

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

In the Matter of the Application for a High
Voltage Transmission Line Route Permit for the
Essar Steel Transmission Project

**FINDINGS OF FACT,
CONCLUSIONS AND
RECOMMENDATIONS**

This matter came before Administrative Law Judge Eric L. Lipman during a September 30, 2009 Prehearing Conference.

On April 7, 2010, public and evidentiary hearings were held before Administrative Law Judge Steve M. Mihalchick at the Taconite Community Center in Taconite, Minnesota.

The following persons noted their appearance: David R. Moeller appeared on behalf of Nashwauk Public Utilities Commission ("NPUC") and Minnesota Power ("MP") (collectively the "Applicants"). Karen Finstad Hammel, Assistant Attorney General, appeared on behalf of the Department of Commerce Office of Energy Security (OES). Michael Kaluzniak, Minnesota Public Utilities Commission, appeared on behalf of the Public Utilities Commission (the Commission or MPUC).

The public hearing record closed on April 19, 2010. The Final Environmental Impact Statement was filed on May 27, 2010.

STATEMENT OF THE ISSUE

Have Applicants satisfied the criteria set forth in Minnesota Statutes § 216E.03 and Minnesota Rules Chapter 7850 for a Route Permit for four 230 kV transmission lines and two 230 kV substations to supply electric power to Essar Steel Minnesota Limited's ("ESML") new facilities, and, if so, what route complies best with applicable statutes and rules?

Based upon the Findings and Conclusions that follow below, the Administrative Law Judge makes the following:

RECOMMENDATIONS

The Minnesota Public Utilities Commission should:

1. Conclude that all relevant statutory and rule criteria necessary to obtain a Route Permit have been satisfied and that, on this record, there are no statutory or other requirements that preclude granting a Route Permit.
2. Issue a Route Permit to NPUC and MP for construction of the proposed overhead 230 kV transmission lines and substations, to the effect of authorizing:
 - a. The construction of four 230 kV transmission lines designated as Routes 1, 2, 3, and 4 and as depicted in Appendix A — Detailed Route Maps — of the Route Permit Application.
 - b. The construction of two new substations (Essar Mine Substation and Essar Steel Plant Substation) and modification of Minnesota Power's 230 kV Blackberry Substation.
 - c. A route width varying from 500 feet to 3,500 feet as described in the Findings of Fact.
3. Require the Applicants to take those actions necessary to implement the Commission's orders in this proceeding.

Based upon the hearing record, the Administrative Law Judge makes the following Findings of Fact and Conclusions:

FINDINGS OF FACT

1. On June 1, 2009, Nashwauk Public Utilities Commission ("NPUC") and Minnesota Power (collectively the "Applicants") jointly filed a Route Permit Application ("Application") with the Minnesota Public Utilities Commission ("Commission") for the Essar Steel Transmission Project ("Project").¹
2. NPUC is a municipal utility located in Nashwauk, Minnesota. NPUC delivers electric energy through a network of distribution lines and substations within its electric service territory.²

¹ Exhibit 19.

² Ex. 3 at 2.

3. Minnesota Power, a division of ALLETE Inc., is an investor-owned utility headquartered in Duluth, Minnesota. The Company provides electricity in a 26,000-square-mile electric service territory located in northeastern Minnesota. Minnesota Power supplies retail electric service to 141,000 customers in northern Minnesota. It provides wholesale electric service to 16 municipalities in Minnesota and to two private utilities in Wisconsin. A portion of the Project would be located in Minnesota Power's service area and would connect to Minnesota Power's existing transmission facilities.³

4. ESML has obtained state approvals to reactivate the former Butler Taconite mine by developing new facilities, including a taconite pellet plant and steel production plant. ESML is currently permitted to produce 4 million tons of taconite, 1.8 million tons of direct reduced iron and 1.5 million tons of steel each year. It is estimated that the development of additional ESML facilities will provide over 2,000 construction jobs and 500 permanent jobs.⁴

5. The purpose of the Project is to supply reliable electric power to a single entity - ESML. The proposed Project consists of four 230 kV transmission lines and two 230 kV substations to supply electric power to ESML's new facilities. The Boswell, Shannon, and Blackberry substations would be power sources for the four transmission lines. Further, the Applicants propose that the "Essar Mine Substation," the "Essar Steel Plant Substation," and sections of the 230 kV transmission lines would be built upon ESML property. The routes for these three interconnections to the ESML facility, plus a fourth Mine Substation to Steel Plant Substation transmission line, require construction of approximately 37 miles of new transmission lines.⁵

6. The project area is located within Itasca County, in and around Nashwauk, Minnesota. The communities of Nashwauk, Marble, Taconite, Bovey and Coleraine are the major geographic features within the Project area. There are several primary linear features located west to east within the project area, including: U.S. Highway 169, railroads, natural gas pipelines, and several 115 kV power lines.⁶

7. Minnesota Power, ESML, or the NPUC would own the four proposed 230 kV transmission lines and the two proposed 230 kV substations. As of the date of the public hearings, the specifics as to which company would own which elements of the project had yet to be finalized.⁷

8. The State of Minnesota has allocated \$65.9 million in grant monies for this project. Of this sum, approximately \$29.1 million has been set aside to help NPUC

³ *Id.*, at 2 and 3.

⁴ *Id.*, at 3.

⁵ Ex. 1 at 3; Ex. 19 at 1-1 and 10-2

⁶ Ex. 1 at 7; Ex. 19, at 2-1 through 2-7.

⁷ Ex. 3 at 3.

defray the costs of needed infrastructure associated with this project. The estimated total costs of the NPUC infrastructure improvements are \$104.1 million.⁸

9. The Commission accepted the filing of the Route Permit Application as complete in an order issued June 29, 2009. The Order also authorized the Energy Facility Permitting staff of the OES to process the application under the full permitting process in Minn. Rules 7849.5200 to 7849.5330, to name a public advisor, and to establish an advisory task force and develop its structure and charge.⁹

10. On July 2, 2009, the OES issued a Notice of Public Meeting and Environmental Impact Statement (“EIS”) Scoping Meetings for the Essar Steel Transmission Line Project. The Notice provided that a public meeting would be held in the Taconite Community Center on July 29, 2009.¹⁰

11. On July 14, 2009, the Commission issued a Notice and Order for Hearing assigning this matter to the undersigned Administrative Law Judge.¹¹

12. On July 29, 2009 the Public Meeting was conducted at the Taconite Community Center, 26 Haynes Street Taconite, Minnesota. The public was provided an overview of the Essar Steel Transmission Project and given an opportunity to submit comments regarding impacts of the projects and to suggest route alternatives.¹²

13. This comment period extended from July 29, 2009 to August 14, 2009.¹³

14. On July 24, 2009, the OES appointed ten persons to the Essar Steel Transmission Project Advisory Task Force (“ATF”). The ATF met three times – on August 12, September 2 and September 23, 2009. On October 20, 2009, the OES submitted for filing the ATF report.¹⁴

15. On August 5, 2009, the Administrative Law Judge issued a Scheduling Order setting a prehearing conference for September 30, 2009.¹⁵

⁸ *Id.*

⁹ See, *In the Matter of the Application for a HVTL Route Permit for the Essar Steel Transmission Project*, MPUC Docket No. E-280/TL-09-512 (June 29, 2009) (E-Docket No. 20096-39001-01).

¹⁰ Ex. 7; compare also, Minnesota Rule 7850.2300 (2009).

¹¹ *In the Matter of the Application for a HVTL Route Permit for the Essar Steel Transmission Project*, MPUC Docket No. E-280/TL-09-512 (July 14, 2009) (E-Docket No. 20097-39633-01).

¹² Ex. 8.

¹³ Ex. 7 at 1.

¹⁴ Exs. 4 and 10.

¹⁵ *In the Matter of the Application for a HVTL Route Permit for the Essar Steel Transmission Project*, Scheduling Order, OAH Docket No. 8-2500-20664-2 (August 5, 2009) (E-Docket No. 20097-39633-01).

16. On September 30, 2009, the Administrative Law Judge issued the Second Prehearing Order establishing detailed milestones for proceedings in this matter.¹⁶

17. On October 23, 2009, after consideration of the public comments, the Director of the OES issued an EIS Scoping Decision. The Decision sets forth, in detail, what was to be included in the EIS. Notice of the scoping order was provided by the OES to the persons specified in Minn. Rules 7850.2500, subp. 2.¹⁷

18. On February 12, 2010, OES issued the Draft EIS (“DEIS”) and Notice of Public Meeting.¹⁸

19. On March 10, 2010, the Public Meeting was conducted at the Taconite Community Center, 26 Haynes Street, Taconite, Minnesota at 6:00 p.m. The purpose of the meeting was to provide an opportunity for the public to comment upon the DEIS.¹⁹

20. Following the Public Meeting, the OES hosted a comment period on the DEIS. The comment period ran from March 10, 2010 to March 26, 2010.²⁰

21. On March 15, 2010, the OES issued a Notice of Public Hearings for the combined public and evidentiary hearings. The Notice provided that public and evidentiary hearings would be held on April 7, 2010 at the Taconite Community Center, 26 Haynes Street, Taconite, Minnesota at 2:00 p.m. and 6:00 p.m.²¹

22. At the evidentiary hearing, Applicants offered the testimony of three witnesses: Robert E. Lindholm, David U. VanHouse and Bryan C. Adams. The Applicants are the only parties to the contested case. Moreover, the OES and the Commission did not have any cross-examination of the Applicants’ witnesses during the evidentiary hearing. However, during the combined hearings, OES did propound questions to the Applicants’ witnesses and panel members.²²

23. The combined hearings continued until all persons who sought recognition had been given an opportunity to speak and had completed their remarks.²³

¹⁶ See, *In the Matter of the Application for a HVTL Route Permit for the Essar Steel Transmission Project*, Second Prehearing Order, OAH Docket No. 8-2500-20664-2 (September 30, 2009) (E-Docket No. 200910-43290-01).

¹⁷ Ex. 10.

¹⁸ Exs. 11, 12 and 13.

¹⁹ Ex. 11.

²⁰ Exs. 11 and 15.

²¹ Exs. 16 and 17; *compare also*, Minn. Stat. § 216E.03, subd. 6 (2008).

²² Exs. 1, 2 and 3; *Hearing Transcript, Volume I*, at 7, 8 and 31 through 33; *Hearing Transcript, Volume II*, at 28.

²³ *Hearing Transcript, Volume I*, at 31; *Hearing Transcript, Volume II*, at 43.

24. Three written comments from the public were submitted during the contested case hearing. A total of eight members of the public spoke during the combined hearings.²⁴

SUMMARY OF THE PUBLIC TESTIMONY

25. Mike McDonald, of Bovey, Minnesota, expressed concerns with respect to placement of the transmission line along Proposed Route 3 and the impacts that this routing would have upon his parcel, the value of his property, the use of his maple trees and the recoverability of “carbon credits.”²⁵

26. Mr. Lindholm, on behalf of the Applicants, responded that if Route 3 was selected by the Commission the Applicants would work with Mr. McDonald to install single pole transmission structures for crossing his property. In addition, Bill Storm of the OES pledged to research the impact upon carbon credits for possible inclusion in the final EIS.²⁶

27. Tim Mickelson, a transmission planning engineer at Great River Energy, stated that his company urges the Commission to select Route 1. If Route 1 were selected, Great River Energy could utilize that same corridor for a new transmission line to serve loads in the area.²⁷

28. Dennis Lockhard, of Nashuwauk, Minnesota, inquired as to the time-line for proceedings in this matter and the discussions between the Applicants and Great River Energy regarding co-location of facilities.²⁸

29. Mr. Van House, on behalf of the Applicants, noted that representatives of Minnesota Power and Great River Energy have discussed this topic and that the Applicants likewise favor a routing along Route 1.²⁹

30. Jim Marshall, Forest Resources Manager at UPM-Blandin Paper Company, noted that many of the proposed routes cross property owned by Blandin Paper Company. He stated further that as of July 1, 2010, these same parcels may be subject to a conservation easement that limits the development which may occur. The company’s preference is that, to the extent possible, the Commission route the

²⁴ Public Comments 1, 2 and 3; *Hearing Transcripts, Volumes I and II.*

²⁵ *Hearing Transcript, Volume I*, at 13 through 21.

²⁶ *Id.*, at 15 through 19.

²⁷ *Id.*, at 23 through 25.

²⁸ *Id.*, at 25 through 30.

²⁹ *Id.*, at 29 through 30.

proposed transmission lines along existing corridors so as to avoid forest land acres subject to the special easement.³⁰

31. Concurring, the Applicants pledged to work with representatives of the Blandin Paper Company to minimize impacts to forest lands and obtain any necessary permits required by the conservation easement.³¹

32. Terri Mjolsness, of Bovey, Minnesota, and a homeowner along Route 2, expressed concerns about the adequacy of the DEIS assessment of human health impacts. She detailed the health conditions that have impacted her family, and those of her neighbors who live along the route of an existing line, and believes that more inquiry should be made into the relationship between routing of high voltage transmission lines and the later onset of disease.³²

33. Eric Eskeli, of Nashuwauk, Minnesota, expressed concern that routing the transmission along proposed Route 1A would cross over his home and dissect his property. He urged selection of an alternate route.³³

34. Mr. Lindholm, on behalf of the Applicants, responded that the Advisory Task Force had considered this question. Because of the impacts to the Eskeli property, and others, the ATF had earlier recommended a wider routing corridor for Route 1A. Mr. Lindholm thought it likely that with a wider corridor, the alignment could avoid the Eskeli property entirely.³⁴

35. Arnold Yuhala of Nashuwauk, Minnesota, and a homeowner along Route 1, expressed his concerns regarding the impacts of the proposed line. In particular, he expressed concern as to the impacts upon his residence and surrounding agricultural property. Additionally, Mr. Yuhala argued that because the property tax liability for the land taken by the utility easement is ongoing for the landowner, it is inappropriate to make a single, lump-sum payment to the landowner for the easement. He argued for a set of payments to the landowner over time.³⁵

36. Norm Voorhees, a representative for the Ironworkers Local 512 and also a delegate to the Iron Range Building Trade Council, expressed support for the Project and the ESML development.³⁶

³⁰ *Hearing Transcript, Volume II*, at 9 through 17.

³¹ *Id.*, at 16.

³² *Id.*, at 17 through 20.

³³ *Id.*, at 20 through 21.

³⁴ *Id.*, at 21.

³⁵ *Id.*, at 22 through 30.

³⁶ *Id.*, at 30 through 32.

37. Darrell Whit of Bovey, Minnesota, noted that his property already hosts one gas line and asked whether the Commission takes into account the existing burdens landowners bear when routing new and projected utility lines. Mr. Whit likewise inquired as to undergrounding transmission lines when they are routed near residences.³⁷

38. As to the practice of undergrounding, Mr. Van House, on behalf of the Applicants, described the cost, maintenance and reliability impacts to ratepayers of undergrounding and explained that because of these impacts the practice is rare.³⁸

Study Areas and Design Approach

39. This Project meets the definition of a Large Energy Facility under Minn. Stat. § 216B.2421, subd. 2(2).

40. Because the improvements are needed to serve the electricity demands of a single customer at a single location, this Project meets the criteria for an exemption of the Certificate of Need exemption under Minn. Stat. § 216B.243, subd. 8(2).

41. All four proposed 230 kV transmission lines would terminate at the two proposed 230 kV substations located at the ESML site.³⁹

42. The Applicants proposed four routes, totaling 37 miles of transmission line. Likewise, the Applicants' proposal divides the route segments into four distinct study areas.⁴⁰

43. Study Area 1 (Shannon end of the 94 Line to Essar Steel Plant Substation) is bordered by Minnesota Power's 230 kV Boswell to Shannon 94 Line (94 Line) to the north and the Essar property to the south. The east boundary of the study area is two miles east of Minnesota Trunk Highway (TH) 65 and the west boundary is two miles west of TH 65. The proposed transmission line would cross over rugged forestland. TH 65 and a number of county and secondary roads cross the study area; no other major linear infrastructure (transmission lines, pipelines or railroads) are present. The transmission line routes within this study area would be approximately eight miles long.⁴¹

44. Study Area 2 (Boswell end of 94 Line to Essar Mine Substation) is bordered by the 94 Line on the north and west. The southern border is Minnesota Power's 115 kV Boswell to Nashwauk 28 Line (28 Line) and the eastern border is the

³⁷ *Id.*, at 36 through 42.

³⁸ *Id.*, at 38 through 40.

³⁹ Ex. 19 at 1-1.

⁴⁰ *Id.*, at 2-1.

⁴¹ Ex. 1 at 8.

ESML property. The proposed transmission line would cross over rugged forestland. There are a number of county and secondary roads within the study area. The “28 Line” is the only other infrastructure present in the right-of-way. The transmission line routes within this study area would be approximately 10 miles long.⁴²

45. Study Area 3 (Blackberry Substation to Essar Steel Plant Substation) is bordered by the City of Nashwauk on the northeast, the “28 Line” on the north and CSAH 10 to the west. The Blackberry Substation is located at the southern border of the study area and Minnesota Power’s 15 kV “62” and “63 Lines” are located on the eastern border. The proposed transmission line would cross over rugged forestland. U.S. Highway 169 travels east to west within the study area. There are a number of county and secondary roads, transmission lines, and gas pipelines within this study area. The transmission line routes within this study area would be approximately 15-18 miles long.⁴³

46. Study Area 4 (Essar Mine Substation to Essar Steel Plant Substation) is located entirely within ESML property and would connect the two new substations. The ESML plant utility right-of-way, including a new railroad and several secondary roads are located within the study area. The transmission line routes within this study area would be approximately three miles long.⁴⁴

47. While the typical right-of-way for a 230 kV transmission line is approximately 130 feet wide, the Applicants note that it may be appropriate to reduce that width in certain high-density, developed areas, or where the new transmission line follows an existing utility line or roadway. Likewise, the Applicants urge that in some instances a much wider right-of-way may also be required – such as when special topography or land features dictate special designs. Accordingly, the Applicants seek permanent easements providing the right to construct, operate, and maintain the transmission line along the full width and length of its right-of-way, as necessary.⁴⁵

48. The Applicants propose to construct single circuit portions of the transmission line, most often using H-frame 230 kV structures. The Applicants assert that the H-frame structures are best suited for the wooded, rugged topography of the various study areas and, to the extent that H-frame constructions permit longer line spans, will allow the Applicants to avoid the placement of structures in wetlands or waterways. A typical H-frame structure would have two 24-to 36-inch-diameter poles spaced approximately 19.5 feet apart from each other. Typically, each H-frame structure would range in height from 60 to 90 feet, and would be placed approximately 600 to 1,000 feet apart. Single Pole Single Circuit and Single Pole Double Circuit structures may be used in certain areas. The height of single-pole single-circuit

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *Id.*, at 9.

⁴⁵ *Id.*, at 5 and 6.

structures would range from approximately 70 to 100 feet tall, with the span between the structures running from 400 to 800 feet apart. Double-circuit single pole structures would range in height from approximately 95 to 115 feet tall with the span between structures running from 350 to 700 feet apart.⁴⁶

49. The Applicants propose to use 954 kcmil aluminum conductor steel reinforced (ACSR) for the 230 kV circuit between the Blackberry Substation and the Essar Mine Substation. The conductor on the other 230 kV circuits will be 1590 kcmil ACSR. For the shield wires, the Applicants propose to use a 3/8-inch diameter extra high strength steel (EHS) wire and one fiber optic ground wire (OPGW). The Applicants note that the conductor size and shield wire selection are subject to change pending completion of additional electrical optimization studies.⁴⁷

Route Alternatives

50. The Applicants have proposed four preferred routes (Routes 1, 2, 3, and 4) along with the required four alternative routes (Routes 1A, 2A, 3A, and 4A).

51. So as to effectively address various design, environmental resource, topography and landowner concerns, the Applicants request that unless stipulated in the Route Permit Application a 3,000-foot wide corridor be allowed for all four routes. The Application does make particular requests for the width of the corridor with respect to certain features along the line route – such as a 500 foot wide route corridor when co-locating with an existing transmission line or 3,500-foot wide corridor when crossing a parcel covered by a mine permit.⁴⁸

52. The DEIS evaluated the Applicants' Proposed Routes and the proposed substations additions. It also evaluated the proposed alignment alternative segments developed by the ATF to Applicants' Routes 1, 1A, 3, and 3A and 4A. No alternatives to the proposed substation additions were identified.⁴⁹

53. The Applicants prefer the routes designated as Routes 1, 2, 3 and 4. As required by Minn. Stat. § 216E.03, subd. 3, and Minn. Rules 7850, subp. 2(C), the Applicants included alternative routes designated Routes 1A, 2A, 3A and 4A.⁵⁰

54. Route 1 would tap into the existing 230 kV Boswell to Shannon 94 Line (94 Line Shannon End) approximately 0.75 miles west of State Highway 65. This route would travel 7.5 miles south to the 230 kV Essar Steel Plant Substation. The route then follows the west quarter section line of the following: T58N, R23W, Sections 24, 25, and

⁴⁶ *Id.* at 4 and 5.

⁴⁷ *Id.* at 5.

⁴⁸ *Id.* at 5, 6 and 9 through 16.

⁴⁹ Final Environmental Impact Statement ("FEIS") at 6-120 and Appendix E.

⁵⁰ Ex. 1 at 9.

36; T57N, R23W, Sections 1, 12, 13, 24, and 25. The Applicants request a 3,000 feet wide corridor to allow sufficient flexibility to address landowner concerns, environmental considerations and constructability factors when establishing the transmission line alignment.⁵¹

55. Route 1A would tap into the existing 94 Line Shannon End approximately 1 mile east of TH 65. The route travels south for 0.4 mile following the west side of CR 536 and continues south one mile to CSAH 54. At CSAH 54, the route travels southeast for 0.4 mile until it reaches the quarter section line in Section 32. The route continues south along the quarter section line paralleling and one quarter mile to the east of CR 564 for 1 mile. At this point the route extends southwest for 0.4 mile until it reaches the section line between Sections 5 and 6. The route then continues south along the section line for 2.25 miles to a point 0.25 miles north of North Little Sweden Road. The route then travels west-southwest for 0.7 mile until it reaches North Little Sweden Road. The route continues west following the north side of North Little Sweden Road for 0.45 mile. At this point the route heads northwest for 0.2 mile and west for 0.25 mile to avoid a park and fire station. The route would then proceed south for 1.6 miles following the half-section line of Sections 24 and 25. At this point the route heads southwest for 0.65 mile to the 230 kV Essar Steel Plant Substation. The route for alternate Route 1 A is approximately 9.3 miles long and travels through T58N, R22W, Sections 19, 20, 29, 30, 31, and 32; T57N, R22W Sections 5, 6, 7, 8, 17, 18, 19, and 20; and then back to T57N, R23W, through Sections 13, 24 and 25. The proposed route width is 3,000 feet wide where existing roads are followed and 1,500 feet wide in other locations to allow flexibility in determination of the final alignment.⁵²

56. The Applicants modified alternative Route 1A since the June 2009 Application was filed in response to issues raised by the ATF. The Applicants' agree with the ATF and recommend altering the alignment of a segment of the intended centerline for Route 1A. As suggested by the ATF, the intended centerline should be adjusted to the northwest in Section 18, T57N R22W to avoid a proposed new home. This new alignment of the Route 1A intended centerline is reflected in Appendix F of the Advisory Task Force dated October 20, 2009. Further, the Route 1A boundary should be revised to be 500 feet northwest of the revised intended centerline.⁵³

57. Route 2 would tap into the existing 94 Line Boswell End approximately 1 mile south of where the 94 Line crosses CSAH 60 (T57N, R24W, Section 31). The route would travel south for 1.6 miles to the existing 115 kV 28 Line through Section 6 of T56N, R24W. The route extends east, with the intended right-of-way centerline following the south side of the existing 115 kV 28 Line for 8.4 miles through Sections 6, 5, 4, 3, 2, and 1 of T56N, R24W, and Sections 6, 5, and 4 of T56N, R23W. At this point the route continues northeast and then east for 0.75 mile to the 230 kV Essar Mine Substation in Section 3 of T56N, R23W. The route is primarily 500 feet wide, as the route follows an

⁵¹ *Id.*, at 9 and 10.

⁵² Ex. 19 at 3-3.

⁵³ See, Ex. 4, Appendix F.

existing transmission line right-of-way and the new right-of-way location would be more predictable. The route width is 1,500 feet at the west and east sections of the route where a new right-of-way would be needed and more alignment flexibility would be desirable.⁵⁴

58. Route 2A would tap into the existing 94 Line Boswell End where the 94 Line crosses CSAH 60 (Clearwater Road) in Section 31 of T57N, R24W (Appendix A. Maps 5-6). The route travels east from the 94 Line with the intended centerline located along the south side of CSAH 60 for 0.65 mile. The route angles south along a field line for 0.25 mile and then east along a field line for 0.3 mile to Clearwater Road. At Clearwater Road the route continues east along the south side of CR 328 for 1.25 miles through Sections 32, 33, and 34 of T57N, R24W. The route then heads northeast for 0.35 mile to CSAH 7 where there is the greatest distance between homes. At CSAH 7 the route continues east for 0.6 miles and then southeast for 0.25 miles to CR 336. At CR 336 the route extends east along CR 334 for 4.5 miles to a point approximately 0.1 mile west of Big Sucker Lake, traveling through Sections 35 and 36 of T57N, R24W, and Sections 31, 32, and 33 of T57N, R23W. The route then travels southeast for 1.5 miles to the 230 kV Essar Mine Substation. The Applicants propose a route width of 3,000 feet for the west section of the route. The 3,000-foot-wide route provides the flexibility to follow the quarter section line north or south of the county roads, if the landowners oppose locating the Project along the roadway. The Applicants propose a route width of 1,500 feet for the east section of the route where a sub-division line is followed and there is no existing linear infrastructure and no homes.⁵⁵

59. Route 3 would begin at the existing Minnesota Power 230 kV Blackberry Substation (T55N, R23W, Section 19) and travel northeast with the intended centerline following the west side of the existing Minnesota Power 115 kV 63 Line for 11.4 miles. Minnesota Power proposes to dismantle the existing 115 kV 62 line, located to the west of 63 Line. The proposed 230 kV transmission line would then be constructed within the present 62 Line right-of-way. The route would travel through Sections 19, 18, 17, 9, 8, 4, and 3 of T55N, R23W, and Sections 34, 35, 27, 26, 24, 23, 13, 12, 7, and 6 of T56N, R22W. The route then travels northwest for 1.9 miles, crossing U.S. Highway 169 and the Hawkins mine, to CSAH 58. The route continues west with the intended centerline located along the south side of CSAH 58 for 0.3 mile to a point west of the cemetery. The route crosses CSAH 58 and continues west along the north side of the highway for 0.8 mile to the Essar Steel Plant Substation. The route passes through Section 31 of T57N, R22W, and Sections 36 and 25 of T57N, R23W, in the section between U.S. Highway 169 and the 230 kV Essar Steel Plant Substation. The Applicants propose a route width of 500 feet when following existing transmission lines and 3,500 feet in all other locations.⁵⁶

⁵⁴ Ex. 1 at 10.

⁵⁵ Ex. 19 at 3-4.

⁵⁶ Ex. 1 at 10 and 11.

60. Route 3A originates at the existing Minnesota Power 230 kV Blackberry Substation and travels west with the intended centerline located along the north side of the existing Minnesota Power 115kV 20 line for 1.75 miles to a point 0.25 miles west of North Road (Appendix A Maps 6-9). The route then travels north for one mile along the quarter section line to an existing natural gas pipeline. The route follows the pipeline northeast for 0.8 miles. The route travels north for one mile, then northeast for 0.35 miles to Birch Drive. The route crosses Birch Drive and extends north following the half-section line for 1.4 miles. The route heads northwest for 1.65 miles to the location of the former Minnesota Power 115 kV Greenway Substation. From the Greenway Substation, the route crosses U.S. Highway 169 and travels north following the existing Minnesota Power 115 kV right-of-way for 2.8 miles to the existing Minnesota Power 115 kV 28 Line. This 115 kV right-of-way includes two de-energized 115 kV lines that could be dismantled to provide a cleared right-of-way for a new 230 kV transmission line. The route then extends east, following the Minnesota Power 115 kV 28 Line for 4.1 miles. At this point the route continues east for an additional 0.75 miles to bypass the 230 kV Essar Mine Substation and then continue 2.8 miles following the ESM railroad, underground utilities and haul road right-of-way to the 230 kV Essar Steel Plant Substation. The route extends through Sections 24, 23, 14, 13, 12, and 1 of T55N, P24W; 36, 26, 25, 23, 14, 11, 2 and 1 of T56N, P24W; and Sections 6, 5, 4, 3 and 2 of T56N, P23W, and Sections 36, 35, 34, 26, and 25 of T57N, P23W. The Applicants propose a route width of 3,000 feet when following existing roads, 500 feet when following existing transmission lines and 1,500 feet in all other locations.⁵⁷

61. Route 4 begins at the proposed 230 kV Essar Mine Substation and travels northeast for approximately 2.5 miles with the intended centerline located along the west side of proposed ESML railroad, underground utilities and haul road right-of-way to CSAH 58. At CSAH 58, the route heads east for 0.35 mile with the intended centerline located along the north side of the highway to the 230 kV Essar Steel Plant Substation. The route extends through Sections 2 and 3 of T56N, P23W and Sections 36, 35, 34, 26, and 25 of T57N, P23W. The Applicants propose a route width of 3,000 feet.⁵⁸

62. Route 4A begins at the proposed 230 kV Essar Mine Substation and travels northeast for two miles, going between Big Sucker Lake and Little Sucker Lake, to CSAH 58. The route then heads east along the north side of CSAH 58 for 1.1 miles to the 230 kV Essar Steel Plant Substation. The route extends through Section 3 of T56N, R23W and Sections 25, 26, 27, 34, 35 and 36 of T57N, R23W. The Applicants propose a route width of 3,000 feet, except near the Sucker Lakes where the route width is reduced to exclude the lakes from the route.⁵⁹

63. The Applicants eliminated several route segment alternatives using its multi-factor "Route Selection Rationale." Most commonly, the Applicants eliminated

⁵⁷ Ex. 19 at 3-5.

⁵⁸ Ex. 1 at 11.

⁵⁹ Ex. 19 at 3-4 and 3-5.

potential route segments so as to avoid impacts to residences, wetlands, lakes and large forest tracts. A number of segments were also rejected because adjacent segments were eliminated, thereby eliminating a connection to the potential route. A listing of the rejected segments is included in an Appendix E of the DEIS.⁶⁰

Adequacy of FEIS

64. The Commission is required to determine the adequacy of the Final Environmental Impact Statement (FEIS).⁶¹

65. An FEIS is adequate if it: (a) addresses the issues and alternatives raised in scoping to a reasonable extent considering the availability of information and the time limitations for considering the permit application; (b) provides responses to the timely-submitted, substantive comments received during the DEIS review process; and (c) was prepared in compliance with the procedures in Minnesota Rules 7850.1000 to 7850.5600.⁶²

66. The record demonstrates that the FEIS addresses the issues and alternatives raised in the Scoping Decision, provides responses to the substantive comments received during the DEIS review process and was prepared in compliance with Minnesota Rules 7850.1000 to 7850.5600.

Route Permitting Standards

67. The Power Plan Siting Act requires that route permit determinations “be guided by the state’s goals to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the state’s electric energy security through efficient, cost-effective power supply and electric transmission infrastructure.” The statute identifies twelve criteria for the Commission to consider when making route designations:

- (1) evaluation of research and investigations relating to the effects on land, water and air resources of large electric power generating plants and high-voltage transmission lines and the effects of water and air discharges and electric and magnetic fields resulting from such facilities on public health and welfare, vegetation, animals, materials and aesthetic values, including baseline studies, predictive modeling, and evaluation of new or improved methods for minimizing adverse impacts of water and air discharges and other matters pertaining to the effects of power plants on the water and air environment;

⁶⁰ FEIS at 6-120 and Errata Filing pages E-2 through E-9.

⁶¹ Minn. R. 7850.2500, subp. 10.

⁶² *Id.*

- (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;
- (6) evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site and route be accepted;
- (7) evaluation of alternatives to the applicant's proposed site or route proposed pursuant to subdivision 1 and 2;
- (8) evaluation of potential routes that would use or parallel existing railroad and highway rights-of-way;
- (9) evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;
- (10) evaluation of future needs for additional high-voltage transmission lines in the same general area as any proposed route, and the advisability of ordering the construction of structures capable of expansion in transmission capacity through multiple circuiting or design modifications;
- (11) evaluation of irreversible and irretrievable commitments of resources should the proposed site or route be approved; and
- (12) when appropriate, consideration of problems raised by other state and federal agencies and local entities.⁶³

68. In order to implement this statutory mandate, the Commission has promulgated a set of standards and criteria to assess route applications. Minn. R. 7850.4100 obliges the Commission to consider the:

⁶³ Minn. Stat. § 216E.03, subd. 7 (b) (2008).

- 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.

Proximity to Structures and Displacement

69. There are homes located within 500 feet of the proposed HVTL on each of the routes described in the Application.⁶⁴

⁶⁴ FEIS at 5-5.

70. The Applicants have closely reviewed the location of homes and businesses when determining their preferred HVTL alignment and have minimized impacts to existing structures.

71. There are no residences or businesses that would be displaced by the Proposed Project.

72. Preferred Routes 1, 2, 3 and 4 cross the same number of homes within 500 feet of the intended centerline as Alternative Routes 1A, 2A, 3A and 4A.⁶⁵

Property Values

73. Due to the number of factors that may influence a property's value – including location, condition of the property and the broader housing market – the impact that the Proposed Project will have on property values along the proposed routes can not be projected with certainty. Confident projections are particularly difficult in this instance because residential property sales dropped in Itasca County by 33 percent during the period between 2005 and 2008, while the number of foreclosures increased over the prior period.⁶⁶

74. As part of their review of the various study areas, the Applicants identified residences prior to establishing the proposed HVTL alignments and adjusted preferred centerlines so as to avoid as many homes as practical.

Aesthetics

75. A new visual impact would be introduced in Preferred Routes 1 and 4 and Alternative Routes 1A, 2A, 3A and 4A.

76. Routes 2 and 3 would use an existing transmission line corridor, thus minimizing potential aesthetic impacts.

77. The Applicants have indicated that the aesthetic impact of the HTVL can be reduced by use of vegetative screening and installation of a uniform H-frame for most of the alignment.

Noise

78. HVTLs can produce audible sound from transmission line conductors, which can generate electromagnetic noise known as corona. The Proposed Project would not exceed the Minnesota Pollution Control Agency noise standards.⁶⁷

⁶⁵ *Id.*

⁶⁶ *Id.*, at 5-6.

⁶⁷ *Id.*, at 5-9.

79. At points outside of the right-of-way of the proposed HTVL, it is estimated that the noise levels will be “minimal” to “inaudible.”⁶⁸

80. With one exception, there are no houses within the proposed right-of-ways. As to the one exception, this residence could be avoided by following ATF Alignment 3-2.⁶⁹

Interference

81. Communication devices can be affected by an HVTL system through interference of the electromagnetic energy emitted at various frequencies by the communication devices or their antennae. Potential impacts from the Proposed Project could occur to omnidirectional and unidirectional signals in the Study Area, but are projected to be minimal.⁷⁰

⁶⁸ *Id.*, at 6-8.

⁶⁹ *Id.*, at EX-3.

⁷⁰ *Id.*, at 6-9.

Public Health and Safety

82. In public testimony and comment on the proposed project, concerns were raised as to the potential impacts from electric and magnetic fields (EMF), induction, and stray voltage.

83. The National Institute of Environmental Health Sciences (NIEHS), the USEPA, the World Health Organization (WHO), and the Minnesota State Interagency Working Group (MSIWG) reviewed research data on whether EMF is associated with adverse health effects. Each of these panels concluded that, currently, scientific evidence does not show that exposure to low-levels of EMF fields, consistent with a nearby transmission line, presents a human-health hazard.⁷¹

84. Significant impacts to public health and safety are not anticipated.⁷²

85. In order to prevent the occurrence of stray voltage along the route, the Applicants should be directed to comply with all local, state, and National Electric Safety Code standards during design, construction, operation, and maintenance of the proposed HVTLs.⁷³

86. The Proposed Project would be located in portions of Itasca County and the cities of Nashwauk and Taconite. It is considered a compatible land use under current local government zoning regulations.⁷⁴

Agriculture

87. Agricultural production would be minimally impacted by the Proposed Project, with a very small amount of land removed from agricultural production. The number of acres potentially taken out of agricultural production varies between routes, but ranges between approximately two and thirteen acres per route.⁷⁵

88. Farming and grazing activities could continue around and under the HVTLs. Moreover, the Applicants have pledged to use previously disturbed areas for construction setup and would work with landowners to minimize impacts to farming operations.⁷⁶

⁷¹ FEIS, at 5-11.

⁷² *Id.*, at 6-11.

⁷³ *Id.*

⁷⁴ *Id.*, at 6-15.

⁷⁵ *Id.*, at EX-7.

⁷⁶ *Id.*, at 6-13.

Mining and Forestry

89. Mining and mineral resources were considered during route planning and mining operations or resources would not be adversely impacted by the Proposed Project. Importantly, the purpose of the Proposed Project is to deliver electricity to a mining facility.⁷⁷

90. The proposed HVTL would cross numerous forest resources. Forested lands would be lost from timber production due to right-of-way clearing. Acreages lost vary between routes and range from approximately 28 and 150 acres. These impacts are small compared to the adjacent forest resources available within the region.⁷⁸

Transportation and Public Services

91. The Proposed Project would not impact local public services such as police, fire or emergency medical services. Some temporary road closures during construction may occur, which would require coordination with local emergency services, but would not be permanently altered.⁷⁹

92. Railroad and airport traffic and use would not be disrupted.⁸⁰

93. The Applicants have pledged to obtain local and MNDOT permits for all road utility crossings. The Applicants have likewise committed to would work with appropriate parties to ensure that public services are not adversely impacted.⁸¹

Recreation

94. Several of the proposed routes may impact snowmobile trails, but it is projected that in most cases, these impacts would be temporary. Along Routes 2, 2A, 3, and 3A, minor adjustments to existing trails realignments may be necessary in order to accommodate the final HVTL alignment.⁸²

95. The Applicants have pledged to work with local snowmobile clubs if the realignment of existing trails is required along the HTVL route.⁸³

⁷⁷ *Id.*, at 6-15.

⁷⁸ *Id.*, at EX-7.

⁷⁹ *Id.*, at 6-16 and 6-17.

⁸⁰ *Id.*, at 6-32 and 6-118.

⁸¹ *Id.*, at 6-32, 6-61 and 6-91.

⁸² *Id.*, at 6-49 and 6-80.

⁸³ *Id.*

Historic and Archaeological Resources

96. Based upon state records, recorded historical resources are outside of the proposed Routes and would not be impacted by the proposed HVTL alignments. Therefore, no adverse impacts to historic or archaeological resources are anticipated.⁸⁴

Air Quality

97. The Proposed Project has the potential to create limited impacts to air quality through corona effects, emissions of greenhouse gases from substations, and short-term vehicles emissions and fugitive dust during construction. None of these potential impacts is expected to be significant. Construction would follow best management practices. Moreover, the Applicants have pledged to minimize the amount of ground that will be disturbed during construction.⁸⁵

98. The OES projects that construction and operation of the HVTL will not be a significant source of air emissions.⁸⁶

Water Resources

99. Stream utility crossings would occur in all proposed routes, comprised of both new stream utility crossings and collocating new transmission lines at existing stream utility crossing.⁸⁷

100. Potential floodzone impacts to the Prairie River would be minimal and isolated to only Route 2.⁸⁸

101. The Proposed Project will not impact groundwater resources.⁸⁹

102. MNDNR permits would be required for work in public waters and utility crossings, and an NPDES permit would also be required for the Proposed Project.⁹⁰

103. The Applicant pledges to use construction Best Management Practices so as to minimize water quality impacts.⁹¹

⁸⁴ *Id.*, at 6-81.

⁸⁵ *Id.*, at 6-109.

⁸⁶ *Id.*

⁸⁷ *Id.*, at EX-8.

⁸⁸ *Id.*, at 6-51 and 6-52.

⁸⁹ *Id.*, at 6-33, 6-62, 6-92 and 6-119.

⁹⁰ *Id.*, at 6-24 and 8-3.

⁹¹ *Id.*, at 6-24.

Wetlands

104. The proposed HVTLs would span wetlands to the maximum practicable extent to avoid impacts. However, limited impacts would occur to larger impacts that where transmission line structures would be required to be placed within wetland basins.⁹²

Flora and Fauna

105. Vegetation and wildlife habitat would be altered by the Proposed Project. Forested habitat and vegetation would be impacted to right-of-way clearing and periodic HTVL maintenance.⁹³

106. Limited impacts, including loss of habitat, species displacement, and mortality, may occur to local wildlife but would not result in population level impacts.

107. Right-of-way clearing has the potential to result in the spread or introduction of noxious weeds or invasive plant species, which the Applicants would be required to control. Permits from the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency, the United States Army Corps of Engineers and the Itasca County Soil and Water Conservation District would be required for various impacts to natural resources.⁹⁴

Rare Resources, Unique Resources and Critical Habitat

108. The Proposed Project would alter vegetation and wildlife habitat, which has the potential to impact threatened, endangered, and species of special concern through loss of habitat. There are no known threatened or endangered species within the proposed HVTL alignments. A species of special concern – the black sandshell – is known to occur in the Prairie River, but is not anticipated to be adversely impacted by the Proposed Project. The Applicants would be required to conduct surveys to determine the extent of black sandshell populations in the Prairie River if HVTL structures would be placed within the river. If impacts to sensitive mussels could not be avoided, the Applicants would consult the MNDNR on appropriate mitigation measures.⁹⁵

⁹² *Id.*, at 7-1.

⁹³ *Id.*, at 6-28 and 6-29.

⁹⁴ *Id.*, at 6-29.

⁹⁵ *Id.*, at 6-59.

Application of Various Design Options

109. As currently proposed, the new HVTLs can adequately meet the anticipated electrical power needs of the Essar Steel facility. Therefore, the Applicants do not have plans to accommodate for future double-circuiting or delivery of additional megawatts of electricity.⁹⁶

110. The Applicants prefer route alternatives do not place two or more of the proposed 230 kV transmission lines on the same structure (double-circuiting) or within a common right-of-way. The Applicants express concern that if there were a simultaneous outage in two of the three lines supplying power to Essar Steel, the facility would be without electric power. The probability of a single event leading to simultaneous outages increases if two of the proposed 230 kV lines were double-circuited or share a single right-of-way.⁹⁷

111. There are a number of segments along the proposed routes which follow existing 115 kV lines for a portion of the total route length. Where existing homes, buildings, or other physical facilities would constrain the right-of-way, there is potential for double-circuiting the existing 115 kV line with the proposed 230 kV line.⁹⁸

112. Final engineering and design of the proposed line will be completed if the Proposed Project is granted a Route Permit from the Commission. The Applicants pledge that the final design would comply with all conditions detailed in the Route Permit as well as all other applicable federal, state or local permits, and rules and regulations governing the Proposed Project.⁹⁹

Existing Rights-of-Way, Corridors and Topographical Features

113. In most instances, the proposed HVTL alignment would follow existing road right-of-way and existing transmission line right-of-way.¹⁰⁰

114. To the extent practicable, waterways would be crossed in the same location as existing linear structures, such as utility lines or transportation right-of-way.¹⁰¹

115. To the extent practicable, existing vegetation would be used to screen the transmission lines from areas of high visual sensitivity.¹⁰²

⁹⁶ *Id.*, at 3-3.

⁹⁷ *Id.*, at 3-1.

⁹⁸ *Id.*, at 3-2.

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ *Id.*, at 6-8.

¹⁰² *Id.*, at 6-67.

116. There are no existing transmission lines, pipelines, or railroads in the study area. Route 1A, however, follows a road right-of-way for approximately 1 mile.¹⁰³

117. Route 2 would be constructed within an existing HVTL route and would follow an existing transmission line right-of-way for approximately 80 percent of its length.¹⁰⁴

118. Route 2A would be constructed within a new HVTL route. There are 19 houses located within this route.¹⁰⁵

119. The proposed Route 3 HVTL alignment would be located within an existing transmission line right-of-way and would follow an existing transmission line right-of-way for approximately 79 percent of its length.¹⁰⁶

120. Route 3 would cross four different CSAHs (including crossing CSAH 70 twice), two trunk highways, one County road, and one township road. Route 3 parallels CSAH 58 for 0.58 miles.¹⁰⁷

121. Further, Route 3 would parallel the main Burlington Northern Santa Fe railroad between the City of Pengilly and the City of Nashwauk for approximately 2.37 miles and would then cross the main track at a point that is west of the City of Nashwauk.¹⁰⁸

122. Approximately half the length of the proposed Route 3A alignment would utilize existing transmission line right-of-way. However, the proposed Route 3A HVTL alignment would run parallel to the state-approved NPUC pipeline for the proposed Mesaba Energy Project.¹⁰⁹

123. Route 3A would cross one trunk highway, two CSAH, two county roads and two township roads, one of which would be crossed twice. The proposed HVTL alignment would not parallel existing roadways.¹¹⁰

124. The proposed HVTL alignment for Route 3A would also parallel the Essar Steel Project rail line, which is currently under construction.¹¹¹

¹⁰³ Ex. 19, at 1-5.

¹⁰⁴ FEIS, at 6-73, Ex. 19, at 1-5.

¹⁰⁵ *Id.*, at 6-35.

¹⁰⁶ *Id.*, at 6-73, Ex. 19, at 1-5.

¹⁰⁷ Ex. 13, at 6-77.

¹⁰⁸ *Id.*, at 6-78.

¹⁰⁹ *Id.*, at 6-74.

¹¹⁰ *Id.*, at 6-77.

¹¹¹ *Id.*, at 6-79.

125. Route 4 would be constructed completely on Essar Steel Minnesota property and would not directly impact property values.¹¹²

126. Route 4A would be constructed partially on Essar Steel Minnesota property and partially on private property.¹¹³

127. Neither of the Route 4 nor Route 4A follows existing transmission lines, however, Route 4 would follow an extensive new utility right-of-way (water and slurry pipeline, truck haul road, gas pipeline, railroad) on the ESM property for approximately 1.5 miles.¹¹⁴

Electrical System Reliability

128. The key rationale for the four new HVTLs and new substations is to provide adequate electricity and transmission system redundancy, in the event that one of the new transmission lines or existing substations (Shannon, Boswell or Blackberry) were to temporarily go out of service. Construction of four transmission lines, which would supply more electricity than what is needed for daily facility operations, would ensure continuous operation of Essar Steel. As long as one of the three new HVTLs is in operation and the two new substations on Essar Steel property are connected by an HVTL, the Applicants can ensure that a continuously supply of power would be provided to Essar Steel.¹¹⁵

Costs of Constructing, Operating, and Maintaining Facilities

129. The cost estimate for a transmission line with single circuit H-frame construction ranges from \$28.3 million for the four preferred routes to \$32 million for the alternate routes. Any steel single pole construction adds significant costs to this estimate.¹¹⁶

130. The cost for construction of the proposed Essar Mine Substation is estimated to be \$13.8 million and the cost for construction of the Essar Steel Plant Substation is estimated to be \$31.4 million. The expansion at the Blackberry substation is estimated to be \$1.1 million. The Project's total cost estimate (transmission lines and substations) ranges from \$74.6 million to \$78.3 million depending on route selection.¹¹⁷

131. The estimated annual operation and maintenance cost for the transmission lines is approximately \$600 per mile and is dependent upon the setting, the amount of vegetation management necessary, storm damage occurrences,

¹¹² *Id.*, at 6-95.

¹¹³ *Id.*

¹¹⁴ Ex. 19, at 1-5.

¹¹⁵ FEIS, at 1-3.

¹¹⁶ *Id.*

¹¹⁷ *Id.*

structure types, age of line, and other factors. It is anticipated that very little maintenance would be required for the first several years following construction.¹¹⁸

Unavoidable Adverse Human and Natural Environmental Effects

132. HTVL projects create unavoidable adverse impacts – including physical impacts to the land following the construction of project facilities and from the visual impacts on the surrounding landscape. The Proposed Project would have both temporary and long-term significant impacts on forested lands, wetlands, wildlife habitat and aesthetic factors.¹¹⁹

133. Construction of the new HVTLs for the Proposed Project would include the establishment of a 130 foot wide right-of-way. In the event that a Route Permit is granted for the Proposed Project, the right-of-way would be cleared of forested vegetation for the entire length of the HVTL alignment for each of the selected routes. Timber harvested during right-of-way clearing and construction would be made available to landowners for firewood, saw logs, and other uses.¹²⁰

134. Temporary impacts to wetland vegetation may occur during construction, as the large construction vehicles may damage or destroy wetland vegetation.¹²¹

135. Wetland vegetation disturbed during construction would be required to be restored to pre-construction conditions. Winter construction within wetlands would also reduce wetland impacts.¹²²

136. Trees within forested wetland would be cleared within the right-of-way to allow for construction of the proposed HVTLs. The forested wetland communities would be lost within the right-of-way, and this may be considered a change of wetland type and a wetland impact that requires mitigation.¹²³

137. Upon completion of the HTVL construction new, replacement vegetation will be established within the right-of-way.¹²⁴

138. The loss of forested lands would alter wildlife habitat within the right-of-way. The habitat would not be completely lost, but instead would shift to benefit wildlife species that favor grassland habitat as opposed to forested habitats.¹²⁵

¹¹⁸ Ex. 19, at 3-10.

¹¹⁹ FEIS, at 7-1.

¹²⁰ *Id.*

¹²¹ *Id.*

¹²² *Id.*

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ *Id.*

139. Additional wildlife impacts may occur in the form of direct mortality to small or slow moving species that can not avoid the large mechanized equipment used for right-of-way clearing and HVTL construction. These impacts would not result in population level impacts.¹²⁶

140. The presence of an HVTL can detract from the visual landscape and character of an area. The HVTLs would be visible by residences that are in close proximity to selected routes. The total number of residences that would be visually impacted by the HVTLs would depend upon the selected routes, local topography and vegetative screening in the area. The new HVTLs would also be visible at trail crossings and water body crossings. Pole spacing would also impact the visual effects of the proposed HVTL, with wider spacing resulting in the construction of fewer poles.¹²⁷

Irreversible and Irrecoverable Commitments of Resources

141. Construction and operation of the Project may result in the irreversible or irretrievable commitment of certain resources. An irreversible resource commitment occurs when the commitment limits the future options for a resource. An irretrievable commitment refers to the use or consumption of a resource that is either non-renewable or non-recoverable for use by future generations.¹²⁸

142. Construction of the proposed Project would require the irretrievable commitment of some non-recyclable building materials and fuel for construction equipment. Construction resources that would be used include aggregate resources, concrete, steel, and hydrocarbon fuel. These resources would be used to construct the Proposed Project. During construction, vehicles would be traveling to and from the site utilizing hydrocarbon fuels.¹²⁹

143. The Applicants pledge to recycle many components of the Proposed Project after their useful life, particularly the metal components of the HTVL.¹³⁰

¹²⁶ *Id.*

¹²⁷ FEIS, at 7-1.

¹²⁸ FEIS, at 7-2.

¹²⁹ *Id.*

¹³⁰ *Id.*

Applicants' Route Preferences

144. The ATF made two recommendations on the location of the intended centerline for Route 1 — a Group 2 and a Group 3 suggestion. Both recommendations focused on minimizing potential impacts to existing homes. Applicants recommended that the Commission approve a 3000 foot wide corridor for Route 1, without any stipulation on a specific alignment. The Applicants pledged that environmental information, landowner alignment preferences and transmission design would be addressed prior to setting the final alignment within the route.¹³¹

145. The ATF made two suggestions for Route 2 — a Group 2 and a Group 3 suggestion. The ATF Group 2 suggested that the right-of-way should be located entirely on public land for the north-south segment in T56N R24W (Iron Range Township). The Applicants recommended that the Commission approve a 3000 foot wide corridor for this segment. ATF Group 3 suggested that the proposed 230 kV line be constructed south of the existing 115 kV line as a single circuit or possibly as a double circuit (230/115 kV) line in the area south of Island Lake also in Iron Range Township. The Applicants' agreed with the ATF's suggested alignment in this area and propose to construct the Project south of the 115 kV line in this area. However, the Applicants' propose to construct the Project as a single circuit H-frame design. The Applicants urge the Commission to approve a 3000 foot wide corridor for Route 2, without any stipulation on transmission line design type.¹³²

146. For Route 3 the Applicants stated in the Application their intent to retire and dismantle one of the 115 kV transmission lines in the segment from the Blackberry Substation to U.S. Highway 169. Within that existing cleared right-of-way the Applicants proposed to construct a new 230 kV H-frame design transmission line. This design would require a need for an additional strip of right-of-way 55 feet wide. The ATF Group 2 suggested a narrowing of this additional strip of right-of-way in the area of Highway 70. Pointing to its record of using various surveys and design studies to minimize impacts from the alignment of transmission lines, the Applicants urge the Commission to approve a 3000 foot wide corridor for Route 3, without any stipulations as to the width of particular rights-of-way or transmission line design type.¹³³

147. As provided in Appendix E of the ATF Report, there are two recommendations for alignments that are located outside of the proposed Route 3A in 15 5N R24W (Trout Lake Township). The Applicants suggested that the Route 3A boundary be expanded to include the ATF's two suggestions for centerlines. This recommendation notwithstanding, between Route 3 and Route 3A, the Applicants still urge the Commission to select Route 3.¹³⁴

¹³¹ Ex. 1 at 11 through 13.

¹³² *Id.* at 13.

¹³³ *Id.* at 13 and 14 and Ex. 19 at 3-4.

¹³⁴ Ex. 1 at 14; Ex. 4, Appendix E.

148. Within Study Area 1, the Applicants designate Route 1 as their Preferred Route. Compared with Route 1A, a routing along Route 1 would cross two fewer homes within 500 feet of the intended centerline, impact fewer acres of forest land, oblige lower construction costs, and reduce overall impacts to land because of its shorter length.¹³⁵

149. Additionally, routing the transmission line along Route 1 would allow for a future co-location of transmission lines with Great River Energy along common corridor. For this reason, Great River Energy likewise prefers selection of Route 1 over Route 1A.¹³⁶

150. Within Study Area 2, the Applicants designate Route 2 as their Preferred Route. Compared with Route 2A, a routing along Route 2 would utilize existing transmission line right-of-way for nearly 80 percent of its length, require fewer roadway crossings and be constructed further away from residences and tourist destinations.¹³⁷

151. Within Study Area 3, the Applicants designate Route 3 as their Preferred Route. Compared with Route 3A, a routing along Route 3 would utilize existing transmission line right-of-way for nearly 80 percent of its length; impact fewer acres of forest land; oblige lower construction costs and have fewer overall impacts to land because of its shorter length.

152. Further, with respect to Route 3A, the Applicants would dismantle an existing 115 kV transmission line from the Blackberry Substation to U.S. Highway 169 so as to provide an existing, cleared right-of-way to construct the proposed 230 kV transmission line. However, placing two of the 230 kV circuits supplying ESML on the same structure, or within the same right-of-way, increases the probability that a single event could result in a simultaneous outage of two of the three 230 kV circuits supplying electric power to the ESML. The Applicants assert that a simultaneous loss of two of these 230 kV supply circuits would result in outages to the steel plant. Because of the potential impacts upon the reliability and security of the electric supply to ESML, the Applicants prefer Route 3. Routing a transmission along Route 3 would not result in placement of any two of the proposed 230 kV lines on common structures or common rights-of-way.¹³⁸

153. Within Study Area 4, the Applicants designate Route 4 as their Preferred Route. Compared with Route 4A, a routing along Route 4 would cross five fewer homes within 500 feet of the intended centerline; impact fewer acres of forest and wetlands; and have fewer overall impacts to land because of its shorter length.

¹³⁵ Ex. 1 at 14.

¹³⁶ *Hearing Transcript, Volume I*, at 29 and 30.

¹³⁷ Ex. 1 at 14.

¹³⁸ Ex. 1 at 14 and 15; Ex. 2 at 5 and 6; Ex. 19 at 3-5.

Moreover, Route 4 would follow existing and planned utility corridors – a utility corridor (used for water, sewer and slurry pipelines, a natural gas pipeline, a truck haul road and railroad lines) on the ESML property for approximately 1.5 miles.¹³⁹

154. As to each of the four route comparisons, the preferred route is superior to its alternative. Where existing linear infrastructure is present, the preferred routes maximize the opportunity to use existing rights-of-way, avoid the introduction of new features to the landscape and minimize new impacts to flora and fauna.¹⁴⁰

155. Routes 1 and 4 have fewer homes within 500 feet of the intended centerline than Routes 1A and 4A. Routes 2 and 3 have more homes located within 500 feet of the intended centerline than Routes 2A and 3A, however, an existing transmission line is followed for both of these preferred routes. Further still, in many instances, the affected homes were built after the transmission line was in place and therefore would not be a new feature introduced to the landscape.¹⁴¹

156. Applicants request that the Commission not limit the Applicants and the affected landowners to the specific and untested alignments suggested by the ATF included as Appendix E, F and G in the ATF Report.¹⁴²

157. Routes 1, 2, 3 and 4 have significantly fewer environmental impacts than Routes 1A, 2A, 3A, and 4A at a lower cost.

158. On balance, the record evidence shows that Applicants' Preferred Routes – Routes 1, 2, 3 and 4 – combine the fewest environmentally-objectionable impacts.

CONCLUSIONS

1. The Public Utilities Commission and Administrative Law Judge have jurisdiction to consider Applicants' Application for a Route Permit.¹⁴³

2. The Commission determined that the Application was substantially complete and accepted the Application on January 29, 2009.

3. Because this Project will be serving a single customer, a separate Certificate of Need is not required. The Commission determines the route and any

¹³⁹ Ex. 1 at 15.

¹⁴⁰ See, FEIS at Tables 6-10, 6-19, 6-28 and 6-37.

¹⁴¹ Ex. 1, Schedule 5.

¹⁴² Ex. 4, Appendices E, F and G; *Hearing Transcript*, at 13-21.

¹⁴³ Minn. Stat. §§ 14.57-.62 and 216E.02, subd. 2.

conditions on the construction, operation and maintenance of the transmission line through its route permitting process.¹⁴⁴

4. OES has conducted an appropriate environmental analysis of the Project for purposes of this route permit proceeding and the FEIS satisfies Minn. R. 7850.2500.

5. Applicants gave notice as required by Minn. Stat. § 216E.03, subd. 3a; Minn. Stat. § 216E.03, subd. 4; Minn. R. 7850.2100, subp. 2; and Minn. R. 7850.2100, subp. 4.

6. OES gave notice as required by Minn. Stat. § 216E.03, subd. 6; Minn. R. 7850.2300, subp. 2; Minn. R. 7850.2500, subp. 2; Minn. R. 7850.2500, subp. 7; Minn. R. 7850.2500, subp. 8; and Minn. R. 7850.2500, subp. 9.

7. Public hearings were conducted in communities located along the proposed high voltage transmission line routes. Applicants and OES gave proper notice of the public hearings, and the public was given the opportunity to speak at the hearings and to submit written comments. All procedural requirements for the Route Permit were satisfied.

8. The record establishes that Routes 1, 2, 3 and 4 satisfy the route permit criteria set forth in Minnesota Statutes § 216E.03, subd. 7, and Minnesota Rule 7850.4100.

9. The record demonstrates that Routes 1, 2, 3 and 4 are the best alternatives for routing 230 kV transmission lines to supply electric power to ESML's new facilities.

10. The record demonstrates that it is appropriate to grant a Route Permit for 230 kV transmission lines and associated facilities along Routes 1, 2, 3 and 4.

11. The record demonstrates that it is appropriate for the Route Permit to provide the requested route width of 3,000 feet, except for those locations where Applicants are requesting a route width of a different dimension, as detailed in Appendix A of the Application ("Line Alignment in Identified Routes").¹⁴⁵

12. It is appropriate for the Route Permit to require the Applicants to obtain all required local, state, and federal permits and licenses, comply with the terms of those permits or licenses, and satisfy all applicable rules and regulations.

¹⁴⁴ Minn. Stat. § 216B.243, subd. 8(2).

¹⁴⁵ FEIS, Appendix A at 6.

13. Any Findings that are more properly characterized as Conclusions are hereby adopted as such.

Dated: June 3, 2010

s/Eric L. Lipman
ERIC L. LIPMAN
Administrative Law Judge

Recorded: Janet Shaddix and Associates
Transcripts Prepared

NOTICE

Under the PUC's Rules of Practice and Procedure, Minn. R. 7829.0100 to 7829.3200, exceptions to this Report, if any, by any party adversely affected must be filed within 15 days of the mailing date hereof with the Executive Secretary of the PUC, 350 Metro Square Building, 121 Seventh Place East, St. Paul, Minnesota 55101-2147. Exceptions must be specific, relevant to the matters at issue in this proceeding, and stated and numbered separately. Proposed Findings of Fact, Conclusions, and Order should be included, and copies thereof served upon all parties.

The PUC shall make its determination on the applications for the Certificate of Need and Route Permits after expiration of the period to file Exceptions as set forth above, or after oral argument, if such is requested and had in this matter. In accordance with Minn. R. 4400.1900, the PUC shall make a final decision on the Route Permits within 60 days after receipt of this Report.

Notice is hereby given that the PUC may accept, modify, condition, or reject this Report of the Administrative Law Judges and that this Report has no legal effect unless expressly adopted by the PUC.



MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS

600 North Robert Street
Saint Paul, Minnesota 55101

Mailing Address:
P.O. Box 64620
St. Paul, Minnesota 55164-0620

Voice: (651) 361-7900
TTY: (651) 361-7878
Fax: (651) 361-7936

June 3, 2010

See Attached Service List

**Re: *In the Matter of the Application for a High Voltage Transmission
Line Route Permit for the Essar Steel Transmission Project;*
OAH Docket No. 8-2500-20664-2; MPUC Docket No. E-280/TL-09-512**

Dear Parties:

The documents listed below have been filed with the E-Docket system and served as specified on the attached service list.

- **FINDINGS OF FACT, CONCLUSIONS AND RECOMMENDATIONS**
- **CERTIFICATE OF CONTESTED CASE RECORD**

Sincerely,

Eric L. Lipman

ERIC L. LIPMAN
Administrative Law Judge

Telephone: (651) 361-7842

ELL:dsc
Enclosures

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
ADMINISTRATIVE LAW SECTION
600 NORTH ROBERT STREET
PO BOX 64620
ST. PAUL, MINNESOTA 55164-0620

CERTIFICATE OF SERVICE

Case Title: In the Matter of the Application for a High Voltage Transmission Line Route Permit for the Essar Steel Transmission Project	OAH Docket No. 8-2500-20664-2 MPUC Docket No. E-280/TL-09-512
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Denise Collins, certifies that on the 3rd day of June, 2010, she served a true and correct copy of the attached **FINDINGS OF FACT, CONCLUSIONS AND RECOMMENDATION** and **CERTIFICATE OF CONTESTED CASE RECORD** by eService, (in the manner indicated below) to the following individuals:

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Ferguson	Sharon	sharon.ferguson@state.mn.us	Department of Commerce	Electronic Service	Yes
Haar	Burl W.	burl.haar@state.mn.us	Public Utilities Commission	Electronic Service	Yes
Hammel	Karen Finstad	Karen.Hammel@state.mn.us	Office of the Attorney General-DOC	Electronic Service	Yes
Kotch	Stacy	Stacy.Kotch@state.mn.us	MINNESOTA DEPARTMENT OF TRANSPORTATION	Electronic Service	Yes
Lindell	John	agorud.ecf@state.mn.us	Office of the Attorney General-RUD	Electronic Service	Yes
Shaddix Elling	Janet	jshaddix@janetshaddix.com	Shaddix And Associates	Electronic Service	Yes

Paper Service Member(s)

Last Name	First Name	Company Name	Address	Delivery Method	View Trade Secret
Adams	Bryan	Nashwauk Public Utilities Commission	301 Central Avenue, Nashwauk, MN-55769	Paper Service	No
Lindholm	Robert	Minnesota Power	30 West Superior Street, Duluth, MN-55802	Paper Service	No
Lipman	Eric	Office of Administrative Hearings	PO Box 64620, St. Paul, MN-551640620	Paper Service	Yes
Moeller	David	Minnesota Power	30 W Superior St, Duluth, MN-558022093	Paper Service	No

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