and local governments."[540]

485. Minnesota Power and Great River Energy have demonstrated that the Minnesota Power Proposed Project satisfies Minn. R. 7849.0120(D).

E. Conclusion on Minn. R. 7849.0120 Criteria

486. Based on the evidence of the record, the Proposed Project satisfies the criteria of Minn. R. 7849.0120.

VIII. FACTORS FOR A ROUTE PERMIT

487. The Power Plant Siting Act (PPSA), Minn. Stat. Ch. 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."[541]

488. Under the PPSA, the Commission and the 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 facilities 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;
>
> (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;

[540] DOC-DER Comments at 17 (May 24, 2024) (eDocket No. 20245-207084-01).

[541] Minn. Stat. § 216E.03, subd. 7.

(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 subdivisions 1 and 2;

(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 the future needs for additional high-voltage transmission lines in the same general area as route proposed during the proceeding, 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;

(12) when appropriate, consideration of problems raised by other state and federal agencies and local entities;

(13) evaluation of the benefits of the proposed facility with respect to (i) the protection and enhancement of environmental quality, and (ii) the reliability of state and regional energy supplies;

(14) evaluation of the proposed facility's impact on socioeconomic factors; and

(15) evaluation of the proposed facility's employment and economic impacts in the vicinity of the facility site and throughout Minnesota, including the quantity and quality of construction and permanent jobs and their compensation levels. The commission must consider a facility's local employment and economic impacts, and may reject or place conditions on a site or route permit based on the local employment and economic impacts.[542]

489. Also, Minn. Stat. § 216E.03, subd. 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."

490. In addition to the PPSA, the Commission and the ALJ are governed by Minn. R. 7850.4100, which mandates consideration of the following factors when determining whether to issue a route permit for a high-voltage transmission line:

[542] Minn. Stat. § 216E.03, subd. 7.

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;

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.

491. There is sufficient evidence in the record for the ALJ to assess the Modified Proposed Route using the criteria and factors set out above.

IX. OVERVIEW OF THE PROJECT AREA

492. The Project traverses Itasca, Aitkin, Crow Wing, Morrison, Benton and Sherburne counties, Minnesota. It is sited within the St. Louis Moraines, Tamarack Lowlands, Pine Moraines and Outwash Plains, and Mille Lacs Uplands subsections of the

Laurentian Mixed Forest Province and the Anoka Sand Plain Subsection of the Eastern Broadleaf Forest Province as defined by the MnDNR Ecological Classification System.[543]

493. The Laurentian Mixed Forest Province is characterized by broad areas of conifer forest, mixed hardwood and conifer forests, and conifer bogs and swamps. The landscape ranges from rugged lake-dotted terrain with thin glacial deposits over bedrock, to hummocky or undulating plains with deep glacial drift, to large, flat, poorly drained peatlands.[544]

494. The Eastern Broadleaf Forest Province serves as a transition zone between semi-arid portions of the state that were historically prairie and semi-humid mixed conifer-deciduous forests to the northeast. The southern portion of the Modified Proposed Route is located within the Anoka Sand Plain Subsection within this province and consists of a flat, sandy lake plain and terraces along the Mississippi River.[545]

495. The environmental setting for the Project area consists of open space, deciduous forest, and hydrologic features such as lakes, streams, rivers, and wetlands. The physiographic features (topography, soils, geology, and vegetation) vary from flat to rolling hills with steep ravines along streams and rivers.[546]

496. Typical land use within and adjacent to the Project area consists of low density and rural residential property, open and public lands, agricultural land, forest land, and commercial property. The closest cities to and within the Project area are Hill City, Riverton, Harding, Pierz, St. Cloud, and Becker. The most important land uses are forestry, agriculture, and tourism. Tourism is common where there are concentrations of recreational trails, parks, and lakes.[547]

497. Existing rights-of-way associated with transmission lines, distribution lines, and roads are prevalent within and adjacent to the Project area.[548]

X. APPLICATION OF ROUTING FACTORS TO THE PROJECT

A. Effects on Human Settlement

498. Minnesota Rules part 7850.4100(A) requires consideration of the effects on human settlement, including displacement of residences and businesses, noise created

[543] Ex. APP-11 at 7-1 (Application) (eDocket No. 20238-198009-04).

[544] Ex. APP-11 at 7-1 (Application) (eDocket No. 20238-198009-04).

[545] Ex. APP-11 at 7-1 (Application) (eDocket No. 20238-198009-04).

[546] Ex. APP-11 at 7-1 (Application) (eDocket No. 20238-198009-04).

[547] Ex. APP-11 at 7-1 (Application) (eDocket No. 20238-198009-04).

[548] Ex. APP-11 at 7-1 (Application) (eDocket No. 20238-198009-04).

during construction and by operation of the Project, and impacts to aesthetics, cultural values, recreation, and public services for any routes proposed for the Project.

1. Displacement

499. Residences and businesses are located along roads within the Project. Residences are typically low density and rural residential. Applicants stated that avoidance of residences was a priority when identifying the Proposed Route.[549]

500. The EA notes that there are three residences within the right-of-way of the Proposed Route in the Application. Applicants clarified that one of these residences is located in the Cole Lake-Riverton area, and two residences are located in Sherburne County. The residence in the Cole Lake-Riverton area will not be displaced by the Project because final alignment will be designed to be more than 75 feet from this residence. With respect to the residences in Sherburne County, the Applicants explained that these residences are within 75 feet of the existing GRE-BS line and were constructed after the existing transmission lines were built. The residences have been reviewed in connection with the existing transmission lines to ensure there are no safety, integrity, or compliance concerns, and Applicants stated that they do not anticipate displacement of these residences.[550]

501. In Segment 2, the five residences (one on the MR Line and four on the GRE-BS Line) that have residential improvements partially within 75 feet of the centerlines of the existing transmission lines were constructed after the existing transmission lines were built. These improvements have been reviewed in connection with the existing transmission lines to ensure that there are no safety, integrity, or compliance concerns that require action to continue to safely operate the existing lines. With respect to the Project, the Applicants anticipate that the Project likewise will not require that Applicants take action to relocate any or all of these residences, or any portion thereof, and Applicants will work with the residence owners to document these situations and/or agreements, as necessary.[551]

502. Applicants' Modified Proposed Route and the Co-location Maximization Route are anticipated to generally have similar residential impacts, although the Co-location Maximization Route is within 250-500 feet of 180 residences, as compared to 163 residences on the Modified Proposed Route.[552] In other instances, some route

[549] Ex. APP-11 at 7-3 (Application) (eDocket No. 20238-198009-04).

[550] Ex. EERA-9 at xxxv (EA) (eDocket No. 20246-208129-04); Applicants' Comments on the EA and Additional Information Requested at Public Hearings (Aug. 5, 2024) (eDocket No. 20248-209266-01).

[551] Ex. APP-11 at 7-3 (Application) (eDocket No. 20238-198009-04).

[552] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

alternatives analyzed have greater potential to impact residences due to proximity, as described in the following paragraphs.

503. As compared to the Proposed Route, route alternative A1 would be within 75-250 feet of 3 residences, as compared to 0 for the Proposed Route. Likewise, route alternatives A2 and A3 are also in closer proximity to more residences than the Proposed Route.[553]

504. Route alternative B is also in closer proximity to more residences than the Proposed Route.[554]

505. Route alternative C is in closer proximity to more residences than the Proposed Route, and there is one residence within 75 feet.[555]

506. Route alternatives E4 and E5 would both have three residences within 75 feet, as compared to one residence on the corresponding segment of the Proposed Route. They would also have more residences between 75-250 feet than the Proposed Route.[556]

507. There is one residence within 75 feet of route alternative H2, as compared to zero for the corresponding segment of the Proposed Route; in general, route alternatives H1 and H2 has more residences in closer proximity than the Proposed Route.[557]

508. Route alternative K has two residences within 75 feet, as compared to zero for the corresponding segment of the Proposed Route. In general, route alternative K has more residences in closer proximity than the Proposed Route.[558]

509. Route alternative J3 has one residence within 75 feet, as compared to zero for the corresponding segment of the Proposed Route; in general, route alternatives J1, J2, and J3 are in closer proximity to more homes than the equivalent Proposed Route.[559]

510. With respect to the transmission line, the Applicants will work with landowners to address alignment adjustments and structure placement to the extent practicable. The requested route widths afford the Applicants the flexibility to work with

[553] Ex. EERA-9 at 165; Table 6-6 (EA) (eDocket No. 20246-208129-10).

[554] Ex. EERA-9 at 191; Table 6-22 (EA) (eDocket No. 20246-208129-10).

[555] Ex. EERA-9 at 203; Table 6-29 (EA) (eDocket No. 20246-208129-12).

[556] Ex. EERA-9 at 256-57; Table 6-62 (EA) (eDocket No. 20246-208129-12).

[557] Ex. EERA-9 at 310-11; Table 6-97 (EA) (eDocket No. 20246-208129-14).

[558] Ex. EERA-9 at 326; Table 6-104 (EA) (eDocket No. 20246-208129-14).

[559] Ex. EERA-9 at 369; Table 6-134 (EA) (eDocket No. 20246-208129-14).

landowners around existing residences, other structures, and businesses, as appropriate.[560]

2. Noise

511. The Minnesota Pollution Control Agency (MPCA) has established standards for the regulation of noise levels. The land use activities associated with residential, commercial and industrial land have been grouped together into Noise Area Classifications (NACs). Residential-type land use activities including residences, churches, camping and picnicking areas, and hotels are included in NAC-1. Commercial-type land use activities such as transit terminals, retail and business services are included in NAC-2. Industrial-type land use activities are included in NAC-3. Most of the Project area would be categorized as NAC-1 or NAC-2, since much of it is rural in nature.[561] Potential impacts are assessed with respect to receptors; in NAC-1, for example, this includes homes.[562]

512. Audible noise will occur as part of the construction and operation phases of the Project. Noise-sensitive land uses within the vicinity of the Proposed Route primarily includes residences and neighborhoods, cross-country ski and walking trails, trout streams, natural areas, cemeteries, churches, office buildings, restaurants, retail/shopping stores, and parks.[563]

513. Construction noise at the Project will be temporary and primarily limited to daytime hours. The main source of noise will derive from heavy construction equipment operation, tree clearing equipment, and increased vehicle traffic due to construction personnel transporting materials to and from the site.[564] Instances such as outages, operational limitations, customer schedules, or other factors may cause construction to occur outside of daytime hours or on weekends. Heavy equipment will also be equipped

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[560] Ex. APP-29 (Applicants' EA Scoping Comments) (eDocket No. 202311-200670-01); Applicants' Comments on the EA and Additional Information Requested at Public Hearings (Aug. 5, 2024) (eDocket No. 20248-209266-01).

[561] Ex. APP-11 at 7-6 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 91–93 (EA) (eDocket No. 20246-208129-08).

[562] For example, the Commission has consistently analyzed noise impacts of wind farms by assessing anticipated noise levels at residential homes. *E.g.*, *In the Matter of the Applications of Plum Creek Wind Farm, LLC for a Certificate of Need, Site Permit, and Route Permit*, Docket No. WS-18-700, Plum Creek Wind Project – Final Environmental Impact Statement, at 94-95 (Apr. 2021); *see also Application Guidance for Site Permitting of Large Wind Energy Conversion Systems in Minnesota*, Minnesota Department of Commerce, at Section 8.4 (stating that sound levels must meet Minnesota standards "at all residential receptors (homes)."

[563] Ex. APP-11 at 7-7 (Application) (eDocket No. 20238-198009-04).

[564] Ex. APP-11 at 7-7 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 90 (EA) (eDocket No. 20246-208129-08).

with sound attenuation devices such as mufflers to minimize the daytime noise levels. Transformers, inverters, and switchgears will create audible noise in the direct vicinity of substations, but residences will be far enough away to meet MPCA noise standards.[565]

514. Substations may also contribute noise. Transformers, inverters, and switchgears are among the primary noise sources of a substation. Noise emissions from this equipment have a tonal character that sometimes sounds like a hum or a buzz, which corresponds to the frequency of the alternating current. Transformers are among the largest noise sources, and the core of a transformer will expand and contract as it is magnetized and demagnetized at a rate that is based on the frequency of the alternating current. This type of noise does not have much low frequency content, and therefore blends into background noise levels with increasing distance away from the source without being too intrusive off-site. Further, residences will be far enough away to meet MPCA noise standards.[566] The Applicants will secure substation components that operate within the state noise standard.[567]

515. Transmission line conductors emit a noise that is called corona. Corona noise has a crackling sound and is due to corona discharges—the small amount of electricity ionizing the moist air near the conductors. The level of noise depends on conductor conditions, voltage level, and weather conditions. The Applicants modeling results indicate that Project-related audible noise is expected to be within the most stringent MPCA noise standards for all corridor configurations.[568]

516. These conditions would exist for any route selected for the Project, and the Commission's general route permit conditions include a condition requiring the Permittees to comply with applicable noise standards and limit construction and maintenance activities to daytime working hours to the extent practicable to avoid and minimize potential noise impacts.[569]

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[565] Ex. APP-11 at 7-8 (Application) (eDocket No. 20238-198009-04).

[566] Ex. APP-11 at 7-8 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 92–93 (EA) (eDocket No. 20246-208129-08).

[567] Ex. APP-11 at 7-7 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 92–93 (EA) (eDocket No. 20246-208129-08).

[568] Ex. APP-11 at 7-7 to 7-9 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 90–91 (EA) (eDocket No. 20246-208129-08).

[569] Ex. EERA-9 at Appendix H, Draft Route Permit Section 5.3.6 (EA) (eDocket No. 20246-208135-18).

3. Aesthetics

517. Current land use along the Modified Proposed Route consists of low density and rural residential land, open and public land (dense forest, prairie, and wetland areas), agricultural land, and scattered industrial areas.[570]

a. Segment 1

518. The proposed transmission lines will be permanently visible to observers in the general area surrounding the Project. To avoid and minimize potential aesthetic impacts, the Applicants have proposed a route that generally follows existing rights-of-way, where practicable. More than 85 percent of the Modified Proposed Route and 90 percent of the Co-location Maximization Route follows existing 115 kV and 230 kV high-voltage transmission line rights-of-way. Some visual impacts may still result from placement of new, taller transmission structures, but overall, permanent impacts will be reduced because the Project is generally proposed where transmission structures are already part of the visual character of the area.[571]

519. The Iron Range and Benton County substation expansions will occur at existing substations and on property owned by the Applicants. There is already considerable utility infrastructure in both of the substation areas as existing transmission and distribution lines are prevalent around the substations. New utility infrastructure will be developed in the proposed Cuyuna Series Compensation Station location, and tree removal and grading will be needed to support construction.[572]

520. Substation expansions would occur where the visual character of the area is already dominated by electric infrastructure. Although the expansion would establish additional permanent visual features, impacts are expected to be minimal based on the existing substation. The new Cuyuna Series Compensation Station will be constructed on currently vacant forested land and will introduce a new permanent visual feature into the environment. However, the current site is removed from public roads or residences and would be screened by adjacent forested areas. Although a permanent impact, it would only be visible to individuals potentially recreating (i.e., hunting) in the area.[573]

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[570] Ex. APP-11 at 7-9 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 81–83 (EA) (eDocket No. 20246-208129-08).

[571] Ex. APP-11 at 7-11 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 81–83 (EA) (eDocket No. 20246-208129-08); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[572] Ex. APP-11 at 7-10 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 81–83 (EA) (eDocket No. 20246-208129-08).

[573] Ex. APP-11 at 7-10 (Application) (eDocket No. 20238-198009-04).

521. Existing transmission lines are currently visible throughout much of the Project area. The existing transmission structure heights in Segment 1, range in height between 45 feet to 105 feet.[574]

522. There are areas of high scenic integrity and significance at points within the Project area, as identified by the public and agency officials during public outreach. Some portions of new right-of-way could create new visual impacts in these areas.[575]

523. The Modified Proposed Route and the Co-location Maximization Route cross the Mississippi River in two locations, southeast of Grand Rapids in Itasca County and north of the proposed Cuyuna Series Compensation Station at County Road 11 in Crow Wing County. Both crossings will expand the existing transmission corridor and will result in the removal of some native tree cover. However, in both locations the Project is proposed to follow existing transmission lines across the river.[576]

524. The Project will also cross the Great River Road scenic byway at two locations near the Mississippi River, one crossing at County Road 3 in Itasca County and the second crossing at County Road 11 in Crow Wing County the proposed transmission structures will have a greater height as compared to existing structures, construction may result in some new visual impacts. In addition, forest areas will likely be removed adjacent to the existing county road right-of-way as part of the construction process. However, as the Modified Proposed Route or Co-location Maximization Route will be located adjacent to existing rights-of-way, impacts are expected to be reduced. No structures will be proposed to be located within the county road right-of-way.[577]

525. The Modified Proposed Route and the Co-location Maximization Route also cross the Cuyuna Country State Recreation Area. Currently, there are five transmission lines (two 230 kV, two 115 kV and one 69 kV) that cross the recreation area at the western end. The Project will create new, permanent visual impacts. However, because multiple transmission lines presently exist throughout the recreation area and the area is a historic industrial district, those impacts will be limited. In discussion with the SHPO, the Project would likely result in no significant change in visual characteristics to the historic industrial district. Trail users may notice limited impact in the aesthetic quality of affected areas, but impacts should dissipate with increased distance.[578]

526. To limit impacts to residents in Segment 1, the Modified Proposed Route and the Co-location Maximization Route are located near multiple existing transmission lines. This paralleling of existing transmission lines will result in visual impacts to

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[574] Ex. APP-11 at 7-10 (Application) (eDocket No. 20238-198009-04).

[575] Ex. APP-11 at 7-11 (Application) (eDocket No. 20238-198009-04).

[576] Ex. APP-11 at 7-11 (Application) (eDocket No. 20238-198009-04).

[577] Ex. APP-11 at 7-11 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 at Mapbook JA, Pages 2 and 9 (Application, Appendix J) (eDocket No. 20238-198010-10).

[578] Ex. APP-11 at 7-11 (Application) (eDocket No. 20238-198009-04).

residences not substantially changing from existing conditions. Impacts should dissipate with increased distance from the right-of-way.[579]

b. Segment 2

527. Between the Benton County Substation (Cherry Park Substation) and Sherco Substation and the Big Oaks Substation, the Project would use existing rights-of-ways and replace the existing H-frame and steel monopole structures with new double-circuit 345 kV steel monopole structures for all but 2.25 miles, or 5.4 percent of the length. As described above, transmission lines that already exist in the vicinity of the Modified Proposed Route will limit the extent to which the new infrastructure is viewed as a disruption to the area's scenic integrity, but increased structure height will impart some visual differences. Since the proposed replacement route rebuilds existing high-voltage transmission line segments, visual impacts will be minimized to residents and other land uses. The Modified Proposed Route and Co-location Maximization Route will cross the Two Inlets at Bdé Heȟáka - Omashkooz Zaaga'igaans Regional Park and Oak Savanna Park within existing right-of-way. As existing transmission line H-frame structures and monopole structures have been in place prior to the park being proposed, the Project should result in only minimal permanent visual impacts, primarily from the change in structure type and height.[580]

528. The Applicants will work with park development on structure placement to reduce impacts on aesthetics.[581]

529. Further, Section 5.3.7 of the Draft Route Permit relates to aesthetics and includes conditions with which the Applicants must comply to further avoid and minimize potential aesthetic impacts.[582]

4. Socioeconomic

530. Each of the full route options, including the Modified Proposed Route and the Co-location Maximization Route, would cross several communities with Environmental Justice Communities (EJCs). EJC communities are not anticipated to experience disproportionately adverse impacts as a result of the Project, particularly

[579] Ex. APP-11 at 7-12 (Application) (eDocket No. 20238-198009-04); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachments A-C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[580] Ex. APP-11 at 7-13 to 7-14 (Application) (eDocket No. 20238-198009-04).

[581] Ex. APP-11 at 7-14 (Application) (eDocket No. 20238-198009-04).

[582] Ex. EERA-9 at Appendix H, Draft Route Permit Section 5.3.7 (EA) (eDocket No. 20246-208135-18).

because the transmission line will parallel and/or share existing right-of-way for the majority of these full route options (85 percent or more).[583]

531. Impacts to socioeconomics at a local and regional level would be beneficial and relatively temporary (i.e., 2-3 years). The Applicants are committing to pay prevailing wages for applicable positions. During construction, revenue increases may occur for local businesses from the purchases of goods and services made by utility personnel and contractors. It is unlikely that construction activities would negatively impact local businesses or community function in a meaningful way. Long-term societal benefits of the Project include ensuring the continued clean, reliable electric service to local customers into the future, which in turn, supports the local economy. Because socioeconomic impacts are anticipated to be temporary and beneficial to the local communities, no mitigation is proposed.[584]

5. Zoning and Land Use

532. According to the public zoning GIS data and respective zoning ordinances of counties crossed by the Project, the Modified Proposed Route and Co-location Maximization Route primarily traverse areas zoned for Agricultural and Farm Residential use, with some sections designated as Public and Open land, Single Family Residential, and Natural Environment. At the southern end, the Modified Proposed Route and the Co-location Maximization Route pass through the City of Becker, where it intersects Agricultural and Industrial zones.[585]

533. The Modified Proposed Route and the Co-location Maximization Route cross various county-managed shoreland overlay districts and encompasses a mix of land uses, including rural residential areas, public lands, forestlands, agricultural lands, and commercial zones. The commercial and retail spaces are mainly concentrated in the City of Becker in Sherburne County. Along each route, several recreational areas and trails, such as those for snowmobiling, cross-country skiing, and walking, are intersected.[586]

534. The Project may cross BWSR conservation easements.[587]

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[583] Ex. EERA-9 at 94 (EA) (eDocket No. 20246-208129-08); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[584] Ex. APP-11 at 7-18 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 93–94 (EA) (eDocket No. 20246-208129-08).

[585] Ex. APP-11 at 7-56 to 7-57 (Application) (eDocket No. 20238-198009-04).

[586] Ex. APP-11 at 7-57 (Application) (eDocket No. 20238-198009-04).

[587] Ex. APP-11 at 7-57 to 7-58 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 84–86 (EA) (eDocket No. 20246-208129-08).

535. However, minimal impacts to BWSR conservation easements are expected due to temporary vegetation clearing, construction access, and ongoing maintenance within the maintained right-of-way of Segment 2. The Applicants will coordinate with BWSR and landowners to minimize impacts on active conservation easements in the right-of-way for the Project.[588]

536. The Project primarily follows existing rights-of-way (85 percent for the Modified Proposed Route and 90 percent for the Co-location Maximization Route), aligning with current land use and not expected to impact zoning significantly. The right-of-way traverses both privately and publicly owned lands, and landowners will be engaged to secure easements for construction and operation. Landowners will still be able to use the right-of-way property for certain activities, such as agriculture and grazing, with some temporary access and use impacts during construction.[589]

537. Permanent impacts of Segment 1 include converting tree and shrub land cover to herbaceous vegetation, while Segment 2 is already cleared, with no anticipated impacts beyond ongoing vegetation maintenance. Temporary impacts may arise from access routes, structure work areas, foundation removal, and conductor pulling sites, but preconstruction vegetation will regrow post-construction.[590]

6. Cultural Values

538. Cultural values are those community beliefs and attitudes which provide a framework for community unity and animate community actions. Cultural values are informed, in part, by history and heritage. The Project traverses land that has been home to a variety of persons and cultures. [591]

539. Contemporary Tribes with historical ties to the lands in the Project's vicinity include the Bois Forte Band of Chippewa, Leech Lake Band of Ojibwe, Lower Sioux Indian Community, Mille Lacs Band of Ojibwe, and Upper Sioux Community. Historically, these areas were inhabited by European immigrants with German, Norwegian, Swedish, and Irish heritage.[592]

540. Itasca County is renowned for its natural beauty and recreational opportunities, such as the Edge of the Wilderness Scenic Byway, Scenic State Park, and Chippewa National Forest. It is also home to the Leech Lake Band of Ojibwe Reservation

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[588] Ex. APP-11 at 7-60 (Application) (eDocket No. 20238-198009-04).

[589] Ex. APP-11 at 7-59 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 85–86 (EA) (eDocket No. 20246-208129-08); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachments A-C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[590] Ex. APP-11 at 7-59 (Application) (eDocket No. 20238-198009-04).

[591] Ex. EERA-9 at 93 (EA) (eDocket No. 20246-208129-08).

[592] Ex. APP-11 at 7-18 (Application) (eDocket No. 20238-198009-04).

and cultural attractions like the Judy Garland Museum. Major industries include health care, retail, and forestry.[593]

541. Aitkin County offers nearly one million acres of public forest and recreation areas, including the Rice Lake National Wildlife Refuge and Mille Lacs Lake. The Mille Lacs Band of Ojibwe holds several land parcels in the county. Popular attractions include the Aitkin County Historical Society and Jacques Art Center, with tourism, health care, and education being major industries.[594]

542. Crow Wing County is noted for its natural resources, recreational areas, and historical features like Crow Wing State Park and the Cuyuna Country State Recreation Area. The Mille Lacs Band of Ojibwe owns land in the county, and attractions include Breezy Belle Cruises and Brainerd International Raceway. Major industries are health care, retail, and mining.[595]

543. Morrison County features natural areas like Belle Prairie County Park and Crane Meadows National Wildlife Refuge. Cultural sites include the Charles Lindbergh House and Museum and the Minnesota Military Museum. Key industries are health care, manufacturing, and retail.[596]

544. Benton County includes natural areas such as the Englund Ecotone Scientific and Natural Area and popular attractions like Summerland Family Fun Park and the Paramount Theatre and Arts District. The largest industries are health care, manufacturing, and retail.[597]

545. Sherburne County boasts abundant recreational opportunities and natural areas, including Sand Dunes State Forest and Sherburne National Wildlife Refuge. Attractions include the Sherburne History Center and Munsinger Gardens, with major industries being professional and business services, trades, and government.[598]

546. Construction of the Project is not expected to affect contemporary cultural values. Although there may be localized disruptions during construction, any disruptions should be of short duration and localized to the Project area. Accordingly, no mitigation is proposed.[599]

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[593] Ex. APP-11 at 7-18 (Application) (eDocket No. 20238-198009-04).

[594] Ex. APP-11 at 7-18 to 7-19 (Application) (eDocket No. 20238-198009-04).

[595] Ex. APP-11 at 7-19 (Application) (eDocket No. 20238-198009-04).

[596] Ex. APP-11 at 7-19 (Application) (eDocket No. 20238-198009-04).

[597] Ex. APP-11 at 7-19 (Application) (eDocket No. 20238-198009-04).

[598] Ex. APP-11 at 7-19 (Application) (eDocket No. 20238-198009-04).

[599] Ex. APP-11 at 7-19 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 93 (EA) (eDocket No. 20246-208129-08).

7. Recreation

547. Public trails, parks, rivers, lakes, and state forests are located within one mile of the Proposed Route. This route traverses multiple water bodies and rivers, three state forests, one state recreation area, several trails, three wildlife management areas (WMAs), one aquatic management area (AMA), one scenic byway at two locations, two county parks, and a golf club. Common recreational activities within the Proposed Route include hunting, trapping, biking, hiking, snowmobiling, ATV riding, cross-country skiing, fishing, boating, and camping.[600]

548. Rivers, streams, and lakes near and within the Proposed Route are significant for recreational use, providing habitats for game species and opportunities for fishing and boating. Both the Modified Proposed Route and the Co-location Maximization Route cross the Mississippi River twice, southeast of Grand Rapids in Itasca County and north of the Cuyuna Series Compensation Station at County Road 11 in Crow Wing County, but avoid additional crossings of the Mississippi River. Additionally, Briggs Creek in Sherburne County, a designated trout stream, is crossed twice by the Modified Proposed Route and the Co-location Maximization Route.[601]

549. Segment 1 of the Modified Proposed Route includes three state forests and one state recreation area: Golden Anniversary State Forest, Hill River State Forest, Crow Wing State Forest, and Cuyuna County State Recreation Area. These areas offer a variety of recreational trails for skiing, hiking, ATV riding, off-highway motorcycles, and snowmobiles. The WMAs within one mile of Segment 1, such as Birchdale, Moose Willow, and Loerch, provide habitats for game species and opportunities for hunting, trapping, and wildlife observation. Additionally, the AMAs within one mile of Segment 1, including the Sand Creek AMA and Wolvert AMA offer aquatic habitats and fishing opportunities. Nearby, the Paul Bunyan Land amusement park provides further recreational options. The Modified Proposed Route crosses two scenic byways.[602]

550. Segment 1 of the Co-location Maximization Route includes three state forests and one state recreation area: Golden Anniversary State Forest, Hill River State Forest, Crow Wing State Forest, and Cuyuna County State Recreation Area. These areas offer a variety of recreational trails for skiing, hiking, ATV riding, off-highway motorcycles, and snowmobiles. The WMAs within one mile of Segment 1, such as Birchdale, Moose Willow, and Loerch, provide habitats for game species and opportunities for hunting, trapping, and wildlife observation. Additionally, the AMAs within one mile of Segment 1, including the Sand Creek AMA and Wolvert AMA offer aquatic habitats and fishing

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[600] Ex. APP-11 at 7-20 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 125–26 (EA) (eDocket No. 20246-208129-08).

[601] Ex. APP-11 at 7-20 (Application) (eDocket No. 20238-198009-04).

[602] Ex. APP-11 at 7-20 to 7-21 (Application) (eDocket No. 20238-198009-04); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

opportunities. Nearby, the Paul Bunyan Land amusement park provides further recreational options. The Co-location Maximization Route crosses two scenic byways.[603]

551. As described in the EA, Route Alternatives E4 and E5 would both cross a WMA; the corresponding segment of the Proposed Route does not.[604]

552. Segment 2 of the Modified Proposed Route and the Co-location Maximization Route feature three recreation sites: the Territory Golf Club, Two Inlets at Bdé Heȟáka - Omashkooz Zaaga'igaans Regional Park (previously called Big Elk Lake Park), and Oak Savanna Park. These areas offer various recreational activities, from golfing and hiking to wildlife observation and photography.[605]

553. Overall, the Modified Proposed Route and Co-location Maximization Route are designed to minimize impacts on recreation by paralleling existing infrastructure where feasible. Temporary disturbances during construction may occur, but long-term disruption to recreational activities is not anticipated. Coordination with local governments and the MnDNR will ensure that construction does not significantly impact recreational opportunities.[606]

8. Public Service and Infrastructure

554. The Project would be situated in areas well-served by public utilities and services, including waste and recycling services, city sewer and water systems, fire protection, police, electricity, and natural gas. It also traverses areas with a comprehensive road-based transportation system and is near several local airports.[607]

555. In terms of utilities, the Project is anticipated to intersect existing electric transmission lines, natural gas, and liquid pipeline rights-of-way, regardless of route selected. The Project spans the Mayhew Solar Site near Sauk Rapids, Minnesota. To avoid impacts on these utilities, the Project will involve coordination with pipeline owners for necessary permits and agreements and with the Mayhew Solar operator for crossing agreements. The design and operation of the transmission lines will adhere to standards set by NERC, FERC, and NESC, ensuring compatibility with existing utilities. Temporary

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[603] Ex. APP-11 at 7-20 to 7-21 (Application) (eDocket No. 20238-198009-04); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment B (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[604] Ex. EERA-9 at 256-57; Table 6-62 (EA) (eDocket No. 20246-208129-12).

[605] Ex. APP-11 at 7-22 (Application) (eDocket No. 20238-198009-04).

[606] Ex. APP-11 at 7-22 to 7-23 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 125–26 (EA) (eDocket No. 20246-208129-08).

[607] Ex. APP-11 at 7-23 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 125–26 (EA) (eDocket No. 20246-208129-08).

service interruptions may occur during construction, but these will be coordinated to avoid electric service outages, with all utilities marked prior to construction.[608]

556. The transportation infrastructure in the vicinity of the Project includes existing federal, state, county, and city roadways and railroad rights-of-way. To mitigate impacts, the Applicants will coordinate with the Minnesota Department of Transportation to ensure construction does not interfere with routine roadway maintenance. Temporary traffic delays may occur due to the movement of heavy equipment and wire stringing operations, with appropriate traffic control measures in place.[609]

557. The Modified Proposed Route and the Co-location Maximization Route are located within two miles of three airports: the Hill City/Quadna Mountain Airport, Barrett Airport, and St. Cloud Regional Airport. Although these routes fall within the horizontal Airspace Obstruction Zones of Hill City/Quadna Mountain Airport and St. Cloud Regional Airport, they are not within the critical approach zones. The Applicants will coordinate with the FAA to ensure the transmission line structure heights comply with FAA standards to avoid impacts on air traffic. Thus, significant impacts on airports and air traffic are not anticipated.[610]

558. Impacts of alternatives on public services and infrastructure are generally anticipated to be similar, except that route alternative B is in closer proximity to the Hill City-Quadna Airport than the Modified Proposed Route or the Co-location Maximization Route. Due to its proximity to this airport, based on analysis conducted by the Applicants, existing FAA restrictions would limit structure heights in this area to heights at which required ground clearances for the Project could not be maintained. Accordingly, Applicants have explained that route alternative B is not constructible as proposed.[611]

559. Sections 5.3.4, 5.3.14, and 5.5.2 of the Draft Route Permit include conditions which further avoid and minimize potential impacts to public services and infrastructure.[612]

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[608] Ex. APP-11 at 7-23 to 7-24 (Application) (eDocket No. 20238-198009-04).

[609] Ex. APP-11 at 7-24 (Application) (eDocket No. 20238-198009-04).

[610] Ex. APP-11 at 7-25 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 125–26 (EA) (eDocket No. 20246-208129-08).

[611] Applicants' Comments on the EA and Additional Information Requested at Public Hearings (Aug. 5, 2024) (eDocket No. 20248-209266-01); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment D (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[612] Ex. EERA-9 at Appendix H, Draft Route Permit Sections 5.3.4; 5.3.14; and 5.5.2 (EA) (eDocket No. 20246-208135-18).

B. Effects on Public Health and Safety

560. Minnesota Rules part 7850.4100(B) requires consideration of the Project's effect on public health and safety.

1. Construction and Operation of the Project

561. No effects to public health and safety are anticipated as a result of the Project. Proper safeguards would be implemented for construction, operation, and maintenance of the proposed 345 kV transmission lines. The Project will be designed in compliance with state, NESC, Great River Energy, and Minnesota Power standards regarding clearance to ground, clearance to crossing utilities, clearance to buildings, strength of materials, and right-of-way widths. Construction crews and/or contract crews will comply with state and NESC standards regarding installation of facilities and standard construction practices. Applicants' established safety procedures, as well as industry safety procedures, will be followed during and after installation of the transmission lines. During active construction, safety measures will be implemented to protect residents and trail users including, but not limited to, signage where active construction is occurring, flaggers at road and railroad crossings, and barriers around active construction zones. When crossing roads or railroads during stringing operations, guard structures will be used to eliminate traffic delays and provide safeguards for the public. Spotters will be employed during active construction activities (e.g., clearing and stringing) that span or are adjacent to trails. Additionally, Applicants will meet and maintain contact with trail advocacy groups (snowmobile, all-terrain vehicle (ATV), bicycle, etc.) to make trail users aware of construction and safety guidelines. With implementation of these safeguards and protective measures, no additional mitigation is proposed.[613]

562. The proposed high-voltage transmission line will be equipped with switching devices (circuit breakers and relays located in the substations where the transmission lines terminate). These devices are intended to make, carry, and break line currents under normal conditions and in specified abnormal conditions such as a short circuit or fault. The circuit breakers stop the specified current and can protect other equipment and the extended power system from damaging currents and more extensive outages; however, any electrical facility which becomes isolated by operation of circuit breakers should not be considered de-energized or safe. Downed power lines and other damaged electrical equipment should always be assumed to be energized and dangerous.[614]

2. Electric Fields

563. Voltage on any wire generates an electric field around it. For transmission lines, this electric field extends from the energized conductors to nearby objects, such as the ground, buildings, and vehicles. The field's intensity is proportional to the line's voltage

[613] Ex. APP-11 at 7-5 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 105 (EA) (eDocket No. 20246-208129-08).

[614] Ex. APP-11 at 7-5 (Application) (eDocket No. 20238-198009-04).

and diminishes rapidly with distance. The presence of trees, buildings, or other structures can significantly reduce the field's strength. Since the voltage on a transmission line remains relatively constant, so does the electric field for any given configuration, regardless of the power flowing through the line.[615]

564. When this electric field reaches a conductive object, such as a vehicle or metal fence, it induces a voltage on that object. The magnitude of this induced voltage depends on various factors, including the object's capacitance, shape, size, orientation, location, resistance to ground, and weather conditions. If a person touches an insulated or semi-insulated object with induced voltage, a small current may pass through their body to the ground, potentially causing a spark discharge and mild shock, similar to static electricity experienced from walking on a carpet and touching a doorknob.[616]

565. The primary concern with induced voltage is the current that might flow through a person to the ground. To prevent any hazardous spark discharge from transmission line-induced voltage, the National Electrical Safety Code (NESC) mandates that the discharge should not exceed 5 milliAmperes (mA). The Project's design will comply with this NESC requirement.[617]

566. Although there is no federal standard for transmission line electric fields, the Commission has traditionally set a maximum electric field limit of 8 kV/m, measured one meter above the ground, for new transmission projects. The electric field associated with the Project will be well within this limit.[618]

567. When the Project parallels existing transmission lines, the presence of another energized line will affect the electric field profile around the lines. In certain areas, such as near substations, more restrictive voltage criteria apply, limiting the maximum continuous operating voltage to the nominal voltage plus 5 percent. The highest calculated electric field is 7.91 kV/m, which is within the Commission's 8 kV/m limit.[619]

3. Magnetic Fields

568. Current passing through any conductive material, such as a wire, generates a magnetic field around it. In the case of transmission lines, the current flowing through the conductors creates a magnetic field that extends from the energized conductors to nearby objects. The intensity of this magnetic field is directly proportional to the amount of current in the conductors and diminishes rapidly with distance from the source. Unlike

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[615] Ex. APP-11 at 6-13 to 6-14 (Application) (eDocket No. 20238-198009-04).

[616] Ex. APP-11 at 6-14 (Application) (eDocket No. 20238-198009-04).

[617] Ex. APP-11 at 6-14 (Application) (eDocket No. 20238-198009-04).

[618] Ex. APP-11 at 6-14 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 108 (EA) (eDocket No. 20246-208129-08);.

[619] Ex. APP-11 at 6-14 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 (Application, Appendix H) (eDocket No. 20238-198009-06).

electric fields, magnetic fields are not significantly affected by nearby trees, buildings, or other solid structures. Because the power flow on a transmission line can vary throughout the day, the magnetic field levels around the line can also fluctuate widely.[620]

569. There are no specific regulations in Minnesota regarding magnetic field exposure. However, the Commission has noted that states like Florida, Massachusetts, and New York have established their own standards. To provide context, the magnetic field levels generated by the Project can be compared to those from common household appliances.[621]

570. When the new transmission line runs parallel to existing lines, the presence of another energized line can influence the magnetic field profile. The maximum possible magnetic field under typical operating conditions is calculated to be 173.2 milligauss (mG), with the maximum field at the edge of the right-of-way being 28.5 mG. These levels are lower than those associated with most household electric appliances.[622]

4. Implantable Medical Devices

571. Electromechanical implantable medical devices, such as cardiac pacemakers, implantable cardioverter defibrillators (ICDs), neurostimulators, and insulin pumps may be subject to interference from EMF (electromagnetic interference, EMI), which could mistakenly trigger a device or inhibit it from responding appropriately. While EMI can result in either inappropriate triggering or inhibition of a device from responding properly, only a small percentage of these occurrences are caused by external EMI. The American Conference of Governmental Industrial Hygienists (ACGIH) and ICD Manufacturer's recommended magnetic and electric field exposure limits are 1 g and 1 kV/m, respectively, for people with pacemakers. One gauss is five to 10 times greater than the magnetic field likely to be produced by a high-voltage transmission line.[623]

572. EMF exposure produced by transmission lines generally does not affect implantable devices, but in the event that they are affected it is typically a temporary asynchronous pacing. Electric and magnetic field levels decrease with distance; however, and maximum levels at the edge of the right-of-way are anticipated to be less than 1.5 kV/m, and, in most instances, less than 1 kV/m. Maximum levels of magnetic fields at the edge of the right-of-way are anticipated to be 28.5 mG. Accordingly, impacts to implantable medical devices and their users are anticipated to be minimal. If a medical device is affected, the device will return to normal operation when the person moves away

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[620] Ex. APP-11 at 6-15 to 6-16 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 105-10 (EA) (eDocket No. 20246-208129-08).

[621] Ex. APP-11 at 6-16 (Application) (eDocket No. 20238-198009-04).

[622] Ex. APP-11 at 6-16 to 6-17 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 (Application, Appendix H) (eDocket No. 20238-198009-06); Ex. EERA-9 at 109 (EA) (eDocket No. 20246-208129-08).

[623] Ex. EERA-9 at 110 (EA) (eDocket No. 20246-208129-08).

from the source of the EMF. Therefore, no adverse health impacts or permanent impacts on implantable medical devices are anticipated as a result of the Project.[624]

5. Stray Voltage and Induced Voltage

573. Stray voltage is, generally, an issue associated with electrical distribution lines and electrical service at a residence or on a farm. Transmission lines do not create stray voltage as they do not directly connect to businesses, residences, or farms. Accordingly, no impacts due to stray voltage are anticipated from the Project. The Project would not directly connect to businesses or residences in the area and would not change local electrical service.[625]

574. Transmission lines can, however, induce voltage on objects parallel to and immediately under the transmission line The Applicants' commit to taking appropriate measures to prevent induced voltage problems when the Project parallels or crosses objects.[626]

575. Section 5.4 of the Draft Route Permit and its subsections contain additional conditions which further avoid and minimize potential impacts on public health and safety.[627]

C. Effects on Land-Based Economies

576. Minnesota Rules part 7850.4100(C) requires consideration of the Project's effects on land-based economies, specifically agriculture, forestry, tourism, and mining.

1. Agriculture

577. The Proposed Route, as described in the Application, encompasses approximately 5,370 acres of cropland and 3,931 acres of hay/pastureland. Within the Proposed Right-of-Way, there are about 702.9 acres of cropland and 581.9 acres of hay/pastureland. Additionally, the right-of-way crosses about 0.44 acres of land used for Christmas tree production. According to the Minnesota Department of Agriculture, there are no registered organic producers or apiaries within one mile of the Proposed Route.[628]

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[624] Ex. APP-11 at 6-19 (Application); Ex. EERA-9 at 110-111 (EA) (eDocket No. 20246-208129-08).

[625] Ex. EERA-9 at 111 (EA) (eDocket No. 20246-208129-08).

[626] Ex. APP-11 at 6-19 (Application) (eDocket No. 20238-198009-04).

[627] Ex. EERA-9 at Appendix H, Draft Route Permit Section 5.4 (EA) (eDocket No. 20246-208135-18).

[628] Ex. APP-11 at 7-25 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 123 (EA) (eDocket No. 20246-208129-08).

578. The Proposed Route right-of-way would cross 1,260 acres of agricultural land, as compared to 1,256 acres within the Modified Proposed Route and 1,308 acres within the Co-location Maximization Route.[629]

579. Construction activities will temporarily use cropland and pasture, potentially displacing livestock and causing delays or losses in crop production. To mitigate this, the Applicants will coordinate with landowners to facilitate early crop harvests if necessary and will compensate for any crop losses. Permanent impacts to prime farmland will occur, but other areas within the right-of-way will still be usable for pasture and crops, provided they do not interfere with the transmission line's operation. The Project primarily utilizes steel monopoles, which have smaller footprints than steel lattice towers, minimizing land disturbance.[630]

580. Agricultural activities, including the use of farming equipment, can occur close to the transmission structures. Center-pivot irrigation systems are common in the Project area, particularly in Morrison, Benton, and Sherburne counties. The Applicants will work with landowners to minimize impacts on these irrigation systems and ensure safe access to agricultural lands during construction. Measures to mitigate potential impacts include compensating for crop damage, repairing drain tile damages, minimizing soil compaction, and ensuring livestock are not present during active construction.[631]

581. The operation of the transmission line and substations is unlikely to affect agriculture beyond the initial placement of permanent structures. Annual inspections will be conducted, with landowners notified beforehand to limit crop impacts. In the rare event of crop damage during operations, the Applicants will compensate landowners.[632]

582. For Christmas tree production, the Applicants will clear the right-of-way before construction and allow trees to regrow at restricted locations and heights afterward. They will also work with operators on structure placement and construction timing to minimize production impacts.[633]

583. Impacts to agricultural properties may vary by route. For example, route alternative G would cross more acres of agriculture than the Proposed Route (38 acres compared to 7 acres).[634]

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[629] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[630] Ex. APP-11 at 7-25 (Application) (eDocket No. 20238-198009-04).

[631] Ex. APP-11 at 7-25 to 7-26 (Application) (eDocket No. 20238-198009-04).

[632] Ex. APP-11 at 7-26 (Application) (eDocket No. 20238-198009-04).

[633] Ex. APP-11 at 7-25 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 123-24 (EA) (eDocket No. 20246-208129-08).

[634] Ex. EERA-9 at 280 (EA) (eDocket No. 20246-208129-12).

584. Applicants have prepared an Agricultural Impact Mitigation Plan (AIMP) that identifies measures the Applicants will take to avoid, minimize, and mitigate for impacts to agricultural operations.[635]

2. Forestry

585. The MnDNR manages around 260 acres of forested land within the Proposed Route right-of-way, with approximately 19 acres of private commercial timberland, owned by the Blandin Paper Company, also present in Itasca County.[636]

586. More specifically, the Proposed Route right-of-way would cross approximately 1,240 acres of forested land, compared to 1,230 acres for the Modified Proposed Route, and 1.064 acres for the Co-location Maximization Rout. The rights-of-way associated with each of these routes would cross approximately 124 acres of high conservation value forest.[637]

587. The Project will permanently impact commercial forest products by clearing forested land within the Proposed Right-of-Way, which will then regrow as herbaceous vegetation. This clearing process, including the use of herbicides, may negatively affect adjacent forestry activities. To mitigate these impacts, the Applicants will collaborate with the MnDNR and local counties to minimize disruption to state and county forest resources. They will also compensate commercial forestry operations and private landowners for timber losses. Construction staging areas will be chosen to minimize tree cover disruption as much as possible. Impacts to forested areas outside the Proposed Right-of-Way and permanent access roads will be temporary, allowing for natural revegetation post-construction.[638]

588. In areas of right-of-way paralleling and sharing, impacts to forestry resource lands have already occurred. Placement of transmission infrastructure in these locations may increase areas of forestry impact but would not introduce new impacts to an otherwise undisturbed forested setting.[639]

3. Tourism

589. The Project may intersect various tourist attractions, including snowmobile, off-road vehicle, and mountain bike trails, as well as public parks, hiking trails, and

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[635] Ex. EERA-9 at 123-24 (EA) (eDocket No. 20246-208129-08); Ex. APP-34 at Schedule 7 (Direct Testimony and Schedules of Zach Golkowski) (eDocket No. 20247-208392-02).

[636] Ex. APP-11 at 7-25 to 7-26 (Application) (eDocket No. 20238-198009-04).

[637] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[638] Ex. APP-11 at 7-25 to 7-26 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 124-25 (EA) (eDocket No. 20246-208129-08).

[639] Ex. EERA-9 at 403 (EA) (eDocket No. 20246-208129-08).

recreational areas. Minnesota boasts over 21,000 miles of snowmobile trails maintained by local club volunteers. The route crosses several notable trails such as the Itasca Trail, Haypoint Trail, Emily Outing Snowbird Trail, Sno Serpents Trail, Brainerd Snodeo Trail, Garrison Trail, Morrison County Recreational Trail, Benton County Trail, and Sherburne County Snowmobile Trail.[640]

590. Additionally, nine off-highway vehicle trails are crossed by the Proposed Route. These include the UPM Blandin Trail, Rabey Line Trail, Hill City Trail, Soo Line North Aitkin Trail, Blind Lake Trail, Emily-Blind Lake Trail, Miller-Black Bear Trail, Crow Wing Southern Loop, and Soo Line South Morrison Trail. The route also intersects the Cuyuna Lakes State Trail and several mountain bike trails, including the Cuyuna Lakes Mountain Bike Trail. The Cuyuna Lakes State Trail, located within the Cuyuna Country State Recreation Area, features an eight-mile paved trail from Crosby to Riverton and a 25-mile single-track mountain bike trail system.[641]

591. The Project area is near additional tourist attractions such as public recreational trails, parks, rivers, and lakes, which offer opportunities for watersports, fishing, and hunting. While the route is in proximity to these recreational resources, it will not permanently interfere with their use, so no mitigation is proposed. Impacts for the Modified Proposed Route would be anticipated to be similar as those for the Proposed Route, given the significant overlap in these routes. Likewise, the Co-location Maximization Route is anticipated to have similar impacts, although it would also cross the Cuyuna State Recreation Area in a location no crossed by the Modified Proposed Route through its incorporation of route alternative E1.[642] Temporary measures like signage and closures may be necessary during construction, particularly when vehicles cross trails or wire stringing occurs. Efforts will be made to minimize trail closures as much as possible. Users of these recreational areas may experience temporary construction noise and visual impacts during this period. For more information, refer to the sections on noise impacts.[643]

4. Mining

592. The Proposed Route crosses and borders multiple gravel pits located in Aitkin and Benton County. Using MnDNR Aggregate Resource Mapping data and satellite imagery from the past 30 years, 14 gravel pits were identified within the Proposed Route.

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[640] Ex. APP-11 at 7-29 (Application) (eDocket No. 20238-198009-04).

[641] Ex. APP-11 at 7-29 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 125-26 (EA) (eDocket No. 20246-208129-08).

[642] *See* Ex. EERA-9 at 244-45 discussing the Cole Lake-Riverton region) and 263-64 (same (EA) (eDocket No. 20246-208129-12).

[643] Ex. APP-11 at 7-30 (Application) (eDocket No. 20238-198009-04).

Parcel ownership boundaries from GIS data provided by each county were also used to estimate the full potential horizontal extent of these gravel pit mining operations.[644]

593. Among the identified gravel pits, five overlap the Project area, specifically those with MnDNR Compilation IDs AM-1553, AM-1518/AM-1391, AM-1424, AM-1578, and AM-1360/AM-1550. Out of these, AM-1578 is an active gravel pit. Additionally, one former gravel pit, identified as AM-1517, overlaps the proposed Benton County Substation expansion area. Except for AM-1578, the other gravel pits mentioned are not currently active.[645]

594. The Project will not inhibit ongoing mining activities. However, potential impacts during construction could affect gravel pits within right-of-way. These impacts might include a temporary suspension of excavation activities to ensure safe wire stringing. The Applicants will work closely with gravel pit owners to minimize these impacts.[646]

D. Effects on Archeological and Historic Resources

595. Minnesota Rules part 7850.4100(D) requires consideration of the effects of the Project on historic and archaeological resources.

596. The Commission authorized the Applicants to initiate consultation with SHPO. As part of that authorization, the Commission directed the Applicants to submit a filing informing the Commission of the status of consultation with SHPO at the time the Applicants submit their prehearing testimony. Specifically, the Commission directed that the Applicants should: "demonstrate that consultation has occurred, whether the proposed project will affect designated properties, and if so, identify any permit terms and conditions agreed upon by the [Applicants] and SHPO to avoid or mitigate any adverse effects on the designated or listed properties." Consistent with that requirement, in pre-filed direct testimony, Applicants provided a summary of the status as of June 2024 of the Applicants' coordination with SHPO.[647]

597. The Project was developed to avoid or minimize potential effects on previously recorded archaeological and historic architectural resources.

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[644] Ex. APP-11 at 7-30 (Application) (eDocket No. 20238-198009-04); Ex. APP-11 (Application, Appendix J) (eDocket Nos. 20238-198009-12; 20238-198009-14; 20238-198009-16; 20238-198009-18; 20238-198009-20; 20238-198010-02; 20238-198010-04; 20238-198010-06; 20238-198010-08; 20238-198010-10; 20238-198010-12; 20238-198010-14; 20238-198010-16; 20238-198010-18; 20238-198010-20; 20238-198011-01; 20238-198011-03); Ex. EERA-9 at 123 (EA) (eDocket No. 20246-208129-08).

[645] Ex. APP-11 at 7-30 (Application) (eDocket No. 20238-198009-04).

[646] Ex. APP-11 at 7-31 (Application) (eDocket No. 20238-198009-04).

[647] Ex. APP-34 at Schedule 3 (Direct Testimony and Schedules of Zach Golkowski) (eDocket No. 20247-208392-02).

598. Eight archaeological sites are within the Proposed Route right-of-way, three of which have been previously disturbed. Site 21BN0016 is located within the existing transmission line right-of-way and may have been disturbed during earlier transmission line installations. Site 21BN0013 has been bisected by Highway 95 and is also within the existing transmission line right-of-way. Site 21SH0086 has been fully excavated as part of an archaeological field school, with all cultural materials either collected or deposited out-of-context near the remaining farmstead foundations. Given these sites' locations within the existing transmission line right-of-way or their previous disturbances, such as archaeological excavation and road construction, further impacts are minimized.[648]

599. Two of the archaeological sites within the Proposed Route right-of-way, identified as alpha sites (21CWy and 21SHbe), have not been confirmed through archaeological surveys. Alpha sites are noted based on historical documentation or landowner reports. For site 21CWy, a historic document mentions a single stone axe found in a specific quarter section, a portion of which is crossed by the Proposed Right-of-Way. Since this site has not been surveyed, the extent of the potential deposit is unknown, necessitating further investigation to confirm its presence. Site 21SHbe was reported by a landowner who found lithic artifacts on their property. Archaeologists visited this site in 1981 but found no cultural materials, suggesting the site may have been disturbed or the artifacts collected. The Proposed Route right-of-way crosses along the western edge of 21SHbe, near an area already impacted by a previous transmission line installation. Further investigation is needed to determine if this site falls within the Project Right-of-Way.[649]

600. Engagement with Tribal Historic Preservation Officers (THPO) has highlighted that sites 21SH0081, 21SH0082, and 21SH0084 in Sherburne County may form part of a larger complex of cultural resources within the proposed Two Inlets at Bdé Heȟáka - Omashkooz Zaaga'igaans Regional Park (formally Big Elk Lake Park). The Project plans to replace an existing transmission line using the established right-of-way. The THPO of the Upper Sioux Community has indicated that careful pole placement may avoid or minimize impacts to these resources. Ongoing Tribal engagement will continue throughout the permitting and construction phases as needed.[650]

601. Other archaeological sites within the Proposed Route, but outside the right-of-way, include two isolated Precontact finds (21AK0137 and 21SH0068), two Precontact lithic scatters (21SH0036 and 21SH0082), and a single Precontact earthwork alpha site (21CWx). The areas around sites 21AK0137 and 21SH0068 have been thoroughly surveyed, with both sites consisting of single lithic flakes, indicating limited potential for additional cultural resources. Site 21SH0036 contains various lithic tools, flakes, and fire-cracked rocks but is considered to have little research potential since all artifacts were

[648] Ex. APP-11 at 7-36 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 126-28 (EA) (eDocket No. 20246-208129-08);.

[649] Ex. APP-11 at 7-37 (Application) (eDocket No. 20238-198009-04).

[650] Ex. APP-11 at 7-37 (Application) (eDocket No. 20238-198009-04).

found within the plow horizon of an agricultural field, meaning no original stratigraphy remains intact.[651]

602. Precontact earthwork site 21CWx, described in the late 19th century by earthwork recorder Jacob Brower as a single mound, is approximately 1,300 feet east of the Proposed Right-of-Way. This site should be avoided if adjustments to the Proposed Right-of-Way are required, or further archaeological investigation should be conducted before any ground-disturbing activities.[652]

603. During Tribal outreach, no impacts are anticipated to the historic bounds of the Pokegama and Gull Lake Reservations, as they are located outside the Proposed Route. However, the Proposed Route and Proposed right-of-way do cross through the historic Rabbit Lake Reservation bounds, where the Cuyuna Series Compensation Station is also anticipated to be constructed. Significant portions of the Rabbit Lake Reservation have been previously disturbed due to historic mining activity, and this area also includes the Cuyuna Iron Range Historic Mining Landscape District.[653]

604. An Unanticipated Discoveries Plan will be prepared for construction.[654]

605. The Applicants have met several times with interested Tribal Nations regarding both Segment 1 and Segment 2 of the Project, including with respect to the Iron Range Substation expansion, the new Cuyuna Series Compensation Station site, and the Cherry Park Substation (i.e., the expansion of the existing Benton County Substation). The Applicants have incorporated input from interested Tribal Nations on the potential layout for these facilities.[655]

606. In coordination with interested Tribal Nations, the Applicants developed a Cultural Resources Assessment and Survey Strategy that identified areas along the Project for further field survey. In January 2024, SHPO concurred with the survey strategy and recommended some areas for further analysis.[656]

607. The Applicants conducted cultural resource field surveys in Segment 2 in fall of 2023 and the substation siting areas. Representatives from interested Tribal Nations were invited to participate in the surveys. These field surveys are nearly

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[651] Ex. APP-11 at 7-37 (Application) (eDocket No. 20238-198009-04).

[652] Ex. APP-11 at 7-38 (Application) (eDocket No. 20238-198009-04); Ex. APP-34 at Schedule 3 (Direct Testimony and Schedules of Zach Golkowski) (eDocket No. 20247-208392-02).

[653] Ex. APP-11 at 7-38 (Application) (eDocket No. 20238-198009-04).

[654] Ex. APP-11 at 7-39 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 128 (EA) (eDocket No. 20246-208129-08).

[655] Ex. APP-34 at 13 (Golkowski Direct) (eDocket No. 20247-208392-02); Ex. APP-35 at 3 (Hunker Direct) (eDocket No. 20247-208392-03).

[656] Ex. APP-34 at Schedule 3 (Golkowski Direct) (eDocket No. 20247-208392-02).

complete, and survey of the remainder of the Project is anticipated to be complete by the end of July 2024. Reports documenting these surveys will be submitted to SHPO, OSA, MIAC, and interested Tribes.[657]

608. Additionally, coordination with the U.S. Army Corps of Engineers is ongoing regarding potential wetland impacts and permitting requirements, including potential additional cultural resources review. After these processes are completed, the Applicants anticipate a final concurrence letter from SHPO in summer/fall of 2025.[658]

609. The EA concluded that the overall counts of cultural resource types are largely similar among the full route options, but that routes 1 and 2 studied in the EA use existing infrastructure rights-of-way near cultural sites. Similarly, Applicants indicated that the Proposed Route and Modified Proposed Route include 43 archaeological sites and historical architectural resources, compared to 24 sites within the Co-location Maximization Route.[659] .

610. Section 5.3.15 of the Draft Route Permit includes requirements that further avoid and minimize potential impacts to archaeological and historic resources.[660]

E. Effects on Natural Environment

611. Minnesota Rules part 7850.4100(E) requires consideration of the Project's effects on the natural environment including effects on air and water quality and flora and fauna.

1. Air Quality

612. The Clean Air Act (42 U.S.C. 7401 et seq.) was enacted to protect human health and the environment from air pollution. Section 109 of the Act required the USEPA to establish National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: sulfur dioxide, NO_2, carbon monoxide, ozone, lead, and particulate matter (PM10 and PM2.5). States are required to develop procedures to attain and maintain these standards. The Project crosses through Itasca, Aitkin, Crow Wing, Morrison, Benton, and Sherburne counties, all of which currently meet the standards for all criteria pollutants under the Clean Air Act.[661]

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[657] Ex. APP-34, Schedule 3 (Golkowski Direct) (eDocket No. 20247-208392-02).

[658] Ex. APP-34, Schedule 3 (Golkowski Direct) (eDocket No. 20247-208392-02).

[659] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[660] Ex. EERA-9 at Appendix H, Draft Route Permit Sections 5.3.15 (EA) (eDocket No. 20246-208135-18).

[661] Ex. APP-11 at 7-39 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 120 (EA) (eDocket No. 20246-208129-08).

613. During construction, there will be limited temporary impacts on air quality due to increased vehicle exhaust emissions and the disturbance of topsoil from activities such as construction, replacement of existing structures, and clearing of rights-of-way. These emissions will be transient and minimal, influenced by weather conditions and specific construction activities. Construction will produce some inhalable dust particulate matter (PM10 and PM2.5), but appropriate dust control measures, such as wetting unpaved roads near residences, will be implemented to mitigate these impacts. Once construction is complete, cleared rights-of-way, storage areas, and access roads will be restored and revegetated to limit further dust production. These air quality impacts are not expected to affect the attainment status of any counties crossed.[662]

614. During operation, the discharge of ozone and oxides of nitrogen from corona production on transmission lines or conductors within substations may occur, but the impacts of these emissions will be minimal.[663]

2. Greenhouse Gas Emissions and Climate Change

a. Greenhouse Gas Emissions

615. Greenhouse gas (GHGs) are gases that trap heat in the atmosphere. Some of the solar radiation that reaches Earth's surface radiates back toward space as infrared radiation. GHGs trap heat in the atmosphere from the absorption of this infrared radiation, which causes a rise in the temperature of Earth's atmosphere. This warming process is known as the greenhouse effect.[664]

616. The Project will generate greenhouse gas (GHG) emissions during earth-moving, construction, and restoration activities. These emissions will result from the use of heavy equipment such as cranes, bulldozers, bucket loaders, personal employee vehicles, and other machinery involved in the construction and maintenance of the Project. Carbon dioxide emissions for construction equipment are estimated to range from 3.7-6.8 pounds CO_2 per hour for smaller equipment like flat-bed trucks and ATVs, to 237.9-350.7 pounds CO_2 per hour for larger equipment such as rubber tire loaders and 40-ton cranes.[665]

617. To estimate the potential GHG emissions, the Applicants identified the types and quantities of construction equipment likely to be used. This preliminary assessment, based on the best available information, was compared to GHG emissions data from the Great Northern Transmission Line Project Final EIS and adjusted for the specifics of the Project, including the length of the Modified Proposed Route and the right-of-way clearing required. The potential GHG emissions from tree clearing (right-of-way preparation) are

[662] Ex. APP-11 at 7-39 (Application) (eDocket No. 20238-198009-04).

[663] Ex. APP-11 at 7-40 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 122 (EA) (eDocket No. 20246-208129-08).

[664] Ex. EERA-9 at 112 (EA) (eDocket No. 20246-208129-08).

[665] Ex. APP-11 at 7-73 (Application) (eDocket No. 20238-198009-04).

estimated to be between 3,533 metric tons and 7,645 metric tons, with additional emissions expected from construction and restoration activities are estimated to range from 55,570 metric tons to 65,355 metric tons. All estimates are quantified as CO_2 equivalents and based on a 3.5 year construction period.[666]

618. Based on the initial assessment, the total GHG emissions from the construction of the Project will be negligible in terms of overall regional GHG emissions and climate change impacts. During operations, minimal GHG emissions are expected from maintenance vehicles and substation equipment, specifically from the occasional release of SF_6 due to cracks in seals. The Applicants will track SF_6 and maintain equipment to minimize such releases.[667]

619. The Project will ultimately lead to a net decrease in GHG emissions by facilitating the replacement of legacy fossil fuel generation with renewable resources. It is anticipated to reduce CO_2 emissions in the broader MISO region by 399 million metric tons over the first twenty years. Additionally, the Project will enhance regional transmission reliability and enable the integration of more carbon-free energy sources into the power supply, providing significant societal benefits.[668]

b. Climate Change

620. Analysis of historical climate data from the MnDNR Minnesota Climate Trends resource reveals upward trends in average and maximum temperatures, annual precipitation, and the Palmer Drought Severity Index (PDSI) from 1895 to 2023 for Aitkin, Benton, Crow Wing, Itasca, Morrison, and Sherburne counties. The data indicates increases in average temperatures, maximum temperatures, and precipitation depths, which are consistent with the effects of climate change driven by increased greenhouse gas emissions from burning fossil fuels for transportation and power generation. The feedback loop of the greenhouse gas effect is likely contributing to these trends. Specifically, annual average temperatures have increased by 0.5°F per decade, maximum temperatures have risen by 0.1°F per decade from June to September and by 0.24°F per decade for all months, annual precipitation has increased by 0.28 inches per decade, and the annual PDSI has shown an average increase of 0.2 per decade.[669]

621. The Project will be routed and designed to withstand changing climatic conditions such as increased temperatures and shifts in storm intensity and timing. High temperatures can affect the sagging and thermal tolerance of transmission lines, but they will be built to NERC reliability standards to address these thermal limitations. Changes

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[666] Ex. APP-11 at 7-73 to 7-74 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 112-15 (EA) (eDocket No. 20246-208129-08).

[667] Ex. APP-11 at 7-74 (Application) (eDocket No. 20238-198009-04).

[668] Ex. APP-11 at 7-74 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 112-15 (EA) (eDocket No. 20246-208129-08).

[669] Ex. APP-11 at 7-74 to 7-75 (Application) (eDocket No. 20238-198009-04).

in storm patterns could lead to increased landslide potential in steep areas and local flooding. Final structure placement will take slope into account to avoid areas prone to erosion or landslides from intense precipitation events. During construction, a Stormwater Pollution Prevention Plan (SWPPP) will be implemented to manage stormwater and minimize runoff and erosion, with work areas restored afterward.[670]

622. Despite the increasing trends in precipitation, periods of dry weather could raise wildfire concerns, corroborated by increasing drought severity indicated by the Palmer Drought Severity Index. The transmission lines will be maintained according to NERC reliability standards, which include vegetation management to address the spread of noxious weeds due to changing conditions. In areas where tree clearing along shorelines increases sun exposure, surface water temperatures could rise, exacerbated by overall temperature increases. Although the Study Area shows rising precipitation trends, drought severity also increases. If irrigated agriculture becomes more common, the Applicants will collaborate with landowners to potentially adjust the design and configuration of future center-pivot irrigation systems.[671]

3. Water Quality and Resources

a. Groundwater

623. The MnDNR divides the state into six groundwater provinces. The Project is located within the Central Province, which features superficial and buried sand aquifers with thick sandy and clayey glacial drift overlying Precambrian and Cretaceous bedrock. A review of the Minnesota County Well Index identified multiple private wells within the Project area, including municipal water supply wells and the Riverton Drinking Water Supply Management Area. There are no Minnesota Department of Health wellhead protection areas or USEPA sole source aquifers within the Project area.[672]

624. The Applicants do not anticipate any impacts on groundwater due to the Project. Structure foundations will typically range from 25 to 60 feet in depth, and all foundation materials will be non-hazardous. Any effects on water tables are expected to be localized and temporary, without affecting hydrologic resources. Geotechnical investigations will be conducted to identify areas with shallow groundwater depths, which may require special foundation designs. The Applicants will also continue to work with landowners to identify springs and wells near the Project.[673]

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[670] Ex. APP-11 at 7-77 (Application) (eDocket No. 20238-198009-04).

[671] Ex. APP-11 at 7-77 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 120 (EA) (eDocket No. 20246-208129-08).

[672] Ex. APP-11 at 7-40 (Application) (eDocket No. 20238-198009-04).

[673] Ex. APP-11 at 7-40 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 133 (EA) (eDocket No. 20246-208129-08).

b. Floodplains

625. A floodplain is nearly flat land adjacent to a river or stream that experiences periodic flooding, including the floodway, which carries flood flows, and the flood fringe, which is covered by floodwaters but does not experience strong currents. Floodplains help prevent damage by detaining debris, sediment, water, and ice. The Federal Emergency Management Agency (FEMA) delineates floodplains and determines flood risks, including 100-year floodplains with a one percent annual chance of flooding and 500-year floodplains with a 0.2 percent chance. The MnDNR administers the state floodplain management program to promote public health and safety, minimize loss of life, and reduce economic losses from floods. The MnDNR also oversees the national flood insurance program for Minnesota, and floodplains may be regulated locally by counties.[674]

626. The Project will cross both FEMA-designated 100-year and 500-year floodplain areas, primarily associated with water bodies like the Mississippi River and its tributaries, including the Swan River, Mud Brook, Rabbit River, Ironton Creek, Nokasippi River, Willow River, Platte River, and Elk River.[675]

627. The Project may require placing transmission line structures within FEMA-designated 100-year floodplain areas, though efforts will be made to span floodplains when possible. The Modified Proposed Route includes 9 floodplain crossings greater than 1,000 feet, compared to 7 such crossings on the Co-location Maximization Route.[676]

628. Temporary construction impacts may occur from access routes, structure work areas, and conductor pulling and tensioning sites, but these will occur outside of seasonal flooding periods and will not affect floodplain function. The placement of transmission line structures is not expected to alter the flood storage capacity of the floodplain due to the minimal size of individual structures.[677]

c. Impaired Waters

629. The Minnesota Pollution Control Agency (MPCA) classifies the state's water bodies in accordance with the Clean Water Act (CWA), establishing water quality standards, beneficial uses, numeric standards, narrative criteria, and non-degradation protections for high-quality waters. Minnesota assumes that water bodies should support healthy aquatic life and recreational uses, categorizing them into seven designated use

[674] Ex. APP-11 at 7-40 to 7-41 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 131 (EA) (eDocket No. 20246-208129-08).

[675] Ex. APP-11 at 7-41 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 131 (EA) (eDocket No. 20246-208129-08).

[676] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[677] Ex. APP-11 at 7-40 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 131 (EA) (eDocket No. 20246-208129-08).

classifications: Class 1 for domestic consumption, Class 2 for aquatic life and recreation, Class 3 for industrial consumption, Class 4 for agriculture and wildlife, Class 5 for aesthetic enjoyment and navigation, Class 6 for other uses and border waters protection, and Class 7 for limited resource value waters.[678]

630. Section 303(d) of the CWA mandates that states biennially publish a list of streams and lakes failing to meet their designated uses due to excess pollutants, known as the 303(d) list. The MPCA oversees the designation of these "impaired" waters in Minnesota. The Project Centerline crosses 19 impaired streams, as detailed in the MPCA's 2022 data. Among these, eight streams have an approved total maximum daily load (TMDL) study, ten require a TMDL study, and one does not require a TMDL study due to natural conditions. Impairments in these streams include mercury in fish tissue, fish bioassessments, dissolved oxygen, E. coli, turbidity, benthic macroinvertebrate bioassessments, and fecal coliform. No impaired lakes were identified within the Proposed Route.[679]

631. The Modified Proposed Route includes 46 impaired stream crossings; the Co-location Maximization Route includes 38 impaired stream crossings.[680]

632. Construction of the Project could cause temporary soil erosion and increased sedimentation in surface waters. To mitigate these impacts, the Project will implement measures regulated by the MPCA through the National Pollutant Discharge Elimination System (NPDES) and the State Disposal System (SDS). The Applicants will seek authorization to discharge stormwater associated with construction activity under the MPCA NPDES/SDS Construction Stormwater General Permit (MNR100001). A SWPPP will be developed to identify best management practices (BMPs) to minimize erosion and sedimentation impacts. Additional precautions include prohibiting fueling or maintenance of vehicles and herbicide application within 100 feet of water bodies, proper storage of construction materials away from water resources, and immediate cleanup of spills or leaks. BMPs specific to impaired waters will be implemented according to Section 23.1 of MNR100001 to further protect these water bodies.[681]

d. Minnesota Public Waters

633. Public Waters in Minnesota, as defined by Minn. Stat. § 103G.005, include wetlands, water basins, and watercourses with significant recreational or natural resource

[678] Ex. APP-11 at 7-41 to 7-42 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 129-130 (EA) (eDocket No. 20246-208129-08).

[679] Ex. APP-11 at 7-42(Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 129-131 (EA) (eDocket No. 20246-208129-08).

[680] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[681] Ex. APP-11 at 7-42 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 129-131 (EA) (eDocket No. 20246-208129-08).

value. These waters fall under the regulatory jurisdiction of the MnDNR and are identified on the MnDNR Public Waters Inventory (PWI) maps. Some surface waters are designated as trout streams or lakes, also considered Public Waters regulated by the MnDNR.[682]

634. The Modified Proposed Route includes 152 NHD stream crossings, 82 PWI stream crossings, 18 NHD lake crossings, and 10 PWI basin crossings. In comparison, the Co-location Maximization Route includes 142 NHD stream crossings, 77 PWI stream crossings, 16 NHD lake crossings, and 7 PWI basin crossings.[683]

635. In testimony, the Applicants explained that there are two locations within Segment 2 where the existing lines have structures within wetlands that are too large to span, and the Application included a wide route width in these areas to potentially accommodate removing those structures from the waterbodies.[684] The Applicants conducted additional analysis regarding alignments in these areas, and the Modified Proposed Route reflects an alignment that accommodates removal of the existing structures from the waterbodies.[685]

636. Of note, Route Alternatives E4 and E5 would both require two crossings of the Mississippi River, as compared to zero crossings for the corresponding segment of the Proposed Route.[686]

637. To address the impacts on these waters, the Applicants will collaborate with the MnDNR to obtain necessary licenses and approvals for crossings. During this process, stipulations for Public Water crossings, including those for trout streams, will be determined. These may include in-water work exclusion dates and clearing setbacks. In areas where clearing activities are near a PWI, measures such as establishing stream bank buffers or using hand clearing techniques will be employed to minimize impacts on soils and existing vegetation. The rootstock of woody vegetation will remain to prevent soil disruption and promote quicker regrowth of vegetation.[687]

638. The Applicants will ensure that the Project complies with the NPDES permitting process, specifically Section 23.1 of MNR100001, which includes special

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[682] Ex. APP-11 at 7-43 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 130-131 (EA) (eDocket No. 20246-208129-08).

[683] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[684] Ex. APP-35 at 4-5 (Direct Testimony and Schedules of Brian Hunker) (eDocket No. 20247-208392-03).

[685] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment A (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[686] Ex. EERA-9 at 265 (EA) (eDocket No. 20246-208129-12).

[687] Ex. APP-11 at 7-43 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 130-131 (EA) (eDocket No. 20246-208129-08).

protections for designated trout streams. Best management practices, such as redundant perimeter controls and immediate stabilization of exposed soils within a 75-foot buffer, will be implemented to minimize erosion near MnDNR designated trout streams.[688]

e. Wetlands

639. The Applicants plan to avoid wetlands through prudent routing or spanning of the Project, resulting in minimal placement of structures within wetlands and thus minimal potential impacts. Construction typically involves vegetation clearing, soil movement, and construction traffic, which can alter or impair wetland function by affecting hydrology, such as causing periods of inundation, changes in flow, and sedimentation.[689]

640. Wetlands can be affected by soil erosion and sediment deposition during construction, making them more susceptible to invasive plant species like reed canary grass. This can reduce vegetative biodiversity and alter wildlife habitats. Forested wetlands within the transmission line right-of-way would likely undergo a permanent change in vegetation type due to the need to remove trees that could compromise the safe and reliable operation of transmission lines. The Applicants may need to provide mitigation for converting forested wetlands to non-forested wetlands.[690]

641. Mitigation strategies for wetland impacts include selecting routes, alignments, and pole placements that avoid wetlands. If avoidance is not possible, the Project could use construction mats, build during winter months when the ground is frozen, employ all-terrain construction equipment to minimize soil impacts, assemble structures in upland areas before installation, and transport crews and equipment over improved roads to minimize transit over wetlands.[691]

642. The Applicants will restore all wetlands in accordance with USACE requirements and obtain necessary state and local approvals for work in wetlands.[692]

643. Impacts to wetlands may vary based on the route selected. Specifically, for example, the Modified Proposed Route includes 8 PWI wetland crossings, 973 acres of wetlands within the right-of-way, and 86 wetland crossings greater than 1,000 feet (meaning it could not be spanned). Likewise, the Co-location Maximization Route

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[688] Ex. APP-11 at 7-43 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 130-131 (EA) (eDocket No. 20246-208129-08).

[689] Ex. APP-11 at 7-53 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 132 (EA) (eDocket No. 20246-208129-08).

[690] Ex. APP-11 at 7-53 to 7-54 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 132 (EA) (eDocket No. 20246-208129-08).

[691] Ex. APP-11 at 7-53 to 7-54 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 133 (EA) (eDocket No. 20246-208129-08).

[692] Ex. APP-11 at 7-54 to 7-55 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 133 (EA) (eDocket No. 20246-208129-08).

includes 8 PWI wetland crossings, 940 acres of wetlands within the right-of-way, and 90 wetland crossings greater than 1,000 feet.[693]

Similarly, as compared to the applicable corresponding segment of the Proposed Route, route alternatives A4, B, D3, and F and alignment alternative AA16, would cross more wetlands.[694]

644. Section 5.3.9 of the Draft Route Permit also includes requirements related to avoid and minimizing impacts on wetlands.[695]

4. Geology

645. The Project's surface geology is dominated by Quaternary-aged glacial deposits from the most recent Wisconsinian glaciation. Gravelly sand to sandy loam sediments, primarily from the Superior glacial lobe and part of the Cromwell Formation, are prevalent. Deposits from the Grantsburg, Rainy, and St. Louis lobes are also present, along with glaciofluvial and glaciolacustrine deposits. Surface glacial features such as ground/end moraines, drumlins, and hummocks are common, with glacial deposit thicknesses varying from 25 to 350 feet. The bedrock in the Project area consists mainly of Paleoproterozoic-aged igneous deposits, including granites, iron formations, mafic intrusions, and interlayered volcanic intrusive rocks. Some sedimentary bedrock from the Mille Lacs and North Range Groups is also present. Less than 10 percent of the Project area has significant potential for sand and gravel aggregate resources, with multiple aggregate mines within the Proposed Route. The seismic risk for the Project is very low, with less than a two-percent chance of damage from earthquakes in 10,000 years. The most intense earthquake recorded in the area occurred in 1860, rated as a seven on the Modified Mercalli Intensity Scale. Landslides are common in Minnesota due to unconsolidated glacial till deposits at the surface. They are influenced by slope angle, water content, and sediment properties, typically occurring during heavy rain events.[696]

646. No impacts to geologic resources are anticipated from the Project. While transmission line construction and operation could impact mining operations,

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[693] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[694] Ex. EERA-9 at 165; Table 6-6 (EA) (eDocket No. 20246-208129-10); Ex. EERA-9 at 191; Table 6-22 (EA) (eDocket No. 20246-208129-10); Ex. EERA-9 at 217; Table 6-39 (EA) (eDocket No. 20246-208129-12); Ex. EERA-9 at 239; Table 6-54 (EA) (eDocket No. 20246-208129-12); Ex. EERA-9 at 271; Table 6-70 (EA) (eDocket No. 20246-208129-12).

[695] Ex. EERA-9 at Appendix H, Draft Route Permit Section 5.3.9 (EA) (eDocket No. 20246-208135-18).

[696] Ex. EERA-9 at 133-134 (EA) (eDocket No. 20246-208129-08).

earthquakes are unlikely, and the risk of landslides is minimal due to the Project's limited impact on slope changes.[697]

5. Soils

647. Soil information for the Project was obtained from the USDA NRCS SSURGO database. The soil types in the Project area primarily include five textural classes: sand, loamy sand, sandy loam, loam, and silt loam, with organic soils such as peat, muck, and mucky peat also present. According to the SSURGO database, exposed soils in the area have varying erosion hazard levels, ranging from slight to severe. Soil compaction susceptibility also varies from low to high, with some areas unrated. Hydric soils, which form under saturated conditions and are typically associated with lowlands and wetlands, are also present.[698]

648. Potential soil impacts from the Project are expected to be minimal and temporary, depending on surface conditions during construction. Wet soil conditions can lead to more lasting impacts. Disturbance to surface soils would occur due to site clearing, grading, excavation, and the transport of crews and equipment over access routes. Soil erosion may happen if surface vegetation is removed, especially on fine-textured soils on slopes. Soil compaction and rutting could result from the movement of construction vehicles.[699]

649. To minimize soil impacts, BMPs will be employed during construction. These measures include using low ground pressure construction equipment, implementing erosion and sedimentation controls, grading contours to facilitate drainage and prevent erosion, promptly revegetating disturbed soils, obtaining necessary permits, and using erosion control methods such as sediment control fences, erosion control blankets, turf reinforcement mats, and mulch. Soil stockpiles will be properly managed, and disturbed areas will be returned to pre-construction conditions as much as possible.[700]

650. Section 5.3.8 of the Draft Route Permit includes requirements related to soil erosion and sediment control to further avoid and minimize potential Project impacts.[701]

6. Flora

651. The Project traverses several ecological subsections, including the St. Louis Moraines, Tamarack Lowlands, Pine Moraines and Outwash Plains, and the Mille

[697] Ex. EERA-9 at 133-134 (EA) (eDocket No. 20246-208129-08).

[698] Ex. EERA-9 at 134 (EA) (eDocket No. 20246-208129-08).

[699] Ex. EERA-9 at 135 (EA) (eDocket No. 20246-208129-08).

[700] Ex. EERA-9 at 135-136 (EA) (eDocket No. 20246-208129-08).

[701] Ex. EERA-9 at Appendix H, Draft Route Permit Section 5.3.8 (EA) (eDocket No. 20246-208135-18).

Lacks Uplands subsections in the Northern Laurentian Mixed Forest Province and the Anoka Sand Plain. The pre-settlement vegetation in the Project Study Area was primarily composed of aspen-birch forests, aspen oak lands, hardwood/pine forests, conifer bogs, and swamps, with smaller areas of jack pine barrens, oak openings, brush prairies, and scattered lakes and streams. Currently, the vegetation communities include developed urban areas, woody wetlands, and deciduous forests, with invasive species and noxious weeds also present.[702]

652. Construction activities for the Project are expected to impact vegetation. Permanent impacts will involve clearing trees and shrubs within the right-of-way, preventing them from regrowing to their previous heights and densities due to safety requirements. Temporary impacts will occur from using construction matting along access routes, work areas for transmission line structures, removal of foundations from existing structures, and conductor pulling and tensioning sites. To minimize disturbance, the project will utilize existing road systems, travel within the right-of-way where appropriate, and avoid building new access roads unless necessary. The transmission line construction will primarily parallel existing lines or rebuild existing lines, with over 85 percent of the Project following existing high-voltage transmission rights-of-way, thus minimizing vegetation impacts.[703]

653. Construction could also introduce or spread invasive species and noxious weeds. Potential introduction pathways include ground disturbance, contaminated topsoil, vehicles transporting weed seeds, and landscape conversion from forested to open settings. Mitigation measures include revegetating disturbed areas with weed-free seed mixes, using weed-free straw and hay for erosion control, removing invasive species through herbicides and manual methods, and cleaning construction vehicles to remove dirt, mud, plants, and debris before arriving at and leaving construction sites.[704]

654. The Applicants filed a draft Vegetation Management Plan for the Project that describes how vegetation will be managed for construction, operation, and maintenance of the Project. The Plan includes, among other things, BMPs related to restoration and the prevention of the introduction of invasive species and noxious weeds as a result of the Project.[705]

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[702] Ex. APP-11 at 7-55 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 136 (EA) (eDocket No. 20246-208129-08).

[703] Ex. APP-11 at 7-55 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 137 (EA) (eDocket No. 20246-208129-08).

[704] Ex. APP-11 at 7-55 and Appendix S (Application) (eDocket Nos . 20238-198009-04 and 20238-198013-15); Ex. EERA-9 at 137 (EA) (eDocket No. 20246-208129-08).

[705] Ex. APP-11 at Appendix S (Application) (eDocket No. 20238-198009-04).

7. Fauna

655. Wildlife species along the Modified Proposed Route and the Co-location Maximization Route include reptiles, amphibians, woodcock, raptors, ruffed grouse, wild turkeys, white-tailed deer, black bears, beavers, muskrats, river otters, gray wolves, rabbits, squirrels, red and gray foxes, raccoons, migratory water birds (geese, ducks, trumpeter swans, herons, shorebirds), and various perching birds (meadowlarks, sparrows, thrushes, woodpeckers, warblers).[706]

656. Construction activities may displace wildlife and lead to habitat loss due to noise and disturbance. The extent of displacement will vary by species, with smaller mammals, reptiles, and amphibians potentially more affected due to their limited ability to vacate the area. However, these species are typical of forested and rural settings and are not expected to experience population-level effects.[707]

657. Raptors, waterfowl, and other birds may also be affected by the construction and placement of transmission lines, with avian collisions being a possibility, particularly for waterfowl if the lines are placed between wetlands and feeding or resting areas. The Project minimizes new impacts by largely paralleling existing transmission line rights-of-way and rebuilding existing lines. The Co-location Maximization Route further minimizes new impacts because it parallels a greater length of existing transmission line rights-of-way than the Modified Proposed Route.[708]

658. To further reduce the risk of electrocution and collisions, the Project will consider recommendations from the Avian Powerline Interaction Committee (APLIC). The Applicants will coordinate with the MnDNR on the appropriate locations for bird flight diverters to mark sections of the proposed double-circuit transmission line. If construction occurs during the migratory bird nesting season, pre-construction nest surveys will be conducted.[709]

F. Effects on Rare and Unique Natural Resources

659. Minnesota Rules part 7850.4100(F) requires consideration of the Project's effects on rare and unique resources.

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[706] Ex. APP-11 at 7-56 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 138 (EA) (eDocket No. 20246-208129-08); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[707] Ex. APP-11 at 7-56 (Application) (eDocket No. 20238-198009-04).

[708] Ex. APP-11 at 7-56 (Application) (eDocket No. 20238-198009-04); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[709] Ex. APP-11 at 7-56 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 139-140 (EA) (eDocket No. 20246-208129-08).

1. Rare Species

660. The Applicants reviewed available data on threatened and endangered species and consulted with the MnDNR and USFWS. An unofficial listing of documented occurrences of state-listed species within the Study Area and within one mile of the Proposed Route and all route alternatives and alignment alternatives in the EA was reviewed. Although not comprehensive, this review provides information on the potential presence of state-protected species and habitats near the Proposed Route.[710]

661. The USFWS Information, Planning, and Consultation (IPaC) system was used to identify federally threatened, endangered, proposed for listing, and candidate species, as well as proposed and designated critical habitats that may occur near and within the final route selected for the Project.[711] The IPaC query identified seven federal species that could potentially be in the vicinity of the Project: Rusty patched bumble bee (*Bombus affinis*; endangered), Northern long-eared bat (*Myotis septentrionalis*; endangered), Gray Wolf (*Canis lupus*; threatened), Canada Lynx (*Lynz canadensis*), Tricolored bat (*Perimyotis subflavus*; proposed endangered), Monarch butterfly (Danaus plexippus; candidate), and Whooping crane (Grus americana; experimental population, non-essential).[712]

662. The MnDNR's NHIS database was queried in February 2024 (Barr License Agreement LA-2022-008), to determine if any state endangered or threatened species have been documented within one mile of the Project. The NHIS database identified records for six endangered, nine threatened, and 31 special concern species within one mile of the Project. The following are the state-listed species potentially present within one mile of the Project: Upswept moonwort (*Botrychium ascendens*; endangered), Slender moonwort (*Botrychium lineare*; endangered), Spatulate moonwort (*Botrychium spathulatum*; endangered), Butternut (*Juglans cinerea*; endangered), Loggerhead shrike (*Lanius ludovicianus*; endangered), Purple-flowered bladderwort (*Utricularia purpurea*; endangered), Seaside three-awn (*Aristida tuberculosa*; threatened), Narrow triangle moonwort (*Botrychium angustisegmentum*; threatened), Blunt-lobed grapefern (*Botrychium oneidense*; threatened), Cuckoo flower (*Cardamine pratensis*; threatened), Blanding's turtle (*Emydoidea blandingii*; threatened), Beach heather (*Hudsonia tomentosa*; threatened), Rock sandwort (*Minuartia dawsonensis*; threatened), Tuberclied rein orchid (*Platanthera flava var. herbiola*; threatened), Bog bluegrass (*Poa paludigena*; threatened).[713]

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[710] Ex. EERA-9 at 141-43 (EA) (eDocket No. 20246-208129-08).

[711] Ex. APP-11 at 7-60 (Application) (eDocket No. 20238-198009-04).

[712] Ex. APP-11 at 7-64 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 141 (EA) (eDocket No. 20246-208129-08).

[713] Ex. EERA-9 at 141-42; Table 5-16 (EA) (eDocket No. 20246-208129-08).

663. The Applicants will continue coordinating with the MnDNR and USFWS to avoid and minimize impacts on threatened and endangered species.[714]

664. Slender moonwort, upswept moonwort, and spatulate moonwort occur in open grassy habitats adjacent to forests. There are only three populations of slender moonwort identified in Minnesota, none within the routes under consideration for the Project. Potential impacts to these species could result from right-of-way clearing, grubbing activities, and construction. If present, measures will be taken to avoid and minimize their impact.[715]

665. The purple-flowered bladderwort, found submerged in small and medium-sized lakes adjacent to boggy shorelines, is not expected to be impacted by the Project as its habitat will not be affected.[716]

666. The tubercled rein orchid, found in moist soils within wooded or savanna landscapes, could be impacted by right-of-way clearing, grubbing activities, and construction. Measures will be taken during these activities to avoid and minimize the impact on this species if present.[717]

667. Butternut, narrow triangle moonwort, and blunt-lobed grapefern occur in mesic hardwood forests. Butternut, historically common, has been devastated by fungal disease, though some potentially resistant individuals exist. Clearing forested areas could remove healthy butternuts. The narrow triangle moonwort and blunt-lobed grapefern are affected by activities that create gaps in the canopy, potentially changing local hydrology or soil moisture content. Impacts could result from clearing, grubbing activities, and construction. Measures will be taken to avoid and minimize impact if these species are present.[718]

668. Seaside three-awn and beach heather, found exclusively in sandy habitats such as sand dunes, will be avoided during routing and construction due to their narrow habitat requirements.[719]

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[714] Ex. APP-11 at 7-66 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 141-43 (EA) (eDocket No. 20246-208129-08).

[715] Ex. APP-11 at 7-66 (Application) (eDocket No. 20238-198009-04) ; Ex. EERA-9 at 141-43 (EA) (eDocket No. 20246-208129-08).

[716] Ex. APP-11 at 7-66 (Application) (eDocket No. 20238-198009-04).

[717] Ex. APP-11 at 7-66 (Application) (eDocket No. 20238-198009-04).

[718] Ex. APP-11 at 7-66 (Application) (eDocket No. 20238-198009-04).

[719] Ex. APP-11 at 7-66 (Application) (eDocket No. 20238-198009-04).

669. The rock sandwort, found in sedimentary bedrock outcrops, is not expected to be impacted as its habitat will likely be avoided for structure location or other construction activities.[720]

670. Bog bluegrass, a threatened species, is found in forested wetland habitats maintained by springs. Adverse impacts may occur if these wetlands are converted or filled during Project construction. If present, efforts will be made to site structures, access roads, and construction activities to avoid and minimize impacts.[721]

671. Cuckoo flower, another threatened species, thrives in fens, particularly white cedar swamps. Potential impacts could result from right-of-way clearing, grubbing activities, and construction. Measures will be taken to avoid and minimize impacts if these plants are found.[722]

672. Blanding's turtle, also threatened, inhabits calm, shallow waters, including wetlands with rich aquatic vegetation. This species uses a variety of wetland and riverine habitats in Minnesota. It is on the USFWS National Listing Workplan for potential federal listing in fiscal year 2024. Impacts may occur if wetlands are converted or filled during construction.[723] The Applicants will implement appropriate BMPs to minimize potential impacts on Blanding's turtles and their habitats.[724]

673. The endangered loggerhead shrike is found in upland grasslands and some agricultural areas. It nests in open areas, avoiding forests. Impacts could result from clearing potential nesting habitats in grasslands. Efforts will be made to minimize tree removal in these areas, and pre-construction migratory bird surveys will be conducted during nesting season to avoid impacting nesting pairs.[725]

674. Canada lynx and gray wolves, although transient, are unlikely to frequently occur within the Project route due to existing development. No designated critical habitat for gray wolves is within the route, but suitable habitats such as boreal and hardwood forests are present and plentiful in the larger area.[726]

675. Northern long-eared bats (NLEB) and tricolored bats may be affected by the Project. There are documented NLEB roost trees within one mile of the Proposed Route.

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[720] Ex. APP-11 at 7-66 (Application) (eDocket No. 20238-198009-04).

[721] Ex. APP-11 at 7-67 (Application) (eDocket No. 20238-198009-04).

[722] Ex. APP-11 at 7-67 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 141-43 (EA) (eDocket No. 20246-208129-08).

[723] Ex. APP-11 at 7-67 (Application) (eDocket No. 20238-198009-04).

[724] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment F (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[725] Ex. APP-11 at 7-67 (Application) (eDocket No. 20238-198009-04).

[726] Ex. APP-11 at 7-67 (Application) (eDocket No. 20238-198009-04).

Potential impacts to NLEBs and tricolored bats may occur if tree clearing or construction takes place during their breeding, foraging, or pup-raising periods. To avoid direct impacts, tree clearing will be conducted during their hibernation period when they are not present, although this could still result in indirect impacts by removing suitable foraging and roosting habitats.[727] In Minnesota, the northern long-eared bat is most likely found in forested wetlands and riparian areas. However, individual trees, fence rows, or small wooded lots (fewer than 10 acres) that are more than 1,000 feet from forested or wooded areas are unsuitable for the species. Similarly, pure stands of trees less than three inches in diameter that are not mixed with larger trees, as well as trees in highly developed urban areas, are also unsuitable. The Project area contains potentially suitable roosting and foraging habitats for the northern long-eared bat. According to the USFWS Determination Key (Dkey), the Project may affect the species. The Applicants will comply with applicable USFWS guidance at the time of Project construction and continue to consult with the USFWS on any additional or replacement measures appropriate for the Project.[728]

676. An experimental, non-essential population of whooping cranes is present in Crow Wing County. Since there are no known native populations or critical habitats for whooping cranes along the Project, mitigation is not proposed except for the installation of bird flight diverters in certain areas.[729]

677. The Project may impact monarch butterflies because their host plant, a common milkweed genus, is found throughout Minnesota in open and disturbed habitats. However, since the monarch butterfly is not officially listed as threatened or endangered, no mitigation is required. The Applicants will continue coordinating with the MnDNR and USFWS regarding the species status and potential impacts.

678. The Modified Proposed Route and Co-location Maximization Route each have three federal- or state-protected species documents within their associated rights-of-way.[730]

679. Once a Route Permit is issued and the detailed design of the line is available, further coordination with the MnDNR and USFWS will occur to address potential impacts on rare and unique resources.[731]

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[727] Ex. APP-11 at 7-67 (Application) (eDocket No. 20238-198009-04).

[728] Ex. APP-11 at 7-67 to 7-68 (Application) (eDocket No. 20238-198009-04).

[729] Ex. APP-11 at 7-68 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 141-43 (EA) (eDocket No. 20246-208129-08).

[730] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[731] Ex. APP-11 at 7-68 (Application) (eDocket No. 20238-198009-04).

2. Rare Ecological Communities

680. MnDNR Natural Resource Sites are mapped within the Proposed Route, including six MnDNR WMAs, three state forests, and one AMA. The Hill River State Forest and Crow Wing State Forest are crossed by the existing transmission line right-of-way. Rice Lake Savanna, a MnDNR SNA, is mapped within 0.6 miles of the Proposed Route. There are 126 MnDNR Minnesota Biological Survey (MBS) areas of Biological Significance located within the Proposed Route. The acres of MBS areas in the Proposed Route and Proposed Right-of-Way are detailed in Table 7-27 by site ranking.[732]

681. New impacts will occur to "Moderate" and "High" ranked MBS land along Segment 1 of the Proposed Route. No new impacts are anticipated for MBS sites along Segment 2, as this portion of the Project will rebuild existing rights-of-way. The Cuyuna Series Compensation Station is located within the "Moderate" ranked Rabbit Lake Uplands MBS group, impacting an estimated 25 acres. No new impacts are anticipated for "Outstanding" ranked MBS land, as it is located entirely along the portions of the Project using existing transmission lines in Segment 2.

682. More generally, there are 937 acres of Sites of Biodiversity (ranked moderate, high, or outstanding) within the right-of-way associated with the Modified Proposed Route, and 888 acres within the right-of-way associated with the Co-location Maximization Route. Likewise, the Modified Proposed Route would have 293 acres of native plant communities with its right-of-way, as compared to 269 acres within the right-of-way for the Co-location Maximization Route. Further, there are two lakes of biological significance with the Modified Proposed Route's right-of-way, compared to five within the Co-location Maximization Route's right-of-way.[733]

683. The Applicants will collaborate with the MnDNR to avoid or minimize impacts to areas of Biological Significance and will implement sediment and erosion control BMPs for all biologically significant areas crossed by the Project.[734]

G. Application of Various Design Considerations

684. Minnesota Rules part 7850.4100(G) requires consideration of whether the applied design options maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity.

685. The Project is designed to meet current and projected future needs of the local and regional transmission network. For example, the Segment 2 69 kV update to 115 kV design provides future optionality to increase the local load serving transmission capacity with no new right-of-way or structures necessary when such expansion is

[732] Ex. APP-11 at 7-68 to 7-69; Table 7-27 (Application) (eDocket No. 20238-198009-04).

[733] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[734] Ex. APP-11 at 7-68 to 7-69 (Application) (eDocket No. 20238-198009-04).

necessary. This will also minimize damage and disturbance to the underlying property by not needing to replace the conductor in the future. In addition, constructing the lines to a 115 kV standard provides greater working clearances for line maintenance.[735]

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

686. Minnesota Rules part 7850.4100(H) requires consideration of the use or paralleling of existing rights-of-way, survey lines, natural division lines, and agricultural field boundaries.

687. The Proposed Route will follow existing transmission line right-of-way for over 85 percent of its length.[736] Like the Proposed Route, the Modified Proposed Route is co-located with existing high voltage transmission lines for approximately 85 percent of its length. The Co-location Maximization Route is co-located with existing high voltage transmission lines for approximately 90 percent of its length.[737]

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

688. Minnesota Rules part 7850.4100(J) requires consideration of use or paralleling of existing transportation, pipeline, and electrical transmission system rights-of-way.

689. As noted above, the Proposed Route will follow existing transmission line right-of-way for over 85 percent of its length.[738]

690. Route alternatives vary in their extent of co-location with existing infrastructure. Like the Proposed Route, the Modified Proposed Route is co-located with existing high voltage transmission lines for approximately 85 percent of its length. The Co-location Maximization Route is co-located with existing high voltage transmission lines for approximately 90 percent of its length.[739] With respect to individual route alternatives

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[735] Ex. APP-11 at 2-10 to 2-11 (Application) (eDocket No. 20238-198009-04).

[736] Ex. APP-11 at 10-2 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 147 (EA) (eDocket No. 20246-208129-08).

[737] Appendix L to Applicants' September 19, 2024 Comments.

[738] Ex. APP-11 at 10-2 (Application) (eDocket No. 20238-198009-04); Ex. EERA-9 at 147 (EA) (eDocket No. 20246-208129-08).

[739] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

studied in the EA, the Proposed Route is co-located with existing transmission for more of its length than route alternatives A1, A2, A3, A4, and G.[740]

J. Electrical System Reliability

691. Minnesota Rules part 7850.4100(K) requires consideration of electrical system reliability when selecting a route for a high-voltage transmission line.

692. The North American Electric Reliability Corporation (NERC) has established mandatory reliability standards for American utilities, requiring an evaluation of whether the grid can continue to operate adequately under various contingencies for new transmission lines. Two contingency categories are relevant here: Category P7.2, which involves analyzing the consequences of a single event causing simultaneous outages of both circuits on a double-circuit transmission line, and certain types of Extreme Events, which involve the loss of all transmission lines along a common right-of-way. Utilities must monitor and manage the effects of these contingencies to ensure the transmission system's ability to serve the load. Route permits issued by the Commission require compliance with NERC standards.[741] The Applicants kept these considerations in mind when developing the Modified Proposed Route and the Co-location Maximization Route and incorporated, to the greatest extent practicable, additional co-location opportunities into the Co-location Maximization Route while maintaining these reliability standards.[742]

693. In developing potential Project routes, the Applicants analyzed whether these routes would create reliability concerns. Applicants found no reliability concerns with either the Modified Proposed Route or the Co-location Maximization Route, which they believe supports and enhances the reliability of the regional electrical system. The EA concluded that no adverse impacts on electric system reliability are anticipated.[743] While no reliability concerns are anticipated with either the Modified Proposed Route or the Co-location Maximization Route, the Applicants have identified that the construction of the Co-location Maximization Route will result in outages during construction and maintenance activities of the additional circuits that need to be re-located or combined onto shared structures to accommodate the Project.[744]

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[740] Ex. EERA-9 at 165; Table 6-6 (EA) (eDocket No. 20246-208129-10); Ex. EERA-9 at 175 (EA) (eDocket No. 20246-208129-10).

[741] Ex. EERA-9 at 147-148 (EA) (eDocket No. 20246-208129-08).

[742] Ex. EERA-9 at 147-48 (EA) (eDocket No. 20246-208129-08).

[743] Ex. EERA-9 at 147-148 (EA) (eDocket No. 20246-208129-08); Ex. EERA-9 at 148 (EA) (eDocket No. 20246-208129-08).

[744] Ex. APP-36 (Direct Testimony and Schedules of Christian Winter) (eDocket No. 20247-208392-04); Applicants' Comments on the EA and Additional Information Requested at Public Hearings (Aug. 5, 2024) (eDocket No. 20248-209266-01).

694. Further, Applicants explained that transmission line crossings can introduce increased reliability concerns and designed the Project to minimize such crossings. However, several alternatives studied in the EA would require transmission line crossings, which introduces an increased reliability concern. For example, route alternatives A3 and C would require two transmission line crossings, as compared to zero for the corresponding segment of the Proposed Route.[745]

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

695. Minnesota Rules part 7850.4100(L) requires consideration of the cost to construct Proposed Routes and the cost of O&M.

696. In the Application, the Applicants stated that the estimated cost to construct the Project is approximately $970 million to $1.3 billion (in 2022 dollars) depending on the alignment selected.[746] Overall costs will vary based upon the route selected by the Commission, as described in the EA and Applicants' September 19, 2024, Response to Public Hearing Comments. Factors affecting costs include, among other things, line length and specialty structures needed. For example, route alternative G would be approximately double the cost of the corresponding segment of the Proposed Route, due largely to its longer length (nearly twice as long).[747]

697. In their September 19, 2024 Response to Public Hearing Comments, the Applicants provided cost estimates for the Modified Proposed Route, the Co-location Maximization Route, as well as the individual route and alignment alternatives incorporated into each of those routes. Applicants stated that estimated costs were broken down to show the direct cost of the proposed Project double-circuit 345 kV transmission line and the additional cost associated with the realignment of existing transmission lines or other "infrastructure stacking" to make room for the proposed Project. Table 3 provides overall cost estimates:[748]

[745] *See* Ex. EERA-9 at 175 (EA) (eDocket No. 20246-208129-10); Ex. EERA-9 at 209 (EA) (eDocket No. 20246-208129-12).

[746] Ex. APP-11 at 2-12 (Application) (eDocket No. 20238-198009-04).

[747] Ex. EERA-9 at 277; Table 6-75 (EA) (eDocket No. 20246-208129-12).

[748] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachment C (Sept. 19, 2024) (eDocket No. 20249-_____-__).

Table 3. Cost Comparisons

Full Route Option	Low ($Millions) (2022$)	Mid ($Millions) (2022$)	High ($Millions) (2022$)
Applicants' Original Proposed Route	$970.0	$1,182.0	$1,353.0
Modified Proposed Route	$980.0	$1,194.2	$1,366.9
Co-Location Maximization Route	$1,122.5	$1,367.9	$1,565.8

698. Once constructed, O&M costs associated with the new transmission lines will be initially driven by controlling regrowth vegetation within the right-of-way. The Applicants anticipate a post-construction annual maintenance cost of approximately $7,500 per mile for the Project.[749]

699. Minnesota Power's substation maintenance costs typically range from $50,000-$100,000 annually. Great River Energy's substation maintenance costs typically range from $100,000 – $200,000 annually. The Applicants also perform other general maintenance on their transmission facilities, such as conducting regular right-of-way patrols and repairing aged or worn equipment or facilities. The specific O&M costs for an individual transmission line vary based on the location of the line, the number of trees located along the right-of-way, the age and condition of the line, the voltage of the line, and other factors.[750]

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

700. Minnesota Rules part 7850.4100(M) requires consideration of unavoidable human and environmental impacts.

701. Transmission lines are large infrastructure projects that can have adverse human and environmental impacts. Despite mitigation strategies, some adverse impacts cannot be avoided and are anticipated for all routing alternatives.[751]

702. Aesthetic impacts are unavoidable as the Project introduces new transmission line structures and conductors into the Project area viewsheds, making them visible and affecting the area's aesthetics. Temporary construction-related impacts, such

[749] Ex. APP-11 at 2-13 (Application) (eDocket No. 20238-198009-04).

[750] Ex. APP-11 at 2-13 (Application) (eDocket No. 20238-198009-04).

[751] Ex. EERA-9 at 413 (EA) (eDocket No. 20246-208129-14).

as noise, dust generation, and traffic disruption near construction sites, also cannot be avoided.[752]

703. Impacts on the natural environment are similarly unavoidable. The construction and operation of the transmission line require tree removal, brush trimming, and clearing at structure sites, resulting in vegetation removal or fragmentation and the creation of edge habitats. Transmission line conductors pose a risk to avian species by creating opportunities for collisions, which could occur despite mitigation strategies like bird flight diverters.[753]

M. Irreversible and Irretrievable Commitments of Resources

704. Minnesota Rules part 7850.4100(N) requires consideration of the irreversible and irretrievable commitments of resources that are necessary for the Project.

705. The commitment of a resource is considered irreversible when redirecting that resource for future use becomes impossible or very difficult. An irretrievable commitment refers to the use or consumption of a resource in a manner that makes it unrecoverable for future generations. These types of commitments are expected for all routing alternatives and are not anticipated to vary significantly among them.[754]

706. There are few irretrievable commitments of resources associated with the Project. These include the steel, concrete, and hydrocarbon resources used, though the steel could potentially be recycled in the future. Labor and financial resources required for the Project are also considered irretrievable commitments, but the Applicants have committed to paying prevailing wages for the Project.[755]

XI. CONSIDERATION OF ISSUES PRESENTED BY STATE AGENCIES AND LOCAL UNITS OF GOVERNMENT

707. Minn. Stat. § 216E.03, subd. 7(12) requires the Commission to examine, when appropriate, issues presented by federal and state agencies and local units of government. The issues presented by federal, state, and local units of government are addressed as part of the analysis of the Commission's routing factors in Section X.

XII. SUMARY OF THE CERTIFICATE OF NEED RECOMMENDATIONS

708. The record demonstrates that the Northland Reliability Project 345 kV Transmission Line Project satisfies the certificate of need factors in Minn. Stat. § 216B.243, subd. 3 and Minn. R. 7849.0120.

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[752] Ex. EERA-9 at 413 (EA) (eDocket No. 20246-208129-14).

[753] Ex. EERA-9 at 413 (EA) (eDocket No. 20246-208129-14).

[754] Ex. EERA-9 at 413 (EA) (eDocket No. 20246-208129-14).

[755] Ex. EERA-9 at 413 (EA) (eDocket No. 20246-208129-14).

709. The record demonstrates that the Applicants' proposed configuration is the most reasonable and prudent system alternative for the Northland Reliability Project 345 kV Transmission Line Project.

XIII. SUMMARY OF ROUTE RECOMMENDATIONS

710. The record demonstrates that the Applicants' Modified Proposed Route satisfies the routing factors in Minn. Stat. § 216E.03, subd. 7 and Minn. R. 7850.4000 and 7850.4100.

711. The record demonstrates that the Applicants' Modified Proposed Route and Co-location Maximization Route appropriately balance the routing standards and criteria. The Modified Proposed Route is estimated to cost approximately $173.7 million less than the Co-location Maximization Route using the mid-range estimate. The Co-location Maximization Route will require less new transmission line rights-of-way than the Modified Proposed Route.

712. The conditions identified in the record as modified in the Applicants' September 19, 2024 Response to Public Hearing Comments should be incorporated into the Route Permit for the Project.[756]

XIV. SPECIAL ROUTE PERMIT CONDITIONS

713. In its Draft Route Permit, DOC-EERA recommended certain special conditions.[757] The Applicants provided multiple revisions to the Draft Route Permit, including special conditions.[758] The MnDNR also recommended several topics for special conditions.[759] The revisions proposed by the Applicants[760] are reasonable and should be incorporated into the Route Permit along with the following special conditions:

- ***Vegetation Management Plan:*** The Permittees filed with their Application a vegetation management plan (VMP) for review and comment by all interested persons, including EERA and the MnDNR. The Permittees shall revise the VMP to include the following revisions:

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[756] Applicants' September 19, 2024 Response to Public Hearing Comments and Appendix G (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[757] Ex. EERA-9 at Appendix H (EA) (eDocket No. 20246-208135-18).

[758] Applicants Comments on the EA and Additional Information Requested During Public Hearings (Aug. 5, 2024) (eDocket No. 20248-209266-01); Applicants' September 19, 2024 Response to Public Hearing Comments at Attachments G-1 through G-3 (Sept. 19, 2024) (eDocket No. 20249-_____-__).

[759] Comments by MnDNR at 28-29 (Aug. 5, 2024) (eDocket No. 20248-209262-01).

[760] Applicants' September 19, 2024 Response to Public Hearing Comments at Attachments G-1 through G-3 (Sept. 19, 2024) (eDocket No. 20249-_____-__).

- Avoidance plans should be incorporated into the VMP as appropriate.

- Any conditions related to vegetation management associated with any permits issued by a state or federal agency for the Permitted Route that have been identified as of the date the VMP is filed with the Commission prior to commencing Project vegetation clearing or construction, with the understanding that the VMP shall also include a condition that any additional vegetation management conditions necessary for compliance with any state or federal permit issued for the Project not explicitly identified in the VMP at the time of filing will be incorporated by reference.[761]

The Permittees shall file the VMP with these revisions incorporated with the Commission, as applicable, with the plan for vegetation clearing under Section 6.1.6 required under this permit or with the plan and profile required under Section 9.2 of this permit. The Permittees shall provide all landowners along the route with copies of the VMP and an electronic copy (including by website address) shall be sufficient. The Permittees shall file an affidavit of its distribution of the VMP to landowners with the Commission no later than, as applicable, with the filing of plan for vegetation clearing or the compliance filing required under Section 5.3.1 of this Permit. Such notice to landowners may be provided for only those portions of the Project that are the subject of the plan for vegetation clearing for each phase of the Project.

- ***Agricultural Impact Mitigation Plan:*** The Permittee developed an agricultural impact mitigation plan (AIMP) in coordination with the MDA that includes all revisions requested by the MDA. The Permittees shall provide all affected landowners with a copy of the plan. .

- ***Dust Control:*** The Permittees shall utilize non-chloride products for dust control during construction.

- ***Wildlife-Friendly Erosion Control:*** The Permittees shall use only “bio-netting” or “natural netting” types and mulch products without synthetic (plastic) fiber additives.

- ***Project Lighting:*** The Permittees must use shielded and downward facing lighting and LED lighting that minimizes blue hue for all new project substation and compensation station facilities. Downward facing lighting must be clearly visible on the plan and profile(s) submitted for the project.

- ***Vegetation Clearing Before Construction:*** If the Permittees will clear vegetation for any portion of the Transmission Facility prior to completion of the design

[761] As of the date of these filings, no specific recommendations have been suggested by either DOC-EERA or the MnDNR beyond those included in this section regarding revisions to the VMP during the more than 12 months these agencies have had to review the VMP and provide comments or request revisions.

necessary to provide a plan and profile contemplated under Section 9, the Permittees shall file with the Commission at least 14 days prior to such vegetation clearing activities:

- The Vegetation Management Plan contemplated under Section 6.1 of this Route Permit that is applicable to any portion of the Transmission Facility being proposed for vegetation clearing;
- A map showing the area proposed for vegetation removal and its location within the Designated Route and compared to the right-of-way identified in this route permit;
- A statement of confirmation that the Permittees have obtained, or will obtain before commencing, all necessary land rights and agency permits for the vegetation removal in this area;
- The Permittees' plan for notification of Field Representative for landowners in the identified area; and
- If the Permittees have made any modifications to the right-of-way or alignment within the Designated Route from that identified in this route permit, the Permittee shall demonstrate that the right-of-way to be cleared of vegetation will be located so as to have comparable overall impacts relative to the factors in Minn. R. 7850.4100, as does the right-of-way and alignment identified in this route permit.

- ***Substation Construction:*** Notwithstanding any other requirement in this Permit, Permittees may commence construction of the substations identified in Section 2.3 of this Permit, provided that Permittees comply, as applicable, with the pre-construction meeting and plan and profile sections of this Permit with respect to the specific scope of the construction activities sought to be conducted by Permittees.

XV. NOTICE

714. Minnesota statutes and rules require an applicant for a Certificate of Need and Route Permit to provide certain notice to the public as well as to local governments before and during the Certificate of Need and Route Permit application process.[762]

[762] Minn. Stat. § 216E.04, subd. 4, Minn. R. 7829.2500, subp. 5, Minn. R. 7829.2550, subp. 3, Minn. R. 7849.2550, and Minn. R. 7850.3300. The requirements under Minn. R. 7829 and 7849 can be modified by Minn. R. 7849.0200, subp. 6 via the filing of an exemption request. The Applicants filed such a request for certain exemptions from Minn. R. 7849.0270, Minn. R. 7849.0280, Minn. R. 7849.0290, and Minn. R. 7849.0300 on April 19. 2023. The Commission granted the requested exemptions to Minnesota Power via order on June 21, 2023.

715. The Applicants provided notice to the public and to local governments in satisfaction of Minnesota statutory and rule requirements.

716. Minnesota statutes and rules also require the DOC-EERA and the Commission to provide certain notice to the public throughout the Route Permit process. The DOC-EERA and the Commission provided notice in satisfaction of Minnesota statutes and rules.[763]

COMPLETENESS OF THE EA

717. The Commission is required to determine the completeness of the EA. An EA is complete if it and the record address the issues and alternatives identified in the Scoping Decision.[764]

718. The evidence in the record demonstrates that the EA is complete because the EA and the record created at the public hearings and during the subsequent comment period address the issues and alternatives raised in the Scoping Decision.

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

CONCLUSIONS

1. The Commission and the ALJ have jurisdiction to consider the Applicants' Application.

2. The Commission determined the Application was substantially complete and accepted the Application on November 15, 2023.

3. The DOC-EERA has conducted an appropriate environmental analysis for the Project for purposes of this Certificate of Need and Route Permit proceeding and the EA satisfies Minn. R. 7849.1900, subp. 1 and Minn. R. 7850.3700.

4. The Applicants gave notice as required by Minn. Stat. § 216E.04, subd. 4, Minn. R. 7829.2500, subp. 5, Minn. R. 7829.2550, subp. 3, Minn. R. 7849.2550, and Minn. R. 7850.3300.

5. The DOC-EERA gave notice as required by Minn. Stat. §§ 216E.03, subd. 6, 216E.04, subd. 6, Minn. R. 7850.2300, subp. 2, and Minn. R. 7850.2500, subp. 2, 3, and 6.

6. Public hearings were conducted in communities along the proposed transmission line routes. The Applicants and the Commission gave proper notice of the

[763] Minn. Stat. § 216E.03, subd. 6; Minn. Stat. § 216E.04, subd. 6; Minn. R. 7850.2300, subp. 2; Minn. R. 7850.3700, subps. 2, 3, and 6.

[764] Minn. R. 7850.3900, subp. 2.

public hearings and the public was given the opportunity to appear at the hearings or submit written comments.

7. All procedural requirements for processing the Certificate of Need and Route Permit have been met.

8. The record evidence demonstrates that the Northland Reliability Project 345 kV Project satisfies the Certificate of Need criteria set forth in Minn. Stat. § 216B.243, subd. 3 and Minn. R. 7849.0120 based on the factors in Minn. Stat. § 216E.03, subd. 7 and Minn. R. 7850.4000.

9. The record evidence demonstrates that the Modified Proposed Route satisfies the Route Permit criteria set forth in Minn. Stat. § 216E.03, subd. 7(a) and Minn. R. 7850.4100 based on the factors in Minn. Stat. § 216E.03, subd. 7 and Minn. R. 7850.4000. The Modified Proposed Route is shown in **Attachment A**.

10. The record evidence also demonstrates that the Co-location Maximization Route satisfies the Route Permit criteria set forth in Minn. Stat. § 216E.03, subd. 7(a) and Minn. R. 7850.4100 based on the factors in Minn. Stat. § 216E.03, subd. 7 and Minn. R. 7850.4000, although its estimated cost is approximately $173.7 million more than the Modified Proposed Route using the mid-range estimate. The Co-location Maximization Route is shown in **Attachment B**.

11. The record evidence demonstrates that constructing the Northland Reliability Project 345 kV Project along the Modified Proposed Route does not present a potential for significant adverse environmental effects pursuant to the Minnesota Environmental Rights Acts, Minn. Stat. §§ 116B.01-116B.13, and the Minnesota Environmental Policy Act, Minn. Stat. §§ 116D.01-116D.11.

12. The record evidence demonstrates that constructing the Northland Reliability Project 345 kV Project along the Co-location Maximization Route does not present a potential for significant adverse environmental effects pursuant to the Minnesota Environmental Rights Acts, Minn. Stat. §§ 116B.01-116B.13, and the Minnesota Environmental Policy Act, Minn. Stat. §§ 116D.01-116D.11.

13. There is no feasible and prudent alternative to the construction of the Project, 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.

14. The evidence in the record demonstrates that either the Modified Proposed Route or the Co-location Maximization Route provide a reasonable and prudent route for the Project.

15. Any Findings more properly designated as Conclusions are adopted as such.

Based on these Findings and Fact and Conclusions, the ALJ makes the following:

RECOMMENDATION

1. The ALJ concludes that all relevant statutory and rule criteria necessary to certify the Northland Reliability Project 345 kV Project have been satisfied and there are no statutory or other requirements that preclude the Commission from certifying the Northland Reliability Project 345 kV Project on the record.

2. The ALJ concludes that all relevant statutory and rule criteria necessary to obtain a Route Permit for the Northland Reliability Project 345 kV Project have been satisfied and that there are no statutory or other requirements that preclude granting a Route Permit based on the record.

3. The Commission should grant a Certificate of Need for the Project.

4. The Commission should issue a Route Permit to the Applicants for either the Modified Proposed Route or the Co-location Maximization Route based on its evaluation of the record in this proceeding.

5. The Commission's Standard Route Permit Conditions should be incorporated into the Route Permit, unless modified herein.

6. The Draft Route Permit revisions identified by the Applicants in Appendix G to its September 19, 2024 Response to Public Hearing Comments and the Special Route Permit Conditions identified in Section XIV herein should be incorporated into the Route Permit.

7. The Applicants should be required to take those actions necessary to implement the Commission's orders in this proceeding.

THIS REPORT IS NOT AN ORDER AND NO AUTHORITY IS GRANTED HEREIN. THE MINNESOTA PUBLIC UTILITIES COMMISSION WILL ISSUE THE ORDER OF AUTHORITY WHICH MAY ADOPT OR DIFFER FROM THE FOLLOWING RECOMMENDATION.

Based on the foregoing Findings of Fact, Conclusions of Law, and the record in this proceeding, the Administrative Law Judge makes the Recommendations set forth in this Report.

Dated on_____ _____

Kimberly Middendorf
Administrative Law Judge