

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger  
David Boyd  
J. Dennis O'Brien  
Phyllis A. Reha  
Betsy Wergin

Chair  
Commissioner  
Commissioner  
Commissioner  
Commissioner

In the Matter of the Route Permit  
Application by Great River Energy for the  
Parkers Prairie 115 kV Transmission Line  
Project in Otter Tail County, Minnesota.

ISSUE DATE: August 28, 2012

DOCKET NO. ET2/TL-11-867

FINDINGS OF FACT,  
CONCLUSIONS OF LAW, AND  
ORDER ISSUING A ROUTE PERMIT TO  
GREAT RIVER ENERGY FOR A  
115 KILOVOLT TRANSMISSION LINE  
AND ASSOCIATED FACILITIES

The above matter has come before the Minnesota Public Utilities Commission (Commission), acting on an application by Great River Energy for a route permit to construct a new 2.1 mile long 115 kilovolt (kV) overhead transmission line in Parkers Prairie Township in Otter Tail County, Minnesota.

A public hearing was held on April 10, 2012, in Parkers Prairie, Minnesota. The hearing was presided over by Judge Richard Luis, an administrative law judge (ALJ) from the Minnesota Office of Administrative Hearings (OAH). The hearing continued until all persons who desired to speak had done so. The hearing comment period closed on April 27, 2012.

**STATEMENT OF ISSUE**

Should the Commission find that the environmental assessment and the record adequately address the issues identified in the scoping decision? Should the Commission issue a route permit identifying a specific route, an anticipated alignment, and additional permit conditions for the 115 kV Parkers Prairie transmission line project?

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

## **FINDINGS OF FACT**

### **I. Applicant**

1. Great River Energy (applicant) is a not-for-profit generation and transmission cooperative corporation based in Maple Grove, Minnesota. Great River Energy provides electrical energy and related services to 28 member cooperatives.<sup>1</sup>
2. The applicant has applied for a high voltage transmission line route permit to construct a new 115 kV transmission line and to upgrade the existing Parkers Prairie substation. The applicant indicates that the project will address low voltage issues that jeopardize reliable electrical service in rural areas near Parkers Prairie, Minnesota.<sup>2</sup>

### **II. Project Description**

3. The proposed Parkers Prairie project consists of the following components:<sup>3</sup>
4. Removal of the existing 41.6 kV transmission line that serves the Parkers Prairie substation, from the substation eastward (approximately two miles) and then southward (approximately 1,650 ft.) along Minnesota State Highway 29 (MN 29);
5. Construction of a new 115 kV transmission line from the Parkers Prairie substation to a connection with Great River Energy's existing Inman – Alexandria 115 kV line (LR-IA line) (approximately 2.1 miles);
6. Installation of a new 115 kV, 2000 amp, three-way switch to connect the new 115 kV line to the existing LR-IA line;
7. Replacement of two to four structures on the existing LR-IA line to accommodate the new switch and the connection of the new 115 kV line to the existing LR-IA line; and
8. Expansion of the existing Parkers Prairie substation site southward (approximately 40 ft) to accommodate a new 115/12.5 kV transformer and associated equipment.

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<sup>1</sup> Exhibit (Ex.) 2 at p. 1-1 (Route Permit Application [hereafter RPA]).

<sup>2</sup> Ex. 2 at p. 3-1 (RPA).

<sup>3</sup> Ex. 2 at p. 1-3 (RPA).

## A. Route and Route Width

9. Great River Energy (GRE) has identified and proposed one route for the project. This route extends from the Parkers Prairie substation, eastward along Otter Tail County Road 6 (CSAH 6), across Minnesota State Highway 29 and Canadian Pacific railroad tracks, to a connection with GRE's existing LR-IA line.<sup>4</sup>
10. The route proposed by GRE was the only route considered in the environmental review of the Parkers Prairie project.<sup>5</sup>
11. GRE requests a route width of 300 feet, centered on CSAH 6, which would allow for the new 115 kV line to be constructed on the north or south side of CSAH 6 or some combination thereof.<sup>6</sup>
12. GRE additionally requests a route width of 300 feet, centered on the existing LR-IA line and extending 150 ft. north of structure LR-IA-317 and 150 ft. south of structure LR-IA-321, to accommodate the connection of the new 115 kV line to the existing LR-IA line.<sup>7</sup>

## B. Alignments

13. Four alignments were evaluated in the environmental assessment (EA) for the project. GRE's proposed alignment was among those evaluated and is noted as alignment 1.<sup>8</sup>
14. **Alignment 1.** GRE proposes an alignment for the new 115 kV line on the south side of CSAH 6 at a distance of 55 ft. from the CSAH 6 centerline.<sup>9</sup>
15. **Alignment 2.** Alignment 2 would place the new 115 kV line on the north side of CSAH 6 at a distance of 55 feet from the CSAH 6 centerline.<sup>10</sup>
16. **Alignment 3.** Alignment 3 would place the new 115 kV line on the south side of CSAH 6, 55 feet from the CSAH 6 centerline, from the Parkers Prairie substation eastward to just past the Liljegren residence, then crossing to the north side of CSAH 6 (55 feet from the centerline) for the remainder of the route.<sup>11</sup>
17. **Alignment 4.** Alignment 4 would place the new 115 kV line on the north side of CSAH 6, 55 feet from the CSAH centerline, from the Parkers Prairie substation

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<sup>4</sup> Ex. 2 at p. 1-4 (RPA).

<sup>5</sup> Exhibit 11 (Environmental Assessment Scoping Decision).

<sup>6</sup> Ex. 2 at p. 1-4 (RPA).

<sup>7</sup> Ex. 2, Figure B-7 (RPA).

<sup>8</sup> Ex. 13 at pp. 55-57 (Environmental Assessment [hereafter EA]).

<sup>9</sup> Id.

<sup>10</sup> Id.

<sup>11</sup> Id.

eastward to just before the Liljegren residence, then crossing to the south side of CSAH 6 (55 feet from the centerline), and then, once past the Liljegren residence back to the north side (55 feet from the centerline) for the remainder of the route.<sup>12</sup>

### **C. Right-of-Way**

18. GRE indicates that the new 115 kV transmission line will require a 100 foot right-of-way (50 feet on either side of the line).<sup>13</sup>

### **D. Structures and Conductors**

19. GRE proposes to use single pole wooden structures for the project. Poles with horizontal post insulators will be the primary structure for project; braced post insulators will be used if longer spans are required. Structures would range in height from 60 to 85 feet with an average span of 300 to 400 feet between structures.<sup>14</sup>
20. Specialty structures (e.g., laminate wood poles, steel poles, taller poles) and self-supporting structures may be required in certain areas along the route. Guying may be required to minimize structure deflections.<sup>15</sup>
21. Lake Region Electric Cooperative (LREC) operates an electrical distribution line on the north side of CSAH 6. If a route is permitted with an anticipated alignment on the north side of CSAH 6, the distribution line would be underbuilt on the new 115 kV structures or placed underground.<sup>16</sup> An LREC three phase distribution line is located between the Parkers Prairie Substation and 555th Avenue. A service line is located east of 555th Avenue along CSAH 6.
  - 21a. The three-phase distribution line located along the north side of CSAH 6 is critical to the LREC distribution system. Based on the customer loads LREC serves in the area, the three-phase distribution line cannot be taken out of service to accommodate 115 kV construction. It is not possible for LREC to back feed the Parkers Prairie Substation in this area. Therefore if the 115 kV line were to be constructed along the north side of CSAH 6 for any portion west of 555<sup>th</sup> Avenue, an alternative three phase distribution line would need to be constructed before any construction of the 115 kV system or removal of the LREC distribution line could begin.

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<sup>12</sup> Id.

<sup>13</sup> Ex. 2 at p. 1-4 (RPA).

<sup>14</sup> Ex. 2 at pp. 5-1 to 5-3 (RPA).

<sup>15</sup> Id.

<sup>16</sup> Ex. 2 at p. 1-4 (RPA).

- 21b. LREC estimates the cost for underground installation between the Liljegren Parcel and 555<sup>th</sup> Avenue, as would be required for Alignment 3, to be at least \$60,000 plus additional costs associated with crop damage payments should the underground installation occur before harvest is completed in the area and to accommodate the project timeline. A temporary distribution line could possibly be constructed to allow for continued service of the LREC three-phase distribution line and to allow underbuild construction along the north side of CSAH 6. Construction of a temporary line and underbuild installation would likely be more costly than underground installation.
22. The new 115 kV transmission line will have three, single conductor phase wires and one shield wire. The conductor wires will be 477 aluminum conductor steel reinforced (ACSR) wires.<sup>17</sup>

#### **E. Substation**

23. The existing Parkers Prairie substation will be modified to accommodate a new 115/12.5 kV transformer. The substation site (fence line) will be expanded southward (approximately 40 ft.) to accommodate the new transformer and associated switchgear.<sup>18</sup>

#### **F. Project Schedule**

24. GRE anticipates construction of the Parkers Prairie project will begin in late 2012; however, this timeline is dependent on several factors including permits, weather, and availability of labor and materials.<sup>19</sup>

#### **G. Project Costs**

25. GRE estimates the total costs for construction of the project to be \$1.47 million dollars. Annual operations and maintenance costs are anticipated to be in the range of \$600 per mile of 115 kV transmission line.<sup>20</sup> In addition, right of way maintenance costs are estimated to be between \$500 and \$750 per mile of 115 kV transmission line.

#### **H. Construction**

26. Upon issuance of a route permit, GRE will conduct a design survey. Landowners along the route will be notified of the survey work. Upon completion of the design survey, GRE will begin acquiring easements from applicable landowners.<sup>21</sup>

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<sup>17</sup> Ex. 2 at p. 5-1 (RPA).

<sup>18</sup> Ex. 2 at pp. 5-3 to 5-5 (RPA).

<sup>19</sup> Ex. 2 at pp. 3-1 to 3-3 (RPA).

<sup>20</sup> Id.

<sup>21</sup> Ex. 2 at pp. 6-1 to 6-3 (RPA).

27. After easements have been secured, GRE will begin construction. Landowners will be notified in advance of construction schedules, ingress and egress for the project, tree and vegetation removal, and other construction activities.<sup>22</sup>
28. The 115 kV transmission line structures will be constructed at the existing grade; thus, grading and filling will be minimal. Some grading may be required at the switch location to accommodate the connection of the new 115 kV line and the existing LR-IA line.<sup>23</sup>
29. Wooden structures for the new 115 kV line will require a hole 10-15 feet deep and 3-4 feet in diameter for each structure. Poles will be backfilled with soils, crushed rock, or concrete depending on design requirements. Specialty poles may require a concrete foundation.<sup>24</sup>
30. Modification of the Parkers Prairie substation will require grading. New footings and a new concrete slab for the 115 kV transformer will be added.<sup>25</sup>
31. Upon completion of construction, the project area will be restored, including removing debris, employing erosion control measures, and reseeded disturbed soils. Landowners will be contacted to determine whether they believe there is any construction damage to their property (damage beyond or remaining after restoration measures). Areas that have been damaged by construction will be restored to their pre-construction condition to the extent possible.<sup>26</sup>

### **III. Procedural Summary**

32. On August 25, 2011, in accordance with Minnesota Rule 7850.2800, subpart 2, GRE filed a letter with the Commission noticing their intent to submit a route permit application under the alternative permitting process set forth in Minnesota Statutes 216E.04 and Minnesota Rules 7850.2800 to 7850.3900.<sup>27</sup>
33. On October 24, 2011, GRE filed a route permit application with the Commission for a new 2.1 mile long 115 kV overhead transmission line in Parkers Prairie Township in Otter Tail County, Minnesota (Parkers Prairie 115 kV Transmission Line Project).<sup>28</sup>

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<sup>22</sup> Id.

<sup>23</sup> Ex. 2 at pp. 7-1 to 7-3 (RPA).

<sup>24</sup> Id.

<sup>25</sup> Id.

<sup>26</sup> Ex. 2 at p. 6-3 (RPA).

<sup>27</sup> Ex. 1 (Notice of Intent).

<sup>28</sup> Ex. 2 (RPA).

34. On November 1, 2011, GRE mailed notice of their route permit application submittal to those persons whose names are on the general contact list maintained for this purpose (Minnesota Rule 7850.1200), local and regional officials, and property owners in compliance with Minnesota Rule 7850.3300.<sup>29</sup>
35. GRE published notice of their route permit application submittal in the *Fergus Falls Daily Journal* (November 7, 2011) in compliance with Minnesota Rule 7850.3300.<sup>30</sup>
36. In its comments and recommendations to the Commission, Department of Commerce Energy Facility Permitting (EFP) staff recommended that the Commission accept GRE's route permit application for the project as complete, authorize EFP staff to process the application under the alternative permitting process pursuant to Minnesota Rules 7850.2800 to 7850.3900, authorize EFP staff to name a public advisor, and determine that based on the available information an advisory task force is not necessary at this time.<sup>31</sup>
37. On December 7, 2011, the Commission accepted the application as complete and determined that the project is eligible for the alternative permitting process of the Power Plant Siting Act, Minnesota Statute 216E.04 and Minnesota Rules 7850.2800 to 7850.3900, authorized the EFP staff to name a public advisor, and determined that an advisory task force was not necessary at this time.<sup>32</sup>
38. On November 29, 2011, EFP staff issued and mailed a notice of public information and scoping meeting to those persons whose names are on the project list maintained by the Commission for this purpose in compliance with Minnesota Rule 7850.3500, subpart 1.<sup>33</sup>
39. Notice of the public information and scoping meeting was published in the *Fergus Falls Daily Journal* (December 1, 2011) and the *Parkers Prairie Independent* (December 1, 2011) in compliance with Minnesota Rule 7850.3500, subpart 1.<sup>34</sup>

#### **A. Public Information and Scoping Meeting**

40. The scoping process is the first step in developing an environmental assessment (EA). The Department of Commerce (Department) "shall provide the public with an opportunity to participate in the development of the scope of the EA by

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<sup>29</sup> Ex. 3 (Notice of Route Permit Application)

<sup>30</sup> Id.

<sup>31</sup> Ex. 4 (Comments and Recommendations of EFP Staff on Application Acceptance).

<sup>32</sup> Ex. 6 (Commission Order Accepting Route Permit Application).

<sup>33</sup> Ex. 5 (Notice of Public Information and Scoping Meeting).

<sup>34</sup> Ex. 7 (Published Notice of Public Information and Scoping Meeting).

holding a public meeting and by soliciting public comments.”<sup>35</sup> During the scoping process, alternative routes may be suggested for evaluation in the EA.<sup>36</sup>

41. In accordance with Minnesota Rule 7850.3500, subpart 1, EFP staff held a public information and scoping meeting on December 13, 2011, at the Prairie Event Center in Parkers Prairie, Minnesota.<sup>37</sup>
42. Two persons provided oral comments and/or asked questions about the proposed project at the public meeting. One person noted that the Otter Tail County highway department is requesting a 120 foot road right-of-way be reserved for County Road 6 (CSAH 6) to accommodate future road reconstruction. One person asked whether it would be possible to meet the goals of the project without building a new 115 kV line, i.e., by moving the existing Parkers Prairie substation.<sup>38</sup>
43. The public comment period on the scope of EA closed on December 30, 2011. EFP staff received five comment letters during the scoping comment period.<sup>39</sup>
44. Two citizens comment letter expressed concern for the potential loss of trees due to the proposed project.<sup>40</sup> One of these letters expressed concern related to the loss of trees due to the Project, particularly those trees that would be lost if the request of Otter Tail County for an additional 10 feet of separation between the road ROW and structure locations than what was proposed by Great River Energy were accommodated. The second letter requested economic compensation for trees that would be removed for the Project and potential income losses due to removal of land from production.
45. The Otter Tail County highway department commented that it would like to reserve a 120 foot right-of-way for CSAH 6 to accommodate future road reconstruction, and noted the need for a county utility permit for the project. The county indicated that CSAH 6 was last reconstructed in 1980, and that the county typically reconstructs highways on a 50 to 60 year cycle. The county noted that costs to relocate transmission lines to facilitate road reconstruction can be prohibitive. Costs for transmission line relocation on a recent, similar project were in the range of \$700,000 dollars.<sup>41</sup>

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<sup>35</sup> Minnesota Rule 7850.3700, subpart 2.

<sup>36</sup> Minnesota Rule 7850.3700, subpart 2B.

<sup>37</sup> Ex. 8 (Transcribed Oral Comments from Public Information and Scoping Meeting); Ex. 11 (Scoping Decision).

<sup>38</sup> Ex. 8 (Transcribed Oral Comments from Public Information and Scoping Meeting).

<sup>39</sup> Ex. 9 (Scoping Comment Letters); Ex. 11 Scoping Decision.

<sup>40</sup> Ex. 9 (Scoping Comment Letters).

<sup>41</sup> Id.

46. A comment letter from the Minnesota Pollution Control Agency (MPCA) noted that the project will likely require a National Pollution Discharge Elimination System (NPDES) stormwater permit. MPCA also requested clarification as to the existence of wetlands within the proposed route for the project.<sup>42</sup>
47. The Minnesota Department of Transportation (MnDOT) commented that a road crossing permit, consistent with MnDOT's utility accommodation policy, would be required for crossing Minnesota State Highway 29<sup>43</sup>
48. The scoping decision for the EA was signed by the deputy commissioner of the Department of Commerce on January 13, 2012, and made available to the public as provided in Minnesota Rule 7850.3700, subpart 3, on January 17, 2012.<sup>44</sup>

## **B. Environmental Assessment**

49. On March 19, 2012, EFP staff issued the environmental assessment (EA) for the Parkers Prairie project.<sup>45</sup>
50. On March 20, 2012, EFP staff mailed a combined notice of public hearing and availability of EA to those persons whose names are on the project contact list as provided for by Minnesota Rule 7850.3700, subpart 6.<sup>46</sup>
51. On March 21, 2012, the EA was mailed to public agencies with authority to permit or approve the project and was posted to the Department's energy facility permitting website in accordance with Minnesota Rule 7850.3700, subpart 6.<sup>47</sup>
52. On April 2, 2012, notice of the availability of the EA was published in the *EQB Monitor*.<sup>48</sup>

## **C. Public Hearing**

53. On March 22, 2012, EFP staff sent via certified mail a notice of public hearing and availability of EA to chief executives of the regional development commissions, counties, organized towns, townships, and incorporated municipalities in accordance with Minnesota Statute 216E.03, subdivision 6.<sup>49</sup>

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<sup>42</sup> Id.

<sup>43</sup> Id.

<sup>44</sup> Ex. 11 (EA Scoping Decision); Ex. 12 (Notice of Scoping Decision).

<sup>45</sup> Ex. 13 (EA).

<sup>46</sup> Ex. 14 (Notice of Public Hearing and Availability of EA).

<sup>47</sup> Ex. 15 (Mailing of EA to Public Agencies).

<sup>48</sup> Ex. 16 (Notice in EQB Monitor).

<sup>49</sup> Ex. 17 (Certified Mail Notice of Public Hearing and Availability of EA).

54. A notice of public hearing and availability of EA was published in the *Fergus Falls Daily Journal* (March 25, 2012) and the *Parkers Prairie Independent* (March 29, 2012).<sup>50</sup>
55. Administrative Law Judge (ALJ) Richard C. Luis presided over the public hearing conducted on April 10, 2012, at the Prairie Event Center in Parkers Prairie, Minnesota.<sup>51</sup>
56. During the hearing, testimony was heard from Great River Energy and several members of the public. The hearing record closed on April 30, 2012.<sup>52</sup>
57. Pursuant to Minnesota Rule 7850.3800, subpart 3A, EFP state permit manager Ray Kirsch participated in the public hearing, described the permitting process, and introduced the EA and procedural documents into the record.<sup>53</sup>
58. Representatives from Great River Energy present at the hearing included: Rick Heuring, Senior Field Representative; Steve Lawler, Project Manager; and Marsha Parlow, Environmental Services Representative.<sup>54</sup>
59. A transcript of the public hearing was filed by the Office of Administrative Hearings' designated court reporter on May 1, 2012.<sup>55</sup>
60. On May 24, 2012, Judge Luis filed a summary of testimony from the public hearing and a summary of written comments.<sup>56</sup> On May 25, 2012, Judge Luis amended the summary to include additional written comments.<sup>57</sup> On May 29, 2012, Judge Luis filed a revised summary of testimony from the public hearing and a summary of written comments.<sup>58</sup>
61. During the public hearing, five members of the public presented their views regarding the proposed route and alignment for the project.<sup>59</sup> The ALJ received three written comments by the close of the hearing record on April 30, 2012.<sup>60</sup>

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<sup>50</sup> Ex. 18 (Published Notice of Public Hearing and Availability of EA).

<sup>51</sup> Ex. 24 (Revised Administrative Law Judge Summary of Public Testimony [hereafter Revised ALJ Report]).

<sup>52</sup> Id.

<sup>53</sup> Id.

<sup>54</sup> Id.

<sup>55</sup> Ex. 20 (Public Hearing Transcript).

<sup>56</sup> Ex. 22 (ALJ Report).

<sup>57</sup> Ex. 23 (Amended Summary of Public Testimony)

<sup>58</sup> Ex. 24 (Revised ALJ Report).

<sup>59</sup> Ex. 24 (Revised ALJ Report).

<sup>60</sup> Id.

#### D. Summary of Oral Hearing Comments

62. Bruce Jahnke, a landowner along the proposed route, expressed concern that he would lose all his trees in front of his residence if the line were located south of CSAH 6 near his residence if the line were located at a distance of 65 ft. from the centerline of CSAH 6 as suggested by the Otter Tail County highway department. Mr. Jahnke also noted that an alignment at 65 ft. from the CSAH 6 centerline would impact his irrigation systems and would reduce his irrigated crop acreage.<sup>61</sup> Specifically, Mr. Jahnke noted that any use of the south side of CSAH 6 would remove trees from his property. He stated he had been in discussions with Great River Energy and was willing to work with Great River Energy on an alignment at 55 feet south of the CSAH 6 centerline.
63. Richard (Rick) West, Otter Tail County highway engineer, noted that the county will eventually have to rebuild CSAH 6 in the area of the proposed project. In order to facilitate this rebuild, the county will require a 120 ft. road right-of-way (60 ft. on each side of CSAH 6). Thus, the county requests an alignment for the transmission line of 65 ft. from the centerline of CSAH 6. Mr. West noted that if the line was placed at a distance less than 60 ft. from the CSAH 6 centerline, and if the county was then required to relocate the line as part of a road rebuild, the county would pay the relocation costs. For the proposed project, these costs are in the range of \$800,000 dollars. Mr. West indicated that a CSAH 6 reconstruction was not part of the current Otter Tail County highway improvement plan (which runs through 2016). Mr. West estimated that, sometime after 2016, CSAH 6 would be resurfaced. The resurfaced road would have a life of 15 to 18 years. Thus, reconstruction would be given consideration, at the earliest, sometime after 2032.<sup>62</sup>
64. Terry Carlson, a landowner along the proposed route, expressed concern that the new line would impact his irrigation systems and wells, particularly if the line were located at a distance of 65 ft. from the CSAH 6 centerline.<sup>63</sup>
65. Frederick Liljegren, a landowner along the proposed route, expressed concern that he would lose a good number of trees if the line were located north of CSAH 6 near his residence, and that the line would be very near his house.<sup>64</sup>
66. Rodney Peterson, who farms land on the north side of the proposed route, is concerned that the line will interfere with his irrigation equipment and reduce his irrigated crop acreage, particularly if the line were located on the north side of CSAH 6 at a distance of 65 ft. from the CSAH 6 centerline.<sup>65</sup>

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<sup>61</sup> Ex. 19; Ex. 24 at p. 3 (Revised ALJ Report); Ex. 20 at pp. 27-41, pp. 55-56 (Public Hearing Transcript).

<sup>62</sup> Ex. 21; Ex. 24 at pp. 2-3 (Revised ALJ Report); Ex. 20 at pp. 41-55 (Public Hearing Transcript).

<sup>63</sup> Ex. 24 at p. 3 (Revised ALJ Report); Ex. 20 at pp. 56-71, pp. 74-77 (Public Hearing Transcript).

<sup>64</sup> Ex. 24 at p. 3 (Revised ALJ Report); Ex. 20 at pp. 71-74 (Public Hearing Transcript).

<sup>65</sup> Ex. 24 at p. 4 (Revised ALJ Report); Ex. 20 at pp. 77-78 (Public Hearing Transcript).

## **E. Summary of Written Hearing Comments**

67. Otter Tail County highway engineer Rick West filed a comment reiterating his oral testimony at the public hearing – that consideration be given to placing the transmission line at a distance greater than 60 ft. from the centerline of CSAH 6. The goal of this placement is to assure that future reconstruction of CSAH 6 does not conflict with the proposed transmission line.<sup>66</sup>
68. Stacy Kotch, utility transmission coordinator at MnDOT, noted that the proposed transmission line would require a permit to cross Minnesota Trunk Highway 29 (MN 29), and that MnDOT routinely grants such permits to a variety of utilities.<sup>67</sup>
69. The Plants Beautiful Nursery / Dittberner Tree Farm (Plants Beautiful) noted that it owns property on the south side of CSAH 6, east and west of MN 29. On the east side of MN 29, Plants Beautiful requests that the alignment of the transmission line be placed as near as possible to its north property line. On the west side of MN 29, Plants Beautiful requests compensation for the loss of trees and land if the transmission line is located on the south side of CSAH 6 near their property.<sup>68</sup>

## **IV. Certificate of Need Criteria**

70. Pursuant to Minnesota Statute 216B.243, subdivision 2, “No large energy facility shall be sited or constructed in Minnesota without the issuance of a certificate of need by the Commission.” In the case of a high-voltage transmission line, a large energy facility is defined as (1) any high-voltage transmission line with a capacity of 200 kV or more and greater than 1,500 feet in length, or (2) any high-voltage transmission line with a capacity of 100 kV or more with more than ten miles of its length in Minnesota or that crosses a state line.<sup>69</sup>
71. A certificate of need is not required for the Parkers Prairie project as the transmission line capacity is less than 200 kV and the proposed route is less than 10 miles in length.<sup>70</sup>

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<sup>66</sup> Ex. 21; Ex. 24 at p. 4 (Revised ALJ Report).

<sup>67</sup> Ex. 24 at p. 4 (Revised ALJ Report).

<sup>68</sup> Ex. 25; Ex. 24 at p. 4 (Revised ALJ Report).

<sup>69</sup> Minnesota Statute 216B.2421.

<sup>70</sup> Ex. 13 at p. 5 (EA).

## V. Routing Criteria

72. The Power Plant Siting Act requires the Commission to locate transmission lines “in an orderly manner compatible with environmental preservation and the efficient use of resources” and in a way that minimizes “adverse human and environmental impact while insuring” electric power reliability.<sup>71</sup>
73. Minnesota Statute 216E.03, subdivision 7(b) identifies 12 considerations to guide Commission route designations, including the evaluation and minimization of adverse environmental impacts, impacts to public health and welfare, and adverse economic impacts.<sup>72</sup>
74. The Commission is also guided by Minnesota Rule 7850.4100 which establishes factors to be considered in determining whether to issue a route permit. These factors are as follows:<sup>73</sup>
  - 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;

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<sup>71</sup> Minnesota Statute 216E.02.

<sup>72</sup> Minnesota Statute 216E.03.

<sup>73</sup> Minnesota Rule 7850.4100.

- 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.

## **VI. Application of Routing Criteria**

### **A. Effects on Human Settlement**

- 75. **Socioeconomics.** Socioeconomic impacts are anticipated to be positive due to expenditures at local businesses during construction of the project. Indirect positive impacts will result from the increased capacity of the electrical system to reliably serve the project area.<sup>74</sup>
- 76. Compared to state and county averages, the project area does not have disproportionately high minority or low-income populations. Thus, there is no minority or low-income population which would be negatively and differentially impacted by the project.<sup>75</sup>
- 77. **Displacement.** National Electric Safety Code (NESC) and GRE standards require certain clearances between transmission lines and buildings for safe operation of the line. GRE has requested a right-of-way (ROW) of 100 feet for the new 115 kV line. In general, no structures are allowed within a transmission line ROW. Displacement would occur where any occupied structure is located within the transmission line ROW.<sup>76</sup>
- 78. There are two residences within the proposed route for the new 115 kV line (within the 300 foot route width; less than 150 feet from the CSAH 6 centerline). One residence, the Liljegren residence, could be within the ROW for the 115 kV line if the alignment for the line were on the north side of CSAH 6, outside a future potential ROW for CSAH 6, i.e., 65 ft. from the CSAH 6 centerline. With this alignment, the transmission line ROW would extend to 115 feet from the CSAH 6 centerline. The Liljegren residence is approximately 110 ft. from the CSAH 6 centerline. If the residence were within the transmission line ROW, it would be displaced.<sup>77</sup>

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<sup>74</sup> Ex. 13 at pp. 18-19 (EA).

<sup>75</sup> Id.

<sup>76</sup> Ex. 13 at p. 22 (EA).

<sup>77</sup> Id.

79. GRE indicates that the new 115 kV line will be designed to avoid displacement of existing residences.<sup>78</sup>
80. The potential displacement of the Liljegren residence can be avoided by selecting an alignment on the south side of CSAH 6 in this area or an alignment on the north side which is closer to the CSAH 6 centerline.<sup>79</sup>
81. **Noise.** All noises produced by the project must be within Minnesota noise standards. These standards limit A-weighted decibel levels (dBA) for specific receptor environments and times of day. The primary noise receptors in the Parkers Prairie project area are residences. Minnesota noise standards for these residences are 60 dBA L<sub>50</sub> during the daytime and 50 dBA L<sub>50</sub> during the nighttime.<sup>80</sup>
82. Any exceedances of daytime noise standards due to construction are anticipated to be intermittent and temporary in nature. Construction activities will be limited to daytime working hours; thus, no exceedances of nighttime noise standards are anticipated.<sup>81</sup>
83. Noise from operation of the new 115 kV is estimated to be less than 20 dBA and within Minnesota noise standards for all receptors.<sup>82</sup>
84. Noise from operation of the new 115 kV transformer within the expanded Parkers Prairie substation is estimated to be 50 dBA at 30 feet from the transformer and 20 dBA at the nearest residence/receptor (approximately 395 feet from the transformer). These levels are within Minnesota noise standards.<sup>83</sup>
85. **Aesthetics.** The project area is primarily agricultural with rural residences and outbuildings. There are two residences within the proposed route for the new 115 kV line (less than 150 feet from the CSAH 6 centerline). There are five residences and several outbuildings within 500 feet of the CSAH 6 centerline – one residence west of the Parkers Prairie substation, three residences north of CSAH 6 and one residence south of CSAH 6.<sup>84</sup>
86. The proposed route proceeds along CSAH 6, with an electrical distribution line on the north side of CSAH 6 and a 41.6 kV transmission line on the south side of CSAH 6. The poles for these existing lines are approximately 40 feet in height.<sup>85</sup>

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<sup>78</sup> Ex. 2 at p. 8-3 (RPA).

<sup>79</sup> Ex. 13 at p. 22 (EA).

<sup>80</sup> Minnesota Rule 7030; Ex. 13 at pp. 20-22, Table 4 (EA).

<sup>81</sup> Ex. 13 at p. 21 (EA).

<sup>82</sup> Ex. 13 at p. 21, Table 5 (EA).

<sup>83</sup> Ex. 13 at pp. 21-22 (EA).

<sup>84</sup> Ex. 13 at pp. 19-20, Appendix B, Maps B-2 to B-5 (EA).

<sup>85</sup> Ex. 13 at pp. 19-20 (EA).

87. The new transmission line poles would be 60 to 85 feet in height; 20 to 45 feet taller than existing poles along CSAH 6. These new poles would create an incremental negative aesthetic impact in the project area – the new poles would be relatively more visible to residences along CSAH 6 and to drivers on CSAH 6 than the existing poles.<sup>86</sup>
88. The expansion of the Parkers Prairie substation will make it more visible and will create an incremental negative aesthetic impact. The connection of the new 115 kV line with GRE’s existing LR-IA line will introduce an incremental negative aesthetic impact.<sup>87</sup>
89. Aesthetic impacts of the project can be mitigated by ensuring that natural landscapes are not damaged or removed during construction of the project. Alignments that avoid or minimize the removal of natural landscapes would mitigate aesthetic impacts. Relative to alignment 1, alignments 2, 3, and 4 impact fewer natural landscapes (trees, shelterbelts).<sup>88</sup>
90. Where natural landscapes are impacted by construction, aesthetic impacts can be mitigated by new plantings compatible with the new 115 kV line, e.g., replanting with low-growing species.<sup>89</sup>
91. GRE indicates that areas that sustain construction damage will be restored to their pre-construction condition to the extent possible.<sup>90</sup>
92. **Property Values.** Impacts to property values in the project area may occur, but the extent of these impacts is uncertain. Impacts may be lessened by the fact that two electrical lines already parallel CSAH 6, i.e., property values in the project area already reflect electrical lines along CSAH 6 and near residences.<sup>91</sup>
93. Property values impacts can be mitigated by choosing an alignment for the new 115 kV line away from residences and out of agricultural fields.<sup>92</sup>
94. **Electronic Interference.** Corona from transmission line conductors can generate electromagnetic noise in the radio frequency range. This noise may cause interference at the same frequencies that communication and media signals are transmitted. This interference may inhibit or affect the reception of these signals depending on the frequency and strength of the signal.<sup>93</sup>

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<sup>86</sup> Id.

<sup>87</sup> Id.

<sup>88</sup> Ex. 13 at pp. 19-20, pp. 47-52, pp. 55-57.

<sup>89</sup> Ex. 13 at p. 52 (EA).

<sup>90</sup> Ex. 2 at p. 6-3 (RPA).

<sup>91</sup> Ex. 13 at pp. 22-23 (EA).

<sup>92</sup> Id.

<sup>93</sup> Ex. 13 at pp. 34-36 (EA).

95. Analog and digital television, FM radio, two-way radios, wireless internet, and cellular phones all operate at frequencies greater than corona-generated noise and are not expected to be impacted by the Parker Prairie project.<sup>94</sup>
96. AM radio frequency interference typically occurs immediately under a transmission line and dissipates rapidly to either side. If radio interference from transmission line corona does occur, satisfactory reception from AM radio stations can be restored by appropriate modification of the receiving antenna system.<sup>95</sup>
97. Satellite television is not anticipated to be impacted by corona-generated noise, but can be impacted by line-of-sight obstruction, e.g., a transmission line pole directly in the path a television signal. Impacts due to obstruction can be mitigated by moving the satellite dish.<sup>96</sup>
98. Global positioning systems (GPS) are not expected to be impacted by corona-generated noise, but can be impacted by line-of-sight obstruction. GPS systems utilize multiple satellite signals; obstruction of any one signal is not anticipated to cause inaccurate navigation. Additionally, any obstruction would be resolved by the movement of the GPS receiver; thus impacts are expected to be minimal and temporary.<sup>97</sup>
99. GRE indicates that it will inspect and repair its facilities to ensure a minimum of corona-generated noise and will take all measures necessary to mitigate impacts to radio and television reception in project area.<sup>98</sup>

## **B. Public Health and Safety**

100. **Electric and Magnetic Fields (EMF).** Electric and magnetic fields (EMF) are invisible regions of forces resulting from the presence of electricity. EMF are characterized by their frequencies, i.e., the rate at which fields change direction each second. Electrical lines in the United States have a frequency of 60 cycles per second, or 60 Hertz (Hz).<sup>99</sup>
101. *Electric Fields.* Electric fields are created by the electric charge (voltage) on a transmission line. Electric field strength is measure in kilovolts per meter (kV/m). The strength of an electric field decreases rapidly as the distance from the source increases. Electric fields are easily shielded or weakened by most objects and materials, e.g., trees and buildings.<sup>100</sup>

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<sup>94</sup> Id.

<sup>95</sup> Id.

<sup>96</sup> Id.

<sup>97</sup> Id.

<sup>98</sup> Ex. 2 at p. 8-10 (RPA).

<sup>99</sup> Ex. 13 at pp. 24-28 (EA).

<sup>100</sup> Id.

102. The Commission has established a standard of 8 kV/m for the maximum electrical field associated with a transmission line (measured at the transmission line centerline, one meter above the ground).<sup>101</sup>
103. The estimated maximum electric field for the Parker Prairie project is 1.29 kV/m. This maximum occurs on the transmission line centerline. The estimated maximum electric field at the edge of the transmission line ROW is 0.21 kV/m.<sup>102</sup>
104. The estimated electric fields for the Parkers Prairie project are well below the standard established by the Commission. No adverse health impacts from electric fields are anticipated for persons living or working near the project.<sup>103</sup>
105. *Magnetic Fields.* Magnetic fields are created by the electric current moving through a transmission line. Magnetic field strength is typically measured in milliGauss (mG). The strength of a magnetic field decreases rapidly as the distance from the source increases. Unlike electric fields, magnetic fields are not easily shielded or weakened by objects or materials.<sup>104</sup>
106. There are no State of Minnesota or federal standards for exposure to magnetic fields from transmission lines. Florida, Massachusetts, and New York have established standards for magnetic field exposure at the edge of transmission line rights-of-way. These standards are 150 mG, 85 mG, and 200 mG respectively.<sup>105</sup>
107. The International Commission on Non-Ionizing Radiation Protection (ICNIRP) has developed standards for magnetic field exposure. The ICNIRP standard for magnetic field exposure for the general public is 2,000 mG.<sup>106</sup>
108. Epidemiological studies have shown an association between magnetic field exposure and health risks for children. Epidemiological studies, clinical studies, and cellular studies have shown no association between magnetic field exposure and health risks for adults. No studies have established a causal relationship between magnetic field exposure and adverse health impacts.<sup>107</sup>
109. The estimated maximum magnetic field for the Parker Prairie project, under normal operating conditions, is 12.65 mG. This maximum occurs on the transmission line centerline. The estimated maximum magnetic field at the edge of the transmission line ROW is 2.20 mG. The estimated maximum magnetic fields for the Parkers Prairie project, under emergency conditions (temporary,

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<sup>101</sup> Id.

<sup>102</sup> Ex. 13 at p. 28, Table 9 (EA).

<sup>103</sup> Ex. 13 at pp. 24-28 (EA).

<sup>104</sup> Id.

<sup>105</sup> Ex. 13 at p. 26, Table 7 (EA).

<sup>106</sup> Ex. 13 at p. 27, Table 8 (EA).

<sup>107</sup> Ex. 13 at pp. 24-28 (EA).

high current conditions), are 141.25 mG and 69.58 mG at the centerline and edge of the ROW respectively.<sup>108</sup>

110. The estimated magnetic fields for the Parkers Prairie project are below all standards adopted by other states and below international standards. No adverse health impacts from magnetic fields are anticipated for persons living or working near the project.<sup>109</sup>
111. **Implantable Medical Devices.** Implantable medical devices such as pacemakers, defibrillators, neurostimulators, and insulin pumps are electromechanical devices and as such may be subject to interference from electric and magnetic fields. Most of the research on electromagnetic interference and medical devices is related to pacemakers. Pacemakers have been shown to be more sensitive to electric fields than to magnetic fields. In laboratory tests, the earliest interference from magnetic fields in pacemakers was observed at 1,000 mG, a field strength far greater than that associated with high voltage transmission lines.<sup>110</sup>
112. Electric fields may interfere with a pacemaker's ability to sense normal electrical activity in the heart. If a pacemaker is impacted by an electric field, the effect is typically asynchronous pacing (fixed rate pacing), with the pacemaker returning to normal operation when the person moves away from the source of the electric field.<sup>111</sup>
113. Medtronic and Guidant, manufacturers of pacemakers and implantable cardioverter/defibrillators, have indicated that electric fields below 6 kV/m are unlikely to cause interference with modern bipolar devices. Older unipolar designs, however, are more susceptible to interference from electric fields, with research suggesting that interference begins to occur in electric fields ranging from 1.2 to 1.7 kV/m.<sup>112</sup>
114. The estimated maximum electric field for the Parkers Prairie project is 1.29 kV/m, on the transmission line centerline. This field strength is below the 6 kV/m interaction level for modern, bipolar pacemakers, and at the low end of the range of interaction for older, unipolar pacemakers. Accordingly, no adverse impacts on implantable medical devices and persons using them are anticipated as a result of the project.<sup>113</sup>
115. **Stray Voltage.** Stray voltage is an extraneous voltage that appears on metal surfaces in building, barns, and other structures which are grounded to earth. This

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<sup>108</sup> Ex. 13 at p. 28, Table10 (EA).

<sup>109</sup> Ex. 13 at pp. 24-28 (EA).

<sup>110</sup> Ex. 13 at p. 29 (EA).

<sup>111</sup> Id.

<sup>112</sup> Id.

<sup>113</sup> Id.

voltage is typically due to inadequate grounding. Factors that determine whether an object is adequately grounded include wire size and length, wire connections, the number and resistance of ground rods, and the current being grounded.<sup>114</sup>

116. Stray voltage is primarily associated with distribution lines and electrical service at a residence or on a farm. Transmission lines do not, by themselves, create stray voltage as they do not connect directly to businesses, residences, or farms. However, transmission lines may, when they parallel distribution lines, induce currents in these lines in the immediate area of the paralleling.<sup>115</sup>
117. No impacts due to stray voltage are anticipated due to the Parkers Prairie project. The new 115 kV is a transmission line that does not connect to residences or farms in the areas and does not change on-farm electrical service. There is a possibility, if the new 115 kV line were placed on the north side of CSAH 6, that it would parallel the existing distribution line, i.e., through underbuilding. If this were to occur then the 115 kV line could induce currents on the distribution line. If the distribution line is properly grounded these currents are not anticipated to cause stray voltage issues in the project area.<sup>116</sup>
118. GRE indicates that if a customer has a stray voltage concern on their property, they should contact their local distribution cooperative and discuss the situation with technical staff. If warranted, an on-farm investigation will be scheduled.<sup>117</sup>
119. **Induced Voltage.** The electric field from a transmission line can reach nearby conductive (metal) objects which are in close proximity to the line. The electric field may induce a voltage on these objects. If these objects are insulated from the ground and a person touches them, then a small current would pass through the person's body to the ground, causing a mild shock.<sup>118</sup>
120. The Commission's electric field standard of 8 kV/m is designed to prevent serious hazard from shocks due to induced voltages near transmission lines. Additionally, the National Electric Safety Code (NESC) requires that transmission lines be designed with clearances such that potential discharges due to induced voltages are less than 5 milliAmperes (mA).<sup>119</sup>
121. No impacts due to induced voltages are anticipated from the Parkers Prairie project. The project will be constructed and operated to meet NESC standards, and the Commission's electric field standard.<sup>120</sup>

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<sup>114</sup> Ex. 13 at pp. 29-30 (EA).

<sup>115</sup> Id.

<sup>116</sup> Id.

<sup>117</sup> Id.

<sup>118</sup> Ex. 13 at pp. 30-31 (EA).

<sup>119</sup> Id.

<sup>120</sup> Id.

122. **Air Quality.** Impacts to air quality in the Parkers Prairie project area could occur due to ozone and nitrous oxide emissions from operation of the line and dust caused by construction activities. Estimates of ozone emissions for the project are below state and federal standards. Impacts due to construction dust are anticipated to be minor and temporary. Thus, no significant impacts to air quality are expected as a result of the project.<sup>121</sup>
123. **Public Safety.** The new 115 kV line would have protective devices to safeguard the public from the line if an accident occurred and a structure or conductor fell to the ground. These protective devices are breakers and switches located within connecting substations. The protective devices would de-energize the transmission line should an accident occur. Additionally, the Parkers Prairie substation would be fenced and access limited to authorized personnel.<sup>122</sup>
124. **Public Services.** Public services are generally defined as services provided by governmental or quasi-governmental entities and include fire and police protection, schools, and emergency medical services. These services require functional infrastructure for their delivery in the project area, e.g., roads, communications, water supplies, energy supplies.<sup>123</sup>
125. No significant impacts to public services are anticipated due to the Parkers Prairie project. Construction of the project will cause minor, temporary impacts to travel along CSAH 6 and Minnesota State Highway 29 (MN 29). No impacts are anticipated to emergency communications systems or to water supplies. GRE indicates that regardless of the alignment of the new 115 kV line (north or south side of CSAH 6), the line can be constructed without disruption of electrical service.<sup>124</sup>

### C. Land-Based Economies

126. **Agriculture.** Agricultural fields abut CSAH 6 and run the length of the proposed route, from the Parkers Prairie substation to the intersection with MN 29. Seven of these fields are irrigated; three on the north side of CSAH 6, four on the south side. The estimated distance from irrigation systems to the CSAH centerline (closest approach of irrigation booms) are as follows:

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<sup>121</sup> Ex. 13 at pp. 31-32 (EA).

<sup>122</sup> Ex. 13 at p. 24 (EA).

<sup>123</sup> Ex. 13 at pp. 32-34 (EA).

<sup>124</sup> Id.

**Estimated Distance from Irrigation System to CSAH 6 Centerline<sup>125</sup>**

<b>Irrigation System</b>	<b>Location Relative to CSAH 6</b>	<b>Estimated Closest Approach (feet)</b>	<b>System Type</b>
1	North	60-65	Full radius with pivot arm extension
2	North	60	7/8 radius
3	North	61	Half radius
4	South	67	Full radius with pivot arm extension
5	South	65-70	Half radius
6	South	69	Full radius
7	South	76	Half radius

127. Agricultural fields along the proposed route could be impacted by the new 115 kV line by impeding the use of farming equipment, limiting aerial spraying, and by interfering with the operation of existing irrigation systems. Annual economic impacts due to poles interfering with the use of farming equipment are in the range of \$40 dollars per mile of transmission line. Costs to reconfigure an irrigation system can be in the range of \$10,000 - \$15,000 dollars for simple modifications and up to \$100,000 for significant modifications. If reconfigured irrigation systems limit the ability to properly irrigate or the extent of irrigation, then annual crop losses may occur, with associated economic impacts.<sup>126</sup>
128. If the new 115 kV line were located outside a potential future CSAH 6 ROW (65 feet from the centerline of CSAH 6) on the north side of CSAH 6, irrigation systems on this side (systems 1, 2, and 3) would be impacted. The closest approach of these systems to the CSAH centerline is less than 65 feet. The well for irrigation system 3 is 72 feet from the CSAH 6 centerline.<sup>127</sup>
129. If the new 115 kV line were located outside a potential future CSAH 6 ROW (65 feet from the centerline of CSAH 6) on the south side of CSAH 6, irrigation systems on this side (systems 4, 5, 6, and 7) would likely be impacted. The

<sup>125</sup> Ex. 13 at pp 37-40, Figure 6, Table 12 (EA).

<sup>126</sup> Ex. 13 at pp. 37-40 (EA).

<sup>127</sup> Ex. 13 at pp. 37-40 (EA); Testimony of Terry Carlson, Ex. 24 at p. 3 (Revised ALJ Report), Ex. 20 at pp. 56-71, pp. 74-77 (Public Hearing Transcript); Testimony of Rodney Peterson, Ex. 24 at p. 4 (Revised ALJ Report), Ex. 20 at pp. 77-78 (Public Hearing Transcript).

closest approach of these systems to the CSAH 6 centerline is approximately 65 feet. The well for irrigation system 5 is 82 feet from the CSAH 6 centerline<sup>128</sup>

130. An alignment at 65 feet from the CSAH 6 centerline would introduce impacts, independent of and in addition to impacts to irrigation, due to the inability to cultivate entire fields, i.e., poles would impede the use of farming equipment. An alignment at 65 feet would create relatively more impacts than an alignment closer to the CSAH 6 centerline (e.g., 50 feet, 55 feet).<sup>129</sup>
131. Impacts to agricultural operations could be mitigated by choosing an alignment that is relatively closer to the centerline of CSAH 6 and placing the new 115 kV line on one side of CSAH 6 or the other to avoid potential conflicts with irrigation systems. Impacts to irrigation systems 1, 2, and 3 could be mitigated by placing the alignment on the south side of CSAH 6 (alignments 1 and 3), or by placing the alignment in the range of 50-55 feet from the CSAH 6 centerline on the north side of CSAH 6 (alignments 2, 3, and 4). Impacts to irrigation systems 4, 5, 6, and 7 could be mitigated by placing the alignment on the north side of CSAH 6 (alignments 2 and 4) or by placing the alignment in the range of 50-55 feet from the CSAH 6 centerline on the south side of CSAH 6 (alignments 1 and 3).<sup>130</sup>
132. **Forestry.** There is a tree farm, the Plants Beautiful Nursery (Dittberner Tree Farm), located in the proposed route for the project. The nursery is located in the southwest corner of the intersection of CSAH 6 and MN 29. The nursery sells, via wholesale and retail, a variety of trees as nursery stock.<sup>131</sup>
133. Within the Plants Beautiful Nursery, there are a number of trees, primarily spruce trees, which are within the ROW for the existing 41.6 kV line. If the new 115 kV line were placed on the south side of CSAH 6 in this area, 55 feet from the CSAH 6 centerline, approximately 100 trees would be impacted (i.e., would be removed). The value of these trees in the nursery stock trade is estimated to be \$100,000 dollars. An alignment at 65 feet from the CSAH 6 centerline would impact approximately 150 trees, with an estimated value of \$150,000 dollars.<sup>132</sup> Plants Beautiful Nursery has not requested an alignment to the north side of CSAH 6, but requested compensation for the value for the trees that would be removed and the land that would not be used for future commercial tree operations due to the construction of the Project.

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<sup>128</sup> Ex. 13 at pp. 37-40 (EA); Testimony of Terry Carlson, Ex. 24 at p. 3 (Revised ALJ Report), Ex. 20 at pp. 56-71, pp. 74-77 (Public Hearing Transcript); Testimony of Bruce Jahnke, Ex. 19; Ex. 24 at p. 3 (Revised ALJ Report); Ex. 20 at pp. 27-41, pp. 55-56 (Public Hearing Transcript).

<sup>129</sup> Ex. 13 at pp. 37-40, Table 11 (EA).

<sup>130</sup> Ex. 13 at pp. 37-40, pp. 55-57 (EA).

<sup>131</sup> Ex. 25; Ex. 13 at pp. 40-42 (EA).

<sup>132</sup> Id.

134. Impacts to the Plants Beautiful Nursery could be mitigated by placing the new 115 kV line on the north side of CSAH 6 in this area (alignments 2, 3, and 4).<sup>133</sup>
135. **Mining.** There are no known mining resources in the Parkers Prairie project area; accordingly, no impacts to mining operations are anticipated.<sup>134</sup>
136. **Tourism and Recreation.** Tourism in the Parkers Prairie area includes fishing, boating, camping, golfing snowmobiling, and cross-country skiing. There are no tourist attractions or recreation areas in or near the proposed route; thus no impacts to tourism and recreation are anticipated.<sup>135</sup>

#### D. Archaeological and Historic Resources

137. Great River Energy has conferred with the Minnesota Historical Society (MHS) concerning the probability of cultural resources (archaeological and historic resources) in the project area. MHS indicate that there are no historic properties and no known or suspected archaeological resources in the project area. A monument related to the District 50 White Oak School was identified west of the Parkers Prairie substation. This monument will not be impacted by the project.<sup>136</sup>
138. No impacts to archaeological or historic resources are anticipated as result of the project. GRE indicates that should such resources be identified during construction of the project, work will be stopped and MHS staff consulted on how to proceed.<sup>137</sup>

#### E. Natural Environment

139. **Water Resources.** Construction of the Parkers Prairie project will require movement and handing of vegetative cover and soils. Changes in vegetative cover and soils can change runoff and water flow patters such that surface waters, groundwater, and wetlands are adversely impacted.<sup>138</sup>
140. *Surface Waters.* There are no public waters, lakes, rivers, or streams within the proposed route for the project. Cora Lake is in the project area, but east of the proposed route. Thus, impacts to surface waters due to the project are anticipated to be minimal.<sup>139</sup>
141. *Groundwater.* The project area has good availability of ground water and makes possible businesses that rely on withdrawals of groundwater, e.g., irrigated

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<sup>133</sup> Id.

<sup>134</sup> Ex. 13 at p. 42 (EA).

<sup>135</sup> Ex. 13 at pp. 42-43 (EA).

<sup>136</sup> Ex. 13 at p. 43 (EA).

<sup>137</sup> Id.

<sup>138</sup> Ex. 13 at pp. 44-45 (EA).

<sup>139</sup> Id.

agricultural fields. Excavation for the placement of transmission lines poles for the project is not expected to impact groundwater; thus, no impacts to groundwater are anticipated.<sup>140</sup>

142. *Wetlands.* There are no wetlands in the proposed route for the project; thus, no impacts to wetlands are expected as a result of the project.<sup>141</sup>
143. **Soil Resources.** Construction of the project will impact soils directly by moving them and indirectly by removing vegetative cover such that they are more susceptible to movement by air and water.<sup>142</sup>
144. Construction of the project is anticipated to result in minor, temporary impacts to soils in the project area. However, to the extent that construction requires the removal of vegetation (e.g., shelterbelts), soil erosion rates could increase in the project area.<sup>143</sup>
145. Impacts to soils (and subsequently to surface waters) can be mitigated by using best management practices for construction of the project. The Minnesota Pollution Control Agency (MPCA) indicates that the project will likely require a construction stormwater permit from the MPCA, including the preparation of a stormwater pollution prevention plan (SWPPP). Best management practices for mitigating soil impacts include seeding to establish cover on exposed soils, using mulch for temporary and protective soil cover, using sediment control fences, and using erosion control blankets.<sup>144</sup>
146. Impacts to soils due to the removal of shelterbelts can be mitigated by utilizing alignments that avoid the removal of shelterbelts, trimming shelterbelts instead of removing them, and replanting the new transmission line ROW with low-growing species that are compatible with the line.<sup>145</sup>
147. **Flora.** The Parkers Prairie project is located in the Eastern Broadleaf Forest province in west central Minnesota. Presettlement vegetation was a mix of tallgrass prairie, aspen-oak land, and savanna. The great majority of this vegetation has been removed as the land has been converted to agricultural use.<sup>146</sup>
148. Along the proposed route for the project there are five areas of trees and brush that could be significantly impacted by the project. Of these five treed areas, four are on the south side of CSAH 6 and one is on the north side. These treed areas consist of shelterbelts for agricultural fields, shelterbelts and plantings around

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<sup>140</sup> Id.

<sup>141</sup> Id.

<sup>142</sup> Ex. 13 at pp. 45-46 (EA).

<sup>143</sup> Id.

<sup>144</sup> Id.

<sup>145</sup> Id.

<sup>146</sup> Ex. 13 at pp. 47-52 (EA).

residences, and a tree farm, although many treed areas south of CSAH 6 have been subject to periodic trimming or topping due to Great River Energy's maintenance of the 41.6 kV line:

**Treed Areas along Proposed Route<sup>147</sup>**

<b>Treed Area</b>	<b>Location Relative to CSAH 6</b>	<b>Parcel / Property</b>	<b>Description</b>
1	South	Douma Parcel	Extended Shelterbelt
2	South	Carlson Parcel	Field Shelterbelt
3	South	Jahnke Parcel	Field and Residential Shelterbelt
4	North	Liljegren Parcel	Residential Shelterbelt
5	South	Dittberner Parcel	Nursery / Tree Farm

149. The treed areas along the proposed route currently co-exist with electrical lines along CSAH 6. Trees have been allowed to grow in the ROW for GRE's 41.6 kV line on the south side of CSAH 6 but many have been subject to trimming and extensive topping through ROW maintenance, and they have been allowed to grow in the ROW for LREC's distribution line on the north side of CSAH 6. GRE indicates that for the new 115 kV line, trees and other tall-growing vegetation will be removed from the transmission line ROW. GRE also indicates that low-growing species and other plantings may be allowed in the 115 kV transmission line ROW.<sup>148</sup>
150. If the new 115 kV line were on the south side of CSAH 6 across from the Parkers Prairie substation, approximately seven oak trees would need to be removed from treed area #1 (alignments 1 and 3). This would be at a distance of 55 feet from the centerline of CSAH 6 and at 65 feet.<sup>149</sup>
151. If the new 115 kV line were on the south side of CSAH 6 along the Carlson parcel (treed area #2), the shelterbelt along this field, approximately 3,400 feet in length, would be removed. This would be true for all alignments on the south side of CSAH 6 (alignments 1 and 3).<sup>150</sup>

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<sup>147</sup> Ex. 13 at pp. 47-52, Table 13

<sup>148</sup> Ex. 13 at pp. 47-52.

<sup>149</sup> Id.

<sup>150</sup> Id.

152. If the new 115 kV line were on the south side of CSAH 6 along the Jahnke parcel (treed area #3), the shelterbelt along this field, approximately 2,200 feet in length, would be removed. This would be true for all alignments on the south side of CSAH 6 (alignments 1 and 3).<sup>151</sup>
153. If the new 115 kV line were on the south side of CSAH 6 along the Jahnke parcel at a distance of 55 feet from the centerline, approximately 72 hardwood trees and nine pine trees would be removed from the shelterbelt associated with the Jahnke residence (alignment 1). If the alignment were on the south side of CSAH 6 at a distance of 65 feet from the centerline, approximately 25 additional hardwood trees would be removed (for a total of 97 hardwood and nine pine trees).<sup>152</sup> If the new 115 kV line were constructed along Alignment 3, approximately half of the field shelterbelt on the Jahnke parcel would be removed. Alignment 3 would not require removal of any trees between the Jahnke residence and CSAH 6. Great River Energy has discussed the possibility of planting low-growing vegetation within the ROW with Mr. Jahnke to address the removal of trees in front of his residence and the shelterbelt.
154. If the new 115 kV line were on the north side of CSAH 6 along the Liljegren parcel (treed area #4), this residential shelterbelt, approximately 600 feet in length, would be removed (alignment 2). If the alignment were on the north side of CSAH 6, within the current CSAH 6 ROW (e.g., on the same alignment as the existing LREC distribution line), approximately 0.6 acres of trees would be removed. If the alignment were at a distance of 55 ft. from the centerline, approximately 0.7 acres of trees would be removed. If the alignment were at distance of 65 ft. from the centerline, approximately 0.8 acres of trees would be removed.<sup>153</sup>
155. If the new 115 kV line were on the south side of CSAH 6 along the Dittberner parcel (treed area #5, Plants Beautiful Nursery), the trees in this tree farm and nursery would be removed (alignment 1). If the alignment were on the south side of CSAH 6 at a distance of 55 feet from the centerline, approximately 100 spruce trees would be removed. If the alignment were on the south side of CSAH 6 at a distance of 65 feet from the centerline, approximately 150 spruce trees would be removed.<sup>154</sup>
156. Impacts to flora due to the Parkers Prairie project could be mitigated by choosing an alignment that avoids treed areas, choosing an alignment closer to CSAH 6, and replanting the transmission line ROW (where trees are removed) with low-growing species. Of the alignments evaluated for the project, alignment 4 best

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<sup>151</sup> Id.

<sup>152</sup> Id.

<sup>153</sup> Id.

<sup>154</sup> Id.

avoids treed areas. Alignments 2 and 3 avoid some treed areas but impact others; alignment 1 impacts the greatest number of treed areas.<sup>155</sup>

157. **Fauna.** The Parkers Prairie project is located in the Eastern Broadleaf Forest province in west central Minnesota. Habitat for fauna within this province has been substantially reduced by settlement and agriculture. The project area is part of a larger migratory corridor for forest birds and waterfowl. Fauna within the project area includes deer, small mammals, frogs and salamanders, waterfowl, shorebirds, and perching birds.<sup>156</sup>
158. Fauna within the project area are anticipated to have the ability to remove themselves from the potential dangers of project construction and to exist while temporarily displaced from the area. Potential impacts due to construction and displacement are anticipated to be minimal.<sup>157</sup>
159. If the new 115 kV line is placed on an alignment that requires the removal of shelterbelts, then impacts to fauna will likely result due to the loss of habitat. The extent of these impacts is uncertain and dependent in part on the extent of shelterbelt loss.<sup>158</sup>
160. Avian species could be impact by the project through collision with transmission line conductors; these impacts are anticipated to be minimal. Any impacts would be incremental, i.e., there are already electrical conductors on both sides of CSAH 6. Because the project area is used primarily for irrigated agriculture, the relative likelihood that avian species will utilize the project area is small when compared to surrounding habitat offerings, e.g., potholes, lakes, forested areas.<sup>159</sup>

#### **F. Rare and Unique Natural Resources**

161. The U.S. Fish and Wildlife Service indicates that there are no federally listed species or proposed critical habitat within the project area. The Minnesota Department of Natural Resources indicates that there are no known occurrences of rare natural resources in the project area. No impacts to rare and unique natural resources are anticipated as a result of the project.<sup>160</sup>

#### **G. Design Options**

162. If the alignment for the new 115 kV line were on the north side of CSAH 6, the existing distribution line would be underbuilt or placed underground. These

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<sup>155</sup> Ex. 13 at pp. 47-52, pp. 55-57 (EA).

<sup>156</sup> Ex. 13 at pp. 53-54 (EA).

<sup>157</sup> Id.

<sup>158</sup> Id.

<sup>159</sup> Id.

<sup>160</sup> Ex. 13 at p. 54 (EA).

options could mitigate aesthetics impacts of the project by placing all electrical lines along CSAH 6 on one set of poles (underbuilding) or by removing one of the electrical lines that currently runs along CSAH 6 (undergrounding).<sup>161</sup>

163. GRE indicates that for some structures, guy wires may be needed to minimize structure deflections, e.g., guying of structures where the line changes direction or crosses a road. Guying would require that a box-shaped easement be obtained for the guy wire and anchor. Guy wires could extend into fields along CSAH 6 and may cause impacts to agricultural operations. Impacts associated with guying could be mitigated by using structures that do not require guying (self-supporting structures), e.g., directly embedded laminate wood poles or steel poles on concrete foundations.<sup>162</sup>

#### **H. Use or Paralleling of Existing Right-of-Way**

164. The majority of the proposed route for the Parkers Prairie project parallels CSAH 6 and two existing electrical lines. This paralleling minimizes aesthetic impacts, the extent of the ROW (easement) required from private landowners, and the proliferation of infrastructure corridors.<sup>163</sup>
165. GRE indicates that its preference is to place the new 115 kV line approximately five feet outside the existing CSAH 6 road ROW (55 feet from the CSAH 6 centerline). This placement allows the line to share ROW with CSAH 6 and reduces the ROW (easement) required from private landowners along CSAH 6.<sup>164</sup>
166. The existing ROW width for CSAH 6 is 100 feet (50 feet on either side of the road centerline). The Otter Tail County highway department indicates that it anticipates reconstructing CSAH 6 at some time in the future, and it requests that a right-of-way (ROW) of 120 feet be reserved for this reconstruction. The department indicates that a county utility permit will be required in order for the 115 kV transmission line ROW to be accommodated within the CSAH 6 ROW. The department estimates that if the new 115 kV line were within a future CSAH 6 ROW (less than 60 feet from the CSAH 6 centerline), the costs to move the transmission line poles such that reconstruction could occur is in the range of \$800,000 dollars.<sup>165</sup>

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<sup>161</sup> Ex. 13 at p. 11 (EA).

<sup>162</sup> Ex. 13 at p. 11 (EA); Ex. 2 at pp. 7-1 to 7-2 (RPA).

<sup>163</sup> Ex. 13 at pp. 9-11, p. 20, Appendix B, Map B-1 (EA).

<sup>164</sup> Ex. 13 at p. 9 (EA).

<sup>165</sup> Ex. 13, Appendix B, Map B-1; Ex. 21; Ex. 24 at pp. 2-3 (Revised ALJ Report); Ex. 20 at pp. 41-55 (Public Hearing Transcript).

## I. Electrical System Reliability

167. The purpose of the project is to address potential low voltage issues in the rural areas west of Parkers Prairie, Minnesota, which are currently served out of the Parkers Prairie substation. GRE indicates that during non-normal operations, low voltages could impact or damage electrical appliances and lighting. Reliable electrical service under all operating conditions is anticipated to be improved by the project.<sup>166</sup>

## J. Costs

168. GRE estimates the cost of the project, on GRE's proposed alignment (alignment 1 in the EA) to be approximately \$1.47 million dollars. Costs are attributable to the construction of the transmission line and the expansion of the Parkers Prairie substation:

**Estimated Project Costs<sup>167</sup>**

Owner	Route Length	Estimated Pre- and Post- Construction Costs (dollars)	Estimated Construction Costs 115 kV Line (dollars)	Estimated Substation Costs (dollars)	Total Project Costs (dollars)
GRE	2.1 miles	\$465,000	\$681,000	\$75,000	\$1,221,000
LREC	NA	NA	NA	\$250,000	\$250,000
Total	2.1 miles	\$465,000	\$681,000	\$325,000	\$1,471,000

169. GRE indicates that annual operation and maintenance costs for a 115 kV line are in the range of \$600 per mile.<sup>168</sup> In addition, right of way maintenance costs are in the range of \$500 to \$750 per mile.

170. If the alignment permitted by the Commission requires structures or construction measures different than those for GRE's proposed alignment, the cost of the project would be greater than GRE's estimate. Estimated costs of specialty structures and construction measures are as follows:

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<sup>166</sup> Ex. 13 at p. 2 (EA).

<sup>167</sup> Ex. 13 at p. 13, Table 2 (EA).

<sup>168</sup> Ex. 13 at p. 13 (EA).

### Estimated Costs of Specialty Structures and Construction Measures<sup>169</sup>

Structure / Measure	Costs (dollars or dollars/mile)
Angled road crossing – laminate posts, no guying	\$76,000
Right angle road crossing – steel posts	\$110,000
Distribution line underbuild	\$90,000/mile
Distribution line underground	\$80,000/mile

171. Potential impacts of the project can be mitigated, to a great extent, by selection of an alignment that avoids impacts. Four potential alignments for the project are discussed in the EA for the project (GRE’s proposed alignment is alignment 1). Alignments which cross CSAH 6 have the potential to mitigate and balance impacts. Alignments which cross CSAH 6 and alignments on the north side of CSAH 6 – requiring the underbuilding or undergrounding of the existing distribution line – make the project relatively more expensive:

### Estimated Project Costs for Alignment Alternatives<sup>170</sup>

Alignment	Project Costs (dollars)	Difference from Alignment 1 Project Costs (dollars)
1	1,471,000	---
2	1,660,000 (underbuild) 1,639,000 (underground)	189,000 168,000
3	1,587,500 (underbuild) 1,715,000 (underground)	116,500 244,000
4	1,812,000 (underbuild) 1,791,000 (underground)	341,000 320,000

### K. Irreversible and Irretrievable Commitments of Resources

172. All routes and alignments analyzed for the project have human and environmental impacts, some of which are unavoidable if the project is permitted and built. The project will require few irreversible and irretrievable commitments of resources. These resources are limited to construction resources, e.g., concrete, steel, hydrocarbon fuels.

<sup>169</sup> Ex. 13 at p.56, Table 14 (EA).

<sup>170</sup> Ex. 13 at pp. 55-57, Table 15 (EA).

## L. Summary of Human and Environmental Impacts

173. For many categories of impacts, the potential impacts of the project are anticipated to be minimal and independent of the alignment of the new 115 kV transmission line, including potential impacts to public health and safety, public services, electronic communications, water resources, soils, and fauna.<sup>171</sup>
174. An alignment at greater than 60 ft. from the CSAH 6 centerline significantly increases potential impacts to irrigated agricultural fields and trees/shelterbelts, relative to an alignment in the range of 50-55 ft. An alignment on the north side of CSAH 6, at greater than 60 ft. from the CSAH 6 centerline, would significantly impact irrigated agricultural fields on the north side of the road. An alignment on the south side of CSAH 6, at greater than 60 ft. from the CSAH 6 centerline would moderately to significantly impact irrigated agricultural fields on the south side of the road.<sup>172</sup>
175. The timeline for reconstruction of CSAH 6 by Otter Tail County is indefinite, with reconstruction being considered, at the earliest, sometime after 2032.<sup>173</sup>
176. Alignment 1 mitigates impacts to residences (across the road from three residences; on the same side as one residence) and to irrigation systems, as irrigators on the south side of CSAH 6 are relatively farther from the CSAH 6 centerline. Relative to other alignments studied, alignment 1 has the greatest impact to trees and shelterbelts, although many of the shelterbelts have been significantly trimmed through maintenance of the 41.6 kV line ROW. Alignment 1 is the least expensive to construct.<sup>174</sup>
177. Alignment 2 would require the existing distribution line on the north side of CSAH 6 to be underbuilt on the new 115 kV line or placed underground. The alignment impacts residences (across the road from one residence; on the same side as three residences). The alignment mitigates impacts to trees/shelterbelts – it avoids trees on the south side of CSAH 6, but impacts one shelterbelt on the north side of CSAH 6. Alignment 2 avoids impacts to irrigation systems only to the extent that it can be placed at an alignment in the range of 50-55 ft. from the CSAH 6 centerline. Alignment 2 is relatively more expensive than Alignment 1.<sup>175</sup>
178. Alignment 3 would require that a portion (approximately 0.45 miles) of the existing distribution line on the north side of CSAH 6 be underbuilt on the new 115 kV line or placed underground. The alignment mitigates impacts to

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<sup>171</sup> Ex. 13 at p. 3 (EA).

<sup>172</sup> Findings 62, 64, 65, 66, 128, 129, 130, 131, 133, 153, 154, 155.

<sup>173</sup> Finding 63.

<sup>174</sup> Ex. 13 at pp. 55-57 (EA).

<sup>175</sup> Id.

residences (across the road from three residences; on the same side as one residence, similar to alignment 1). A grain bin located on the east end of CSAH 6, near Minnesota State Highway 29, may be within the Alignment 3 right-of-way. The alignment mitigates impacts to irrigation systems by proceeding primarily on the south side of CSAH 6. This alignment does potentially impact an irrigation system where it crosses CSAH 6 to the north side. The proximity of the alignment to the irrigation well may pose problems in the future if the existing well requires maintenance or an additional well needs to be drilled. Potential impacts to irrigation systems where the alignment crosses CSAH 6 may be mitigated by placing the alignment in the range of 50-55 ft. from the CSAH 6 centerline and by using non-guyed structures. Additionally, alignment 3 would present challenges as it would require construction near the LREC three phase distribution line. LREC's three phase distribution line must remain in service as LREC cannot back feed the Parkers Prairie Substation in this area. The LREC three phase distribution line would need to be installed underground prior to any construction of the 115 kV transmission line at an added cost. Alignment 3 impacts trees/shelterbelts on the south side of CSAH 6, but also mitigates impacts to residential trees, a portion of a shelterbelt and a tree farm. Alignment 3 is relatively more expensive than Alignment 1.<sup>176</sup>

179. Alignment 4 would require the existing distribution line on the north side of CSAH 6 to be underbuilt on the new 115 kV line or placed underground. The alignment impacts residences (across the road from two residences; on the same side as two residences). Alignment 4 avoids impacts to irrigation systems only to the extent that it can be placed at an alignment in the range of 50-55 ft. from the CSAH 6 centerline. This alignment mitigates impacts to all trees/shelterbelts along CSAH 6. Alignment 4 is relatively more expensive than Alignment 1 and the most expensive of the alignment options considered.<sup>177</sup>

Based on the Findings of Fact the Commission makes the following:

### **CONCLUSIONS OF LAW**

1. Any of the foregoing Findings more properly designated as Conclusions are hereby adopted as such.
2. The Public Utilities Commission has jurisdiction over the subject matter of this proceeding pursuant to Minnesota Statute 216E.03, subdivision 2.
3. The project qualifies for review under the alternative permitting process of Minnesota Statute 216E.04 and Minnesota Rule 7850.2800.

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<sup>176</sup> Id.

<sup>177</sup> Id.

4. The Applicant, the Department of Commerce, and the Public Utilities Commission have complied with all procedural requirements required by law.
5. The Department of Commerce has completed an EA for this project as required by Minnesota Statute 216E.04, subdivision 5, and Minnesota Rule 7850.3700.
6. In accordance with Minnesota Rule 7850.3900, the EA and record created at the public hearing address the issues identified in the EA scoping decision.
7. The route proposed by Great River Energy, evaluated in the EA, and the subject of the public hearing is permissible per the criteria of Minnesota Statute 216E.03, subdivisions 7(a) and (b) and Minnesota Rule 7850.4100.
8. An alignment at greater than 60 ft. from the CSAH 6 centerline, as requested by the Otter Tail County highway department, is inconsistent with the routing criteria of Minnesota Statute 216E.03, subdivisions 7(a) and (b) and Minnesota Rule 7850.4100, as such an alignment significantly increases the potential impacts of the project without providing a definite timeline for reconstruction of CSAH 6, such that the county's request can reasonably be accommodated.
9. Of the alignments evaluated in the EA and public hearing, alignments 1 and 3 best satisfy the routing criteria of Minnesota Statute 216E.03, subdivisions 7(a) and (b) and Minnesota Rule 7850.4100. Of these, alignment 3 is superior, as it mitigates impacts to trees/shelterbelts through a known and relatively inexpensive mitigation measure, crossing the road. The exact parameters of this alignment will be developed by Great River Energy in further consultation with landowners.

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

### **ORDER**

1. A route permit for the proposed route, as requested in the route permit application, is hereby issued to Great River Energy (GRE) to construct approximately 2.1 miles of new 115 kV overhead transmission line, expand and modify the Parkers Prairie substation, connect the new 115 kV line through a switch structure to GRE's existing LR-IA line, and remove the existing 41.6 kV line along County Road 6 and southward along Minnesota State Highway 29 in Parkers Prairie Township in Otter Tail County, Minnesota.
2. The route width for the new 115 kV line is 300 feet, centered on County Road 6 (150 ft. on each side of the road) from the Parkers Prairie substation to the connection with GRE's existing LR-IA line. The route width for the connection with the LR-IA line is 300 feet, centered on the LR-IA line and extending 150 ft. north of structure LR-IA-317 and 150 ft. south of structure LR-IA-321.
3. It is anticipated that the right of way for the project will be centered approximately 52-55 ft. from the CSAH 6 centerline.
4. The route permit shall be issued in the form attached hereto, with a map showing the approved route and anticipated alignment.

Approved and adopted this 28<sup>th</sup> day of August, 2012.

BY ORDER OF THE COMMISSION

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Burl W. Haar,  
Executive Secretary