

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

In the Matter of the Application of Freeborn Wind Energy LLC for a Route Permit for the Freeborn Wind Transmission Line in Freeborn County, Minnesota

**FINDINGS OF FACT,  
CONCLUSIONS OF LAW, AND  
RECOMMENDATIONS**

This matter was assigned to Administrative Law Judge Jim Mortenson to prepare a report setting forth findings, conclusions, and recommendations on Freeborn Wind Energy LLC's (Freeborn Wind or Applicant) Application for a Route Permit (Route Permit) for the Freeborn Wind Farm to Glenworth Substation 161 kilovolt (kV) Transmission Line Project in Freeborn County, Minnesota (Application) (MPUC Docket No. 17-322). Freeborn Wind is seeking to construct a seven mile, 161 kilovolt transmission line that would connect its proposed Freeborn Wind Farm to the Glenworth Substation (the Project or Transmission Line).

A public hearing was held on May 31, 2018, at Riverland Community College in Albert Lea, Minnesota. Written public comments were accepted until June 12, 2018.<sup>1</sup> Applicant's post-hearing submissions filed by 4:30 p.m. on June 18, 2018, were accepted into the record.<sup>2</sup> The Department of Commerce filed comments and recommendations by the June 28, 2018, deadline.<sup>3</sup>

Lisa Agrimonti, Fredrikson & Byron, P.A., appeared on behalf of Freeborn Wind.

Andrew Levi, Environmental Review Specialist, appeared on behalf of the Department of Commerce, Energy Environmental Review and Analysis (DOC-EERA).

Michael Kaluzniak appeared on behalf of the Minnesota Public Utilities Commission (Commission) staff.

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<sup>1</sup> Amended First Prehearing Order (May 17, 2018) (eDocket No. 20185-143153-01); *see also* Summary of Public Comments at Appendix A.

<sup>2</sup> Order Granting Applicant's Request for Extension of Deadline for Filing of Proposed Findings and Reply to Public Comments (June 15, 2018) (eDocket No. 20186-143890-01).

<sup>3</sup> Amended First Prehearing Order (May 17, 2018) (eDocket No. 20185-143153-01).

## STATEMENT OF ISSUES

Has Freeborn Wind satisfied the factors set forth in Minn. Stat. § 216E.03, subd. 7 (2016), and Minn. R. ch. 7850 (2017) for a Route Permit for the proposed Project?

Does the Environmental Assessment (EA) prepared under Minn. R. 7850.3700, and the record created at the public hearing and associated public comment period, address the issues identified in the scoping decision?

## SUMMARY OF RECOMMENDATIONS

The Administrative Law Judge concludes that Freeborn Wind has satisfied the criteria set forth in Minnesota law for a Route Permit and that both the Orange Route and the Orange Route with the Purple Parallel Segment (Purple Parallel Route) meet the routing criteria and minimize impacts to the human and natural environments.

Given the Applicant's preference for the Purple Parallel Route, the Commission should **GRANT** the Route Permit for the Purple Parallel Route with the modification the Applicant proposed to maintain the entire route on participating landowners' property. That modification would narrow the route at 130th street to match the Orange Route in this area.

In the alternative, the Commission should grant a Route Permit for the Orange Route.

Based on the evidence in the Application, the EA, the testimony at the public hearing, written comments, and exhibits received in this proceeding, the Administrative Law Judge makes the following:

## FINDINGS OF FACT

### I. Applicant

1. Freeborn Wind is an affiliate of Invenergy LLC (Invenergy). Invenergy is a large-scale energy developer headquartered in Chicago, Illinois.<sup>4</sup>

2. As part of Invenergy's various generation projects, including wind farms, natural gas facilities, solar projects, and battery storage, Invenergy has built 401 miles of transmission lines greater than 69 kV and continues to operate 251 miles of those lines.<sup>5</sup>

3. Invenergy operates the Cannon Falls Energy Center (CFEC) in Cannon Falls, Minnesota.<sup>6</sup> The CFEC is a 357 MW natural gas combustion turbine power plant

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<sup>4</sup> Freeborn Wind Application for a Route Permit for the 161 kV Freeborn Wind Farm Transmission Line and Associated Facilities in Freeborn County at 5, 6-7 (Sept. 20, 2017) (eDocket No. 20179-135684-02) (hereinafter "Application").

<sup>5</sup> Application at 5.

<sup>6</sup> *Id.*

that provides natural-gas fired peaking power.<sup>7</sup> All of the electricity generated by the CFEC is committed to Northern States Power Company d/b/a Xcel Energy (Xcel Energy).<sup>8</sup>

4. Freeborn Wind will develop, design, and permit the Project.<sup>9</sup>

5. Freeborn Wind has entered into an agreement with Xcel Energy whereby Xcel Energy will acquire Freeborn Wind upon conclusion of all development activities and subsequently construct, own, and operate the Project.<sup>10</sup> On September 21, 2016, Freeborn Wind entered into a Purchase and Sale Agreement (PSA) with Xcel Energy, and Invenergy.<sup>11</sup> The Commission approved the Purchase and Sale Agreement on September 1, 2017.<sup>12</sup> Xcel Energy's acquisition of Freeborn Wind was part of a 1,550 MW wind portfolio proposed by Xcel Energy and approved by the Commission.<sup>13</sup> Xcel Energy will assume the obligations of Freeborn Wind, whether made by the company or imposed by the Commission.<sup>14</sup>

## **II. Route Permit Application Under the Alternative Permitting Process and Related Procedural History**

6. The Minnesota Power Plant Siting Act (PPSA) provides that no person may construct a high voltage transmission line (HVTL) without a Route Permit issued by the Commission.<sup>15</sup> Under the PPSA, an HVTL includes a transmission line that is 100 kV or more and is greater than 1,500 feet in length.<sup>16</sup> The proposed 161 kV transmission line is an HVTL that is more than 100 kV and greater than 1,500 feet in length.<sup>17</sup> Therefore, a Route Permit is required from the Commission prior to construction.

7. The Commission's rules establish two tracks for the permitting of HVTL. The "full permitting process" includes preparing an environmental impact statement (EIS) and holding a contested case hearing.<sup>18</sup> The "alternative permitting process" generally applies

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<sup>7</sup> Application at 5.

<sup>8</sup> *Id.*

<sup>9</sup> Direct Testimony of Dan Litchfield at 3 (May 24, 2018) (eDocket No. 20185-143327-02) (hereinafter "Litchfield Direct").

<sup>10</sup> Application at 5-6.

<sup>11</sup> Litchfield Direct at 3.

<sup>12</sup> *In the Matter of the Petition of Xcel Energy for Approval of the Acquisition of Wind Generation from the Company's 2016-2030 Integrated Resource Plan*, MPUC Docket No. E002/M-16-777, Order Approving Petition, Granting Variance, and Requiring Compliance Filing (Sept. 1, 2017) (eDocket No. 20179- 135205-01).

<sup>13</sup> Litchfield Direct at 3.

<sup>14</sup> *Id.*; Application at 5-6.

<sup>15</sup> Minn. Stat. § 216E.03, subd. 2 (2016).

<sup>16</sup> Minn. Stat. § 216E.01, subd. 4 (2016).

<sup>17</sup> Application at 7.

<sup>18</sup> See Minn. R. 7850.1700-.2700 (full permitting procedures).

to modestly sized projects.<sup>19</sup> It requires an EA instead of an EIS and a public hearing instead of a contested case hearing.<sup>20</sup>

8. Because Freeborn Wind's proposed transmission line would operate at a voltage between 100 and 200 kilovolts, it is eligible for the alternative permitting process authorized by Minn. Stat. § 216E.04, subd. 2(3) (2016) and Minn. R. 7850.2800, subp. 1(C).<sup>21</sup>

9. Freeborn Wind notified the Commission on June 15, 2017, by letter that it plans to file a Route Permit Application for the Project and that it intends to use the Alternative Permitting Process of Minn. R. 7850.2800 - .3900 for the Project.<sup>22</sup> This letter complies with the requirement of Minn. R. 7850.2800, subp. 2, to notify the Commission of this election at least 10 days prior to submitting an application for a Route Permit.

10. On September 20, 2017, Freeborn Wind filed its Application with the Commission for the Project under the Alternative Permitting Process under Minn. Stat. § 216E.04, subd. 2(3) and Minn. R. 7850.2800 to 7850.3900.<sup>23</sup>

11. On September 22, 2017, the Commission issued a Notice of Comment Period on Completeness of Route Permit Application requesting initial comments by October 10, 2017 and reply comments by October 17, 2017.<sup>24</sup> On October 4, 2017, the Commission issued a Revised Notice, extending the comment period due to technical difficulties with the comment system.<sup>25</sup> The Revised Notice requested initial comments by October 24, 2017, and reply comments by October 31, 2017.<sup>26</sup> The Notice requested comments on whether Freeborn Wind's Application was complete within the meaning of the Commission's rules; whether there were contested issues of fact with respect to the representations made in the Application; and whether the Commission should appoint an advisory task force.<sup>27</sup>

12. On October 4, 2017, the Minnesota Pollution Control Agency (MPCA) filed comments on the completeness of the Application.<sup>28</sup> The MPCA stated that the Shell Rock River in the Project area is listed as impaired, and is therefore subject to increased stormwater treatment requirements, both during and after construction, as per the

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<sup>19</sup> See Minn. R. 7850.2800, subp. 1 (describing criteria for eligible projects); *accord* Minn. Stat. § 216E.04, subd. 2.

<sup>20</sup> See Minn. R. 7850.2900–.3900 (alternative permitting procedures).

<sup>21</sup> Minn. R. 7850.2800, subp. 1(C); Order Finding Application Complete, Varying Scoping Time Frame, and Referring the Matter to the Office of Administrative Hearings at 2 (Dec. 5, 2017) (eDocket No. 201712-137952-01); Application at 7.

<sup>22</sup> Notification of Pending Route Permit Application (June 15, 2017) (eDocket No. 20176-132807-01).

<sup>23</sup> See Application at 7.

<sup>24</sup> Notice of Comment Period on Completeness of Route Permit Application (Sept. 22, 2017) (eDocket No. 20179-135743-01).

<sup>25</sup> Revised Notice of Comment Period on Completeness of Route Permit Application (Oct. 4, 2017) (eDocket No. 201710-136114-01).

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> MPCA Comments (Oct. 4, 2017) (eDocket No. 201710-136085-01).

MPCA's Construction Stormwater Program.<sup>29</sup> Additionally, the MPCA stated the Application should include the Clean Water Act Section 401 permit requirement in Section 7.4.<sup>30</sup>

13. On October 16, 2017, Freeborn Wind filed documentation confirming that it completed the notice requirements of Minn. R. 7850.2100 and had provided notice of the Application to local government officials, landowners, and the general service list on September 27, 2017. Newspaper notice was also completed on October 4, 2017.<sup>31</sup>

14. On October 24, 2017, DOC-EERA filed comments and recommendations on the completeness of the Application.<sup>32</sup> DOC-EERA recommended that the Commission accept the Application as complete, but require Freeborn Wind to provide additional information on the procedures and practices proposed to acquire Project right-of-way (ROW) and any additional state permits that may be required.<sup>33</sup> DOC-EERA also recommended that the Commission take no action on an advisory task force.<sup>34</sup>

15. Fifteen public comments were received during the initial and reply comment periods on the completeness of the Application. The comments were largely related to the potential impacts of the Project and requested the appointment of an advisory task force.<sup>35</sup> The Association of Freeborn County Landowners (AFCL) requested that "[b]ecause this project and the Freeborn Wind project<sup>36</sup> are tied and dependent, these two dockets should be joined as one, ideally the pre-existing 17-410."<sup>37</sup>

16. Freeborn Wind filed reply comments on October 31, 2017, providing the additional information requested by DOC-EERA.<sup>38</sup>

17. On November 2, 2017, DOC-EERA filed a letter stating that Freeborn Wind's reply comments provided the requested information.<sup>39</sup>

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<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> Affidavits of Mailing and Publication (Oct. 16, 2017) (eDocket No. 201710-136534-01); see also Freeborn Wind Notice of Freeborn Wind Notice of Filing of Route Permit Application (Sept. 27, 2017) (eDocket No. 20179-135845-01).

<sup>32</sup> DOC-EERA Comments and Recommendations on Application Completeness (Oct. 24, 2017) (eDocket No. 201710-136798-01).

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

<sup>35</sup> See, e.g., Comment by Allie Olson (Oct. 24, 2017) (eDocket No. 201710-136751-01); Comment by Lisa Hajek (Oct. 24, 2017) (eDocket No. 201710-136801-01).

<sup>36</sup> Commission Docket No. IP-6946/17-410, *In the Matter of the Application of Freeborn Wind Energy LLC for a Site Permit for the Freeborn Wind Farm in Freeborn County, Minnesota.*

<sup>37</sup> Association of Freeborn County Landowners Application Completeness Comments (Oct. 24, 2017) (eDocket No. 201710-136755-01).

<sup>38</sup> Freeborn Wind Reply Comments on Completeness (Oct. 31, 2017) (eDocket No. 201710-137023-02).

<sup>39</sup> DOC-EERA Letter (Nov. 2, 2017) (eDocket No. 201711-137115-01).

18. On November 3, 2017, the Commission issued a Notice of Commission Meeting scheduled on November 16, 2017.<sup>40</sup>

19. On November 8, 2017, Commission Staff filed Briefing Papers for the November 16, 2017, Commission meeting.<sup>41</sup> Staff recommended that the Commission refer this matter to an Administrative Law Judge for a “summary proceeding” which would involve findings of fact, conclusions of law, and a recommendation.<sup>42</sup> On November 16, 2017, Staff filed amended decision options to provide an option to “combine this application with Docket IP6946/17-410” as requested by AFCL.<sup>43</sup>

20. On November 15, 2017, Freeborn Wind filed a response opposing Staff’s recommendation that the Commission refer this matter to an Administrative Law Judge for a “summary proceeding.”<sup>44</sup> Freeborn Wind requested instead that the Administrative Law Judge prepare a summary report, whereby the Administrative Law Judge would summarize comments received.<sup>45</sup>

21. On December 5, 2017, the Commission issued an Order finding the Application complete; varying Minn. R. 7850.3700, subp. 3, to extend the 10-day time limit for the DOC-EERA to issue its scoping decision in order to allow for Commission review; requesting that DOC-EERA file comments with draft route alternatives for the Commission’s input before issuing a final scoping decision; and referring this matter to the Office of Administrative Hearings, requesting that the assigned Administrative Law Judge prepare a report setting forth findings, conclusions, and recommendations on the merits of the proposed Project and alternatives to the proposed Project, applying the criteria set forth in statute and rule, and provide comments and recommendations, if any, on the conditions and provisions of the proposed permit.<sup>46</sup>

22. On December 6, 2017, the Commission and DOC-EERA issued a Notice of Environmental Assessment Scoping and Public Information Meeting, requesting response to four questions regarding the Project: 1) whether potential human and environmental impacts should be studied; 2) the possible methods to minimize, mitigate, or avoid potential impacts that should be studied; 3) whether there are any alternative routes or route segments that should be studied to address potential impacts; and 4) whether there are any unique characteristics within the Project area that should be considered.<sup>47</sup>

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<sup>40</sup> Notice of Commission Meeting (Nov. 3, 2017) (eDocket No. 201711-137152-02).

<sup>41</sup> Staff Briefing Papers (Nov. 8, 2017) (eDocket No. 201711-137241-01).

<sup>42</sup> *Id.*

<sup>43</sup> Staff Amended Decision Options (Nov. 16, 2017) (eDocket No. 201711-137448-01).

<sup>44</sup> Freeborn Wind Response to Staff Briefing Papers (Nov. 15, 2017) (eDocket No. 201711-137397-01).

<sup>45</sup> *Id.*

<sup>46</sup> Order Finding Application Complete, Varying Scoping Time Frame, and Referring the Matter to the Office of Administrative Hearings (Dec. 5, 2017) (eDocket No. 201712-137952-01).

<sup>47</sup> Notice of Environmental Assessment Scoping and Public Information Meeting (Dec. 6, 2017) (eDocket No. 201712-137985-01).

23. On December 14, 2017, Freeborn Wind filed documentation confirming that it had published notice of the EA Scoping and Public Information Meeting in the *Albert Lea Tribune* on December 8, 2017.<sup>48</sup>

24. On December 19, 2017, Commission Staff and DOC-EERA held the EA Scoping and Public Information Meeting in Albert Lea, Minnesota.<sup>49</sup>

25. On January 2 and January 3, 2018, three individuals filed public comments.<sup>50</sup> On January 3, 2018, AFCL filed comments.<sup>51</sup>

26. Also on January 3, 2018, the Minnesota Department of Transportation (MnDOT) filed comments requesting that the EA evaluate the locations of the proposed utility poles in relation to U.S. Highway 65 (US 65), and that Freeborn Wind coordinate any route construction work or delivery of materials that may affect MnDOT ROW.<sup>52</sup>

27. On January 8, 2018, DOC-EERA filed public comments that it received regarding the EA scoping process.<sup>53</sup>

28. On January 25, 2018, DOC-EERA filed comments summarizing the EA scoping process and informing the Commission of the route and route segments that DOC-EERA intended to recommend for inclusion in the scoping decision for the EA.<sup>54</sup> DOC-EERA considered the comments submitted during the scoping process regarding the various alternatives proposed.<sup>55</sup> DOC-EERA identified the “Purple Route” and the “Gold Route” segments as alternative routes that co-locate or parallel the Project with existing transmission infrastructure.<sup>56</sup> DOC-EERA recommended that the Deputy Commissioner of Commerce include in the scoping decision the original route proposed by Freeborn Wind (which it calls the “Teal Route”), the Orange Route (which limits the route to participating landowners’ property), and the Purple Route.<sup>57</sup> DOC-EERA did not recommend the Gold Route be included in the scope due to impacts to non-participating landowners and other issues.<sup>58</sup>

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<sup>48</sup> Freeborn Wind Affidavit of Publication (Dec. 14, 2017) (eDocket No. 20172-138188-01).

<sup>49</sup> See Order Proposing Additional Route Segment for Consideration in EA and Delegating Authority at 1 (March 5, 2018) (eDocket No. 20183-140767-01).

<sup>50</sup> Comment by Linda Herman (Jan. 2, 2018) (eDocket No. 20181-138508-01); Comment by Kathy Nelson (Jan. 3, 2018) (eDocket No. 20181-138565-01); Comment by Sue Madson (Jan. 3, 2018) (eDocket No. 20181-138564-01).

<sup>51</sup> Comment by AFCL (Jan. 3, 2018) (eDocket No. 20181-138611-01).

<sup>52</sup> Comment by MnDOT (Jan. 3, 2018) (eDocket No. 20181-138602-01).

<sup>53</sup> Meeting Notes (Jan. 8, 2018) (eDocket No. 20181-138726-01).

<sup>54</sup> EERA Comments on Scoping Process (Jan. 25, 2018) (eDocket No. 20181-139336-01).

<sup>55</sup> *Id.*

<sup>56</sup> The “Purple Route” refers to the Orange Route as modified by the Purple Route Segment. The “Gold Route” refers to the Orange Route as modified by the Gold Route Segment.

<sup>57</sup> EERA Comments on Scoping Process at 10 (Jan. 25, 2018) (eDocket No. 20181-139336-01).

<sup>58</sup> *Id.*

29. On January 26, 2018, the Commission issued a Notice of Commission Meeting scheduled for February 8, 2018.<sup>59</sup>

30. On February 7, 2018, DOC-EERA filed a letter indicating that the “EA will study the potential human and environmental impacts of the project. It will discuss ways to minimize, mitigate, or avoid potential impacts. The EA will address the issues raised during the scoping process, including the issues suggested by AFCL’s proposed permit conditions—many of which were specifically called out in EERA staff’s scoping summary.”<sup>60</sup>

31. On February 8, 2018, the Commission met to consider what action it should take regarding route alternatives to be evaluated in the EA.<sup>61</sup> In its March 5, 2018, Order Proposing an Additional Route Segment for Consideration in the Environmental Assessment and Delegating Authority, the Commission agreed with DOC-EERA that the Teal Route, the Orange Route, and the Purple Route should be included in the scoping decision for the EA, and proposed that the Gold Route also be included in the EA.<sup>62</sup> The Commission also requested that the EA examine the possibility of (a) paralleling the existing transmission line corridor, and (b) using existing transmission line ROW (either by reconstruction of the existing structures or an under/over build) for the Purple Route and the Gold Route.<sup>63</sup> The Commission also delegated authority to administer this Route Permit proceeding to the Executive Secretary.<sup>64</sup>

32. On March 8, 2018, the Deputy Commissioner of the Department of Commerce issued the EA Scoping Decision. Also, DOC-EERA filed its Notice of EA Scoping Decision.<sup>65</sup>

33. On March 22, 2018, Commission Staff filed the Generic Route Permit Template.<sup>66</sup>

34. On April 2, 2018, a prehearing conference was held before Administrative Law Judge Jim Mortenson. On April 4, 2018, the Administrative Law Judge issued the First Prehearing Order, establishing a schedule for the proceedings.<sup>67</sup> On May 17, 2018, the Administrative Law Judge issued an Amended First Prehearing Order.<sup>68</sup>

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<sup>59</sup> Notice of Commission Meeting – February 8, 2018 (Jan. 26, 2018) (eDocket No. 20181-139386-08).

<sup>60</sup> EERA Letter (Feb. 7, 2018) (eDocket No. 20182-139858-01).

<sup>61</sup> Notice of Commission Meeting – February 8, 2018 (Jan. 26, 2018) (eDocket No. 20181-139386-08) and Order Proposing Additional Route Segment for Consideration in EA and Delegating Authority (March 5, 2018) (eDocket No. 20183-140767-01).

<sup>62</sup> Order Proposing Additional Route Segment for Consideration in EA and Delegating Authority (March 5, 2018) (eDocket No. 20183-140767-01).

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

<sup>65</sup> Environmental Assessment Scoping Decision (March 8, 2018) (eDocket No. 20183-140868-01); Notice of Environmental Assessment Scoping Decision (March 8, 2018) (eDocket No. 20183-140885-01).

<sup>66</sup> Generic Route Permit Template (March 22, 2018) (eDocket No. 20183-141262-01).

<sup>67</sup> First Prehearing Order (April 4, 2018) (eDocket No. 20184-141685-01).

<sup>68</sup> Amended First Prehearing Order (April 4, 2018) (eDocket No. 20185-143153-01).

35. On April 24, 2018, Freeborn Wind filed a copy of an email received from Lisa Joyal, Endangered Species Review Coordinator, Minnesota Department of Natural Resources (DNR), regarding Freeborn Wind's Natural Heritage Information System Data Request Form for the Project.<sup>69</sup> The email serves as a concurrence for the rare features assessment in the Commission Route Permit Application and can be used in lieu of a formal Natural Heritage Letter.<sup>70</sup>

36. On May 11, 2018, DOC-EERA filed documentation confirming that notice of the Project had been provided by mail to newly affected landowners.<sup>71</sup>

37. On May 14, 2018, DOC-EERA filed the EA.<sup>72</sup> On May 23, 2018, DOC-EERA filed documentation confirming that it had provided the EA and notices of availability of the EA to the Albert Lea Public Library, persons on the Project list, and to the EQB Monitor.<sup>73</sup> On May 31, 2018, DOC-EERA filed the Notice of EA Availability for the Project.<sup>74</sup>

38. On May 17, 2018, the Commission issued a Notice of Public Hearing scheduled for May 31, 2018.<sup>75</sup> The Notice also opened a period for public comment ending on June 12, 2018.<sup>76</sup> Approximately 25 comments were submitted during the comment period, including a comment from the DNR.<sup>77</sup>

39. On May 24, 2018, Freeborn Wind filed the Direct Testimony of Dan Litchfield.<sup>78</sup>

40. On May 25, 2018, Freeborn Wind filed an Affidavit of Publication for the Notice of Public Hearing.<sup>79</sup>

41. On May 31, 2018, a public hearing was held in Albert Lea, Minnesota.<sup>80</sup> The transcripts from the public hearing were filed on June 7, 2018.<sup>81</sup>

42. On June 14, 2018, Freeborn Wind filed a request for an extension of the deadline for the filing of the Proposed Findings, Conclusions of Law, and

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<sup>69</sup> Freeborn Wind Comments – DNR National Heritage Concurrence (April 24, 2018) (eDocket No. 20184-142258-02).

<sup>70</sup> Freeborn Wind Comments – DNR National Heritage Concurrence (April 24, 2018) (eDocket No. 20184-142258-02).

<sup>71</sup> EERA Affidavit of Service by Mail (May 11, 2018) (eDocket No. 20185-142965-01).

<sup>72</sup> Environmental Assessment (May 14, 2018) (eDocket Nos. 20185-142993-01; 20185-142993-02; 20185-142993-03; 20185-142993-04).

<sup>73</sup> EA and Notice of Availability (May 23, 2018) (eDocket No. 20185-143273-01).

<sup>74</sup> DOC-EERA Notice of EA Availability (May 25, 2018) (eDocket No. 20185-143469-01).

<sup>75</sup> Notice of Public Hearing (May 17, 2018) (eDocket No. 20185-143158-01).

<sup>76</sup> *Id.*

<sup>77</sup> Comment by DNR (June 12, 2018) (eDocket No. 20186-143759-01).

<sup>78</sup> Litchfield Direct.

<sup>79</sup> Freeborn Wind Compliance Filing – Affidavit of Publication (May 25, 2018) (eDocket No. 20185-143338-01).

<sup>80</sup> Public Hearing Transcript 5-31-2018 (June 7, 2018) (eDocket No. 20186-143636-01).

<sup>81</sup> *Id.*

Recommendations, and Freeborn Wind’s Reply Comments.<sup>82</sup> Freeborn Wind requested that the deadline be extended to June 18, 2018.<sup>83</sup> On June 15, 2018, Freeborn Wind filed a letter confirming that DOC-EERA was agreeable to such an extension.<sup>84</sup> The Administrative Law Judge issued an order granting Freeborn Wind’s request on June 15, 2018.<sup>85</sup>

### III. Certificate of Need

43. Minn. Stat. § 216B.243, subd. 2 (2016) states that “no large energy facility” shall be sited or constructed in Minnesota without the issuance of a Certificate of Need by the Commission.<sup>86</sup> The proposed Project is not classified as a “large energy facility” under Minn. Stat. §§ 216B.243 and 216B.2421, subd. 2(3) (2016).<sup>87</sup> While the Project is an HVTL with a capacity of 100 kV or more, it is not more than 10 miles long in Minnesota and it does not cross a state line.<sup>88</sup> Therefore, a Certificate of Need is not required for the Project.<sup>89</sup>

### IV. Description of the Project

44. The Project includes approximately 7.0 miles of a new single circuit 161 kV HVTL needed to interconnect the proposed 200 megawatt (MW) Freeborn Wind Farm located in Freeborn County, Minnesota and Worth County, Iowa.<sup>90</sup> The Minnesota portion

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<sup>82</sup> Freeborn Wind Extension Request (June 14, 2018) (eDocket No. 20186-143852-01).

<sup>83</sup> *Id.*

<sup>84</sup> Freeborn Wind Letter Confirming EERA Agreement to Extension (June 15, 2018) (eDocket No. 20186-143889-01).

<sup>85</sup> Order Granting Applicant’s Request for Extension (June 15, 2018) (eDocket No. 20186-143890-01).

<sup>86</sup> Minn. Stat. § 216B.2421, subd. 2 (2016) defines a “large energy facility” as:

(1) any electric power generating plant or combination of plants at a single site with a combined capacity of 50,000 kilowatts or more and transmission lines directly associated with the plant that are necessary to interconnect the plant to the transmission system;

(2) any high-voltage transmission line with a capacity of 200 kilovolts or more and greater than 1,500 feet in length;

(3) any high-voltage transmission line with a capacity of 100 kilovolts or more with more than 10 miles of its length in Minnesota or that crosses a state line;

(4) any pipeline greater than 6 inches in diameter and having more than 50 miles of its length in Minnesota used for the transportation of coal, crude petroleum or petroleum fuels or oil, or their derivatives;

(5) any pipeline for transporting natural or synthetic gas at pressures in excess of 200 pounds per square inch with more than 50 miles of its length in Minnesota;

(6) any facility designed for or capable of storing on a single site more than 100,000 gallons of liquefied natural gas or synthetic gas;

(7) any underground gas storage facility requiring a permit pursuant to section 1031.681;

(8) any nuclear fuel processing or nuclear waste storage or disposal facility; and

(9) any facility intended to convert any material into any other combustible fuel and having the capacity to process in excess of 75 tons of the material per hour.

<sup>87</sup> Application at 7.

<sup>88</sup> *Id.*

<sup>89</sup> *See id.*

<sup>90</sup> Application at 1.

of the Freeborn Wind Farm will consist of up to 84 MW and is under site permit review in MPUC Docket No. IP6946/WS-17-410.<sup>91</sup>

45. The proposed Project is an HVTL. An HVTL is “a conductor of electric energy and associated facilities designed for and capable of operation at a nominal voltage of 100 kilovolts or more and is greater than 1,500 feet in length.”<sup>92</sup>

46. The Project will originate at the proposed Freeborn Wind Farm Substation (Wind Farm Substation) to be located in Freeborn County, Minnesota and run northwest to end at the existing Glenworth Substation located just southeast of Glenville, Minnesota, which is the Point of Interconnection (POI).<sup>93</sup> Buried 34.5 kV collector lines from the proposed Freeborn Wind Farm will transmit electricity generated from the wind turbines to the Wind Farm Substation.<sup>94</sup> The voltage will be increased from 34.5 kV to 161 kV at the Wind Farm Substation and power transmitted via the Project’s aboveground 161 kV transmission line to the Glenworth Substation.<sup>95</sup> Freeborn Wind has a 200 MW interconnection queue position for the Freeborn Wind Farm.<sup>96</sup>

47. The 161 kV voltage was determined by Freeborn Wind, the Midcontinent Independent System Operator, Inc. (MISO), and ITC Midwest LLC (ITC) to be the appropriate voltage because it is connecting the Freeborn Wind Farm to the existing 161/69 kV Glenworth Substation.<sup>97</sup> In addition, a 161 kV voltage more efficiently transmits energy than a lower voltage.<sup>98</sup>

## V. Routes Evaluated<sup>99</sup>

### A. Routes Proposed by Freeborn Wind

48. The Project is located entirely within Shell Rock Township in Freeborn County, Minnesota.<sup>100</sup>

49. *Teal Route.* The route initially proposed by Freeborn Wind in its Application is referred to as the “Teal Route.” The Teal Route begins at the Wind Farm Substation at the southeast corner of the intersection of 110th Street and 840th Avenue in Shell Rock

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<sup>91</sup> A new Freeborn Wind Farm, Wind Farm Substation and collector lines are included as part of the requested approval in the Site Permit Application for the Freeborn Wind Farm project. *In the Matter of the Application of Freeborn Wind Energy LLC for a Large Wind Energy Conversion System Site Permit for the 84 MW Freeborn Wind Farm in Freeborn County*, MPUC Docket No. IP6946/WS-17-410.

<sup>92</sup> Minn. Stat § 216E.01, subd. 4.

<sup>93</sup> Application at 1, 6.

<sup>94</sup> Application at 8. The Freeborn Wind Farm Substation and associated collector lines are being permitted separately as part of the Freeborn Wind Farm Project, Site Permit Application, MPUC Docket No. IP6946/WS-17-410.

<sup>95</sup> Application at 8.

<sup>96</sup> *Id.* at 1.

<sup>97</sup> *Id.* at 8.

<sup>98</sup> *Id.*

<sup>99</sup> See Environmental Assessment Maps (May 14, 2018) (eDocket Nos. 20185-142993-03; 20185-142993-04).

<sup>100</sup> Application at 7.

Township, Freeborn County, Minnesota, approximately seven miles southeast of the Glenworth Substation. From the Wind Farm Substation, the Teal Route travels north and parallel along 840th Avenue, then turns west and crosses through agricultural land to west of 820th Avenue. The line then turns north and west, crossing an existing 69 kV transmission line (ITC Line) owned by ITC. The Teal Route would follow the west side of the ITC Line north to 130th Street. The line then turns west and parallels 130th Street to the south for a distance and then crosses to the north and follows the road until it reaches US 65. From there, it follows the east side of the highway north to the interconnection point at the existing Glenworth Substation owned by ITC.

50. In developing the Teal Route, Freeborn Wind evaluated and rejected two alternate route segments and one alternative route.<sup>101</sup>

## **B. Routes Proposed through Public Participation**

51. Several alternative route segments were introduced in the EA Scoping Decision:

### 1. Orange Route

52. In response to comments at the scoping meeting that the route width should be located entirely on land owned by participating landowners, “EERA staff provided Freeborn Wind with a route alternative that also moves the route width to participating landowners’ property . . . In response, Freeborn Wind suggested that an adapted EERA route replace the proposed route and be included in the scoping decision. Freeborn Wind proposed a reduced route width for a more precise route location and a slight expansion in the route width for the half-mile segment south of 130th Street to allow for potential co-location with the existing ITC Line, should the company be able to secure easement agreements to obtain adequate right-of-way.”<sup>102</sup> Freeborn Wind proposed a new route with the same alignment as the Teal Route, but with a narrower route width that avoids non-participants’ land. This route is identified as the Orange Route. The Orange Route follows the same alignment as the Teal Route with route widths varying from 225, 250, and 400 feet.<sup>103</sup>

### 2. Purple Route Segment<sup>104</sup>

53. The Purple Route Segment was proposed during scoping and follows an existing transmission line corridor.<sup>105</sup> The EA studied two possibilities for this route segment: running the proposed HVTL parallel to the existing ITC Line (paralleling) (Purple Parallel) or overbuilding the proposed HVTL above the ITC Line on new structures within

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<sup>101</sup> For additional detail on Freeborn Wind’s analysis of these alternatives, see Application at 14-15.

<sup>102</sup> Scoping Summary at 6.

<sup>103</sup> Litchfield Direct at 5; see *also* EA at 14.

<sup>104</sup> The “Purple Route” refers to the Orange Route as modified by the Purple Route Segment.

<sup>105</sup> See EA at 14, 19.

the existing ITC ROW (overbuilding) (Purple Overbuild).<sup>106</sup> The Purple Route Segment includes a small area of the route width of this route segment, located to the east of 810<sup>th</sup> Avenue crossing 130<sup>th</sup> Street, with two non-participating landowners,<sup>107</sup> but the Purple Parallel routing option could be constructed entirely on participants' land.<sup>108</sup>

54. Traveling south to north, the Purple Route Segment breaks from the Teal/Orange route in the NE 1/4 of S28, T101, R20W where it continues west approximately 1,000 feet along field lines to the existing ITC Line. The route segment turns north and travels along the ITC Line for approximately one and one-quarter miles until it reaches 130<sup>th</sup> Street, where it rejoins the Teal and Orange routes. Route widths vary from 250, 400, and 600 feet.<sup>109</sup> Constructing the Purple Overbuild Route south of 120<sup>th</sup> Street would cause some of the ROW to be on a nonparticipant's land. Overbuilding for the first half mile north of 120<sup>th</sup> could be done all on participating land. The remaining half mile towards 130<sup>th</sup> Street would require two new transmission easements.<sup>110</sup>

### 3. Gold Route Segment<sup>111</sup>

55. The Gold Route Segment was proposed during scoping and follows existing transmission line corridors.<sup>112</sup> The EA studied two possibilities for this route segment: running the proposed HVTL parallel to the existing ITC Line and Dairyland Power Cooperative double circuit 69 kV transmission line (Dairyland Line) (paralleling) (Gold Parallel) or overbuilding the proposed HVTL above the ITC and Dairyland Lines on new structures within existing ROW (overbuilding) (Gold Overbuild).<sup>113</sup>

56. Traveling south to north, the Gold Route Segment breaks from the Teal/Orange routes at 130<sup>th</sup> Street. It follows the ITC Line north until it reaches the existing Dairyland Line at the boundary of S21 and S16, T101, R20W. At this point it turns west and follows the Dairyland Line along 140<sup>th</sup> Street and River Road. The route segment crosses the Shell Rock River and rejoins the proposed route in the NW 1/4 of S17, T101, R20W south of the Glenworth Substation. Route widths vary from 400 to 600 feet.<sup>114</sup>

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<sup>106</sup> EA at 14. The "Purple Parallel Route" refers to the Orange Route as modified by the Purple Parallel Route Segment. The "Purple Overbuild Route" refers to the Orange Route as modified by the Purple Overbuild Route Segment. See EA at 100-101.

<sup>107</sup> See EA, Map 6 (Landowner Participation – Map 2 of 3).

<sup>108</sup> Pub. Hrg. Tr. at 13 (Litchfield).

<sup>109</sup> EA at 14.

<sup>110</sup> Freeborn Wind Reply Comments at 2 (June 18, 2018).

<sup>111</sup> The "Gold Route" refers to the Orange Route as modified by the Gold Route Segment.

<sup>112</sup> See EA at 15.

<sup>113</sup> EA at 15. The "Gold Parallel Route" refers to the Orange Route as modified by the Gold Parallel Route Segment. The "Gold Overbuild Route" refers to the Orange Route as modified by the Gold Overbuild Route Segment. See *id.* at 100-101.

<sup>114</sup> *Id.* at 15.

## VI. Transmission Line Structure Types and Spans

57. The proposed structures for the Project are wood, laminated wood, or steel poles with braced post insulators. Wood or laminated braced post poles are proposed to be used for the majority of the Project. Additionally, a cantilever design may be used in some locations with all davit arms and conductors installed on one side of the pole to allow a narrower ROW on the nonconductor side to allow the poles to be closer to the parcel boundary where adjacent landowners are not participating.<sup>115</sup>

58. Depending upon soil conditions, Freeborn Wind proposes to use direct embedded poles for tangent structures. Rock filled culvert or concrete drilled pier foundations may be required in areas with poor soils. Dead-end structures will be installed with concrete drilled pier foundations.<sup>116</sup>

59. The proposed 161 kV transmission line will be designed to meet or surpass all relevant local and state codes, North American Electric Reliability Corporation standards, the National Electrical Safety Code (NESC), and Xcel Energy standards. Appropriate standards will be met for construction and installation, and applicable safety procedures will be followed during and after installation.<sup>117</sup>

60. The standard alignment will be with delta-designed poles centered in the ROW, with 40 feet of ROW on each side of the centerline.<sup>118</sup> For the single-circuit 161 kV delta-designed poles, there will be two conductors on one side and one conductor on the other side, and a braced post structure TSP-161 structure type will be used.<sup>119</sup>

61. For certain segments, Freeborn Wind proposes to use a vertical configuration, with all conductors located on one side of the pole.<sup>120</sup> This design is needed to create the correct approach angle for the segment of turn 2 to turn 3 that uses the 22-foot wide ROW across County Road 108/830th Avenue.<sup>121</sup> For the single-circuit 161 kV vertical-designed poles, a braced post structure TSP-161 structure type will be used.<sup>122</sup>

62. Transmission structures for the Teal, Orange, Purple Parallel, and Gold Parallel routes will typically range from 60 to 80 feet above ground.<sup>123</sup> Overbuild structures will be 85 to 90 feet tall along the Purple Route and, along the Gold Route, be 90 to 95 feet over ground and 120 to 125 feet over water.<sup>124</sup> The typical span between poles outside of substation locations will be approximately 550 to 900 feet.<sup>125</sup>

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<sup>115</sup> Application at 16.

<sup>116</sup> *Id.*

<sup>117</sup> *Id.*

<sup>118</sup> *Id.*

<sup>119</sup> *Id.* at 19.

<sup>120</sup> *Id.* at 16.

<sup>121</sup> *Id.* at 16-17.

<sup>122</sup> *Id.* at 19.

<sup>123</sup> *Id.* at 16.

<sup>124</sup> EA at 20.

<sup>125</sup> Application at 16.

## VII. Transmission Line Conductors

63. The proposed 161 kV transmission line will be constructed with T2 477 kcmil aluminum conductor steel-supported (ACSR) “Hawk” conductor which has a capacity of 265 MW at 161 kV or a conductor with comparable capacity with a phasing space of 11.0 feet.<sup>126</sup>

64. Along the Teal Route, the area of the Project route width is approximately 344.8 acres and the area of the ROW is approximately 64.1 acres.<sup>127</sup>

65. For the majority of the Teal Route, Freeborn Wind requested a route width of 200 feet on each side of the proposed transmission line route centerline (400 feet total width) with expanded areas at the substations, and narrowed areas near three residential parcels, a communication tower, and along US 65.<sup>128</sup> The route width for the Teal Route would include non-participant parcels.<sup>129</sup>

66. Route widths along the Orange Route would avoid non-participating landowners.<sup>130</sup> Route widths along the Orange Route vary from 225, 250, and 400 feet with wider route widths near substations.<sup>131</sup>

67. Route widths vary from 250, 400, and 600 feet for the Purple Route.<sup>132</sup> The Purple Route includes a small area with two non-participating landowners,<sup>133</sup> but the Purple Parallel routing option could be constructed entirely on participants’ land.<sup>134</sup>

68. Route widths along the Gold Route vary from 400 to 600 feet.<sup>135</sup>

69. Freeborn Wind is requesting approval of different route widths depending on the existing land uses of the adjacent properties. Freeborn Wind requested an expanded route width at the substations and narrowed route width near three residential parcels, a communication tower, and along US 65. Freeborn Wind requests a varying route width extending up to 292 feet from the Glenworth Substation parcel boundary, and a route width of 200 feet off of the Wind Farm Substation site boundary.<sup>136</sup>

## VIII. Transmission Line Right-of-Way

70. The entire length of the proposed Project will require new ROW.<sup>137</sup>

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<sup>126</sup> *Id.*

<sup>127</sup> *Id.*

<sup>128</sup> Litchfield Direct at 4; Application at 12.

<sup>129</sup> Litchfield Direct at 4.

<sup>130</sup> *Id.* at 5.

<sup>131</sup> EA at 14.

<sup>132</sup> *Id.*

<sup>133</sup> See EA, Map 6 (Landowner Participation – Map 2 of 3).

<sup>134</sup> Pub. Hrg. Tr. at 13 (Litchfield).

<sup>135</sup> EA at 15.

<sup>136</sup> Application at 12.

<sup>137</sup> *Id.* at 16.

71. The typical ROW width for the Project will be 80 feet (40 feet on either side of the transmission line centerline) and the typical span will be 550 to 900 feet.<sup>138</sup>

72. ROW will be centered over the anticipated alignment when conductors are on both sides of a structure (40 feet on either side). The ROW will be staggered over the anticipated alignment when conductors are on one side of the structure only (30 feet on the non-conductor side and 50 feet on the conductor side). Freeborn Wind anticipates the ROW along the Teal and Orange routes would abut existing ITC Line or Dairyland Line ROW but not overlap.<sup>139</sup>

73. In one location, at the crossing of County Road 108/830th Avenue at one-quarter mile south of 120th Street, a narrowed ROW is proposed to maintain the ROW for the Project within land owned by participating landowners and within public road ROW where Freeborn Wind is seeking a utility permit from Freeborn County. A vertical design with a 22-foot ROW will be used on this single, short span. Freeborn Wind engineers developed a design in this limited area that can be operated in a 22-foot ROW, which is within the 66-foot wide County Road 108 ROW. To ensure adequate clearances, Freeborn Wind proposes a special design using two dead-end structures. The two poles will be located 123 feet apart and the 22-foot ROW would apply only to the area between the two poles. The area needed for construction will be contained on the participating landowners' parcels. The existing distribution line will be buried in this location. Freeborn Wind continues to talk with adjacent landowners and Freeborn County and may propose to change the design and alignment if a voluntary easement is obtained or to meet Freeborn County requirements.<sup>140</sup> When the proposed line is parallel to a roadway, Freeborn Wind does not intend to locate structures within road ROW, and poles will be placed within the private ROW adjacent to the roadway ROW.<sup>141</sup>

## **IX. Project Schedule**

74. In the Application, the anticipated construction start date was May 2020 with commercial operations of the Freeborn Wind Farm and transmission line commencing in December 2020.<sup>142</sup>

75. Xcel Energy has advised that it intends to advance the construction timetable and commence civil construction of the transmission line in the early fall of 2019, with construction completion in late 2019, and commercial operations of the Freeborn Wind Farm still commencing in the fourth quarter of 2020. The commercial operations date will be dependent on several factors including weather, permitting, and other development activities. This construction schedule applies to the Orange Route or the Purple Parallel Route. A different schedule would apply to other route alternatives.<sup>143</sup>

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<sup>138</sup> *Id.*

<sup>139</sup> EA at 15.

<sup>140</sup> Application at 17.

<sup>141</sup> *Id.*

<sup>142</sup> *Id.* at 9.

<sup>143</sup> Litchfield Direct at 4.

## X. Project Costs

76. Total Project costs are estimated to be approximately \$3.8-8.05 million, depending on which route option is approved and a variety of other factors, including timing of construction, cost of materials, and labor.<sup>144</sup> Total costs are summarized below in Table 1:<sup>145</sup>

**Table 1: Estimated Project Costs**

Item(s)	Teal	Orange	Purple Overbuild*	Purple Parallel*	Gold Overbuild	Gold Parallel
Land acquisition and permitting	\$400,000	\$400,000	\$450,000	\$450,000	\$550,000	\$550,000
Design, procurement, and construction	\$3,000,000	\$3,000,000	\$3,500,000	\$3,000,000	\$7,100,000	\$3,200,000
Post-construction close-out and permit compliance	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000
<b>Total</b>	<b>\$3,800,000</b>	<b>\$3,800,000</b>	<b>\$4,350,000</b>	<b>\$3,850,000</b>	<b>\$8,050,000</b>	<b>\$4,150,000</b>

\* Total includes the cost to construct the entire HVTL, not just the route segment.

77. Operating and maintenance costs after construction of the transmission line will be nominal for several years because the line will be new and minimal initial vegetation management is required. The anticipated annual operating and maintenance costs for the 161 kV transmission line is approximately \$1,500 per mile. The principal operating and maintenance costs include inspections which are typically ground-based and occasionally done by aerial inspections, generally on a yearly basis.<sup>146</sup>

## XI. Permittee

78. The permittee for the Project is Freeborn Wind Energy LLC. Freeborn Wind is currently owned by Invenergy, LLC. Should the Commission issue a route permit for the project, Freeborn Wind will be transferred from Invenergy to Xcel Energy.<sup>147</sup>

## XII. Route Permit Factors

79. The PPSA, Minn. Stat. ch. 216E (2016), 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.”<sup>148</sup>

<sup>144</sup> EA at 22 and Application at 9.

<sup>145</sup> EA at 22.

<sup>146</sup> Application at 9.

<sup>147</sup> *Id.* at 5, 6.

<sup>148</sup> Minn. Stat. § 216E.03, subd. 7.

80. Under the PPSA, the Commission and the Administrative Law Judge must be guided by the following responsibilities, procedures, and considerations:

- (1) evaluation of research and investigations relating to the effects on land, water, and air resources of large electric power generating plants and high-voltage transmission lines and the effects of water and air discharges and electric and magnetic fields resulting from such facilities on public health and welfare, vegetation, animals, materials, and aesthetic values, including baseline studies, predictive modeling, and evaluation of new or improved methods for minimizing adverse impacts of water and air discharges and other matters pertaining to the effects of power plants on the water and air environment;
- (2) environmental evaluation of sites and routes proposed for future development and expansion and their relationship to the land, water, air, and human resources of the state;
- (3) evaluation of the effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental effects;
- (4) evaluation of the potential for beneficial uses of waste energy from proposed large electric power generating plants;
- (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.

81. In addition, Minn. Stat. § 216E.03, subd. 7(e), provides that the Commission “must make specific findings that it has considered locating a route for a high-voltage transmission line on an existing high-voltage transmission route and the use of parallel existing highway right-of-way and, to the extent those are not used for the route, the [C]ommission must state the reasons.”<sup>149</sup>

82. In addition to the PPSA, the Commission and the Administrative Law Judge are governed by Minn. R. 7850.4100, which mandates consideration of the following factors when determining whether to issue a route permit for a high voltage transmission line:

- 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;<sup>150</sup>
- J. use of existing transportation, pipeline, and electrical transmission systems or rights-of-way;

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<sup>149</sup> Minn. Stat. § 216E.03, subd. 7(e).

<sup>150</sup> This factor is not applicable because it applies only to power plant siting.

- 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.<sup>151</sup>

### **XIII. Application of Statutory and Rule Factors**

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

83. Minnesota law requires consideration of the Project's effects on human settlement, including displacement of residences and businesses; noise created during construction and by operation of the Project; and impacts to aesthetics, cultural values, recreation, and public services.<sup>152</sup>

##### 1. Displacement

84. No displacement of homes or buildings along any routing option will occur as a result of the Project. No residences are within the ROW of any routing option.<sup>153</sup>

##### 2. Land Use and Zoning

85. Under Minn. Stat. § 216E.10, subd. 1, a route permit from the Commission preempts all zoning, building, and land use rules, regulations, and ordinances promulgated by regional, county, and local governments.<sup>154</sup>

86. All routing options are located within Freeborn County's Agricultural District. The Teal, Orange, and Gold routing options intersect the Floodway and Flood Fringe Districts.<sup>155</sup> HVTLS are not precluded in any of these districts.<sup>156</sup>

87. The Gold Route would have the most impact on non-participating landowners because it would require placing the Project on non-participants' land. Impacts to nonparticipating landowners along the Gold routing options are unavoidable, and will be long-term and significant.<sup>157</sup>

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<sup>151</sup> Minn. R. 7850.4100.

<sup>152</sup> See Minn. Stat. § 216E.03, Subd. 7(b); Minn. R. 7850.4100(A).

<sup>153</sup> EA at 27, 102.

<sup>154</sup> Minn. Stat. § 216E.10, subd. 1; EA at 34.

<sup>155</sup> EA at 35.

<sup>156</sup> *Id.*

<sup>157</sup> See *id.* at 34, 36.

88. The Purple Overbuild Route would also require constructing the Project on nonparticipants' land.<sup>158</sup>

89. The Orange and Purple Parallel routes have the least impact on non-participating landowners. Freeborn Wind has, through voluntary agreements, obtained the rights necessary to construct the Project along the Teal, Orange, and Purple Parallel routes on participants' land except for a road crossing associated with 830 Avenue.<sup>159</sup> Freeborn Wind is seeking a utility permit from Freeborn County for this road crossing to keep the transmission line entirely within participating landowner property or public ROW.<sup>160</sup>

### 3. Noise

90. The MPCA has established standards for the regulation of noise levels.<sup>161</sup> The most restrictive Noise Area Classification (NAC) is for residences at 60 A-weighted decibels (dBA) L<sub>50-one hour</sub> and 65 dBA L<sub>10-one hour</sub> during the daytime and 50 dBA L<sub>50-one hour</sub> and 55 dBA L<sub>10-one hour</sub> during the nighttime.<sup>162</sup>

91. The Project is in a rural area. Ambient noise levels in these locations are generally between 30 and 40 dBA during daytime hours.<sup>163</sup>

92. Freeborn Wind predicted operational noise levels along the edges of the transmission line ROW, as well as at the residences located near the ROW. All measurements along all routing options were compliant with the Minnesota Noise Standards.<sup>164</sup>

93. During construction of the Project, intermittent noise from construction vehicles and equipment will occur in the Project area specific to the particular construction activity.<sup>165</sup> Construction activities for the Project will generate noise similar to agriculture land use activities such as farm equipment and vehicles.<sup>166</sup>

94. At the public hearing, DOC-EERA staff provided a technical correction to the EA that stated that construction noise might exceed state noise standards.<sup>167</sup> Should any such exceedance of noise standards occur, it would be short term and confined to

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<sup>158</sup> Freeborn Wind Reply Comments at 2.

<sup>159</sup> See Litchfield Direct at 5 and Pub. Hrg. Tr. at 13 (Litchfield).

<sup>160</sup> See Freeborn Wind Reply Comments at 8.

<sup>161</sup> See Minn. R. Ch. 7030.

<sup>162</sup> Minn. R. 7030.0040, subp. 2.

<sup>163</sup> EA at 37.

<sup>164</sup> Application at 36; Freeborn Wind Reply Comments, Attachment D (May 2, 2018 Hankard Environmental Letter).

<sup>165</sup> Application at 36.

<sup>166</sup> *Id.*

<sup>167</sup> EA at 37; Pub. Hrg. Tr. at 12 (Levi).

daytime hours.<sup>168</sup> Due to proximity with residences, the likelihood of an exceedance is greatest along the Gold routing options.<sup>169</sup>

95. Freeborn Wind committed to take steps to comply with all applicable Minnesota noise standards.<sup>170</sup> For example, noise from intermittent and infrequent construction activities will be mitigated by the distance of the activity from a receptor (e.g., construction activities will not be near residences, farmsteads, etc.), using sound control devices on vehicles and equipment, conducting construction activities during daylight hours as much as possible during normal business hours, and not running vehicles and equipment when not needed.<sup>171</sup>

#### 4. Aesthetics

96. The existing environment is rural open space. Agricultural row crop fields and wooded farmsteads dominate the project area. The Shell Rock River in the northwest provides a contrasting riparian landscape. Built features within one mile of the different routing alternatives include numerous residences and outbuildings, agricultural buildings, an auto salvage yard, a drainage ditch, US 65, other paved and gravel roads, electric transmission and distribution lines, the Glenworth Substation, and a communications tower.<sup>172</sup>

97. The Project is consistent with the existing utility infrastructure in the area. There are electric transmission and distribution lines in the Project area as well as the Glenworth Substation and a tall communication tower.<sup>173</sup> The 234-foot communications tower dominates the viewshed.<sup>174</sup> All routing options follow existing infrastructure for a portion of their length.<sup>175</sup> Therefore, while the Project will introduce new built features—structures and conductors—on the landscape, the Project is generally consistent with the existing utilities on the landscape.<sup>176</sup>

98. Aesthetic impacts along the Teal, Orange, and Gold routes are anticipated to be moderate.<sup>177</sup> Impacts along the Purple routing options are anticipated to be minimal.<sup>178</sup>

99. Aesthetic impacts are associated with residents viewing the HVTL from their homes, residents traveling in the project area, recreationalists along the Shell Rock River,

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<sup>168</sup> EA at 37.

<sup>169</sup> See *id.* at 29 (outlining the number of residences within certain distances of the different routing options); EA at 37 (stating a 90 dBA at 50 feet is perceived as a 72 dBA sound at 400 feet); *id.* at 37 (a L<sub>10</sub> noise standard of 65 dBA exists at NAC 1 receptors).

<sup>170</sup> Freeborn Reply Comments at 17.

<sup>171</sup> Application at 36.

<sup>172</sup> EA at 26. According to aeronautical charts the tower is 234 feet tall.

<sup>173</sup> *Id.*

<sup>174</sup> EA at 28.

<sup>175</sup> *Id.*

<sup>176</sup> See *id.* at 28; Application at 37.

<sup>177</sup> EA at 28.

<sup>178</sup> Pub. Hrg. Tr. at 11 (Levi).

and nonresidents traveling through the Project Area. Residents and recreationalists generally have a higher sensitivity to potential aesthetic impacts than temporary observers.<sup>179</sup>

100. As illustrated on Table 2 below, the record evidence demonstrates that the Gold Route will have the greatest impact on aesthetics at residences. The Gold routing options are the only options with residences located within the route width. In addition, the Gold routing options impact the greatest number of residences located within 400 and 800 feet of the alignment. In contrast, no residences are located within the route width of the Teal, Orange, or Purple routes.<sup>180</sup>

**Table 2: Distance of Residences from Anticipated Alignment**

<b>Route or Route Segment</b>	<b>Within the Route Width</b>	<b>400 feet</b>	<b>800 feet</b>	<b>Local Vicinity (1,600 feet)</b>
Teal	0	2	6	13
Orange	0	2	6	13
Gold Overbuild	3	5	7	10
Gold Parallel	3	4	7	10
Purple (both)	0	0	3	4

101. The four residences located along the Purple Route that are within 1,600 feet of the proposed Freeborn Wind Farm and the Transmission Line, as discussed in the cumulative impacts section, are participants in the Project.<sup>181</sup> These landowners will be compensated under their respective easement agreements.<sup>182</sup> These homes have some form of shelter belt of trees around their properties that will minimize or eliminate the view of turbines and/or the Project.<sup>183</sup>

102. An existing distribution line follows the north side of 130th Street. The proposed centerline of the Teal and Orange routes follows the south side of 130th at this location.<sup>184</sup> "Routing power lines on both sides of 130th Street . . . is avoidable with prudent routing. Crossing 130th [Street] near the communications tower and following the north side of 130th Street would require burying or underbuilding the existing distribution line, but would eliminate power lines on both sides of the road and the long, extended crossing currently proposed."<sup>185</sup>

103. Crossing the Shell Rock River is unavoidable. The Orange and Teal routes best minimize impacts at that crossing. The Teal and Orange routes cross the Shell Rock River adjacent to US 65, at a location previously impacted by highway and railway bridges and another transmission line crossing. Structures will only be slightly taller than the

<sup>179</sup> EA at 28.

<sup>180</sup> See EA at 29 (Table 5). The EA defines "local vicinity" as 1,600 feet. EA at 24.

<sup>181</sup> See Freeborn Wind Reply Comments at 18-19; EA at 89.

<sup>182</sup> Litchfield Direct at 7; Freeborn Wind Reply Comments at 18-19.

<sup>183</sup> See Freeborn Wind Reply Comments at 18-19.

<sup>184</sup> EA at 30.

<sup>185</sup> *Id.*

existing ITC Line.<sup>186</sup> In contrast, the Gold Parallel Route option crosses adjacent to the existing Dairyland Line, which extends the existing transmission line crossing horizontally and may draw more attention to the crossing. While the Gold Overbuild option would not introduce a new feature once constructed, the new structure would be larger and taller vertically than the existing Dairyland Line. Additionally, crossing the Shell Rock River along the Gold Route would require additional clearances achieved through either increasing the ROW width or decreasing the span length, and larger overbuild structures.<sup>187</sup>

## 5. Cultural Values

104. The Project is not anticipated to impact or alter the work and leisure pursuits of residents in the Project area or land use in such a way as to impact the underlying culture of the area.<sup>188</sup>

## 6. Recreation

105. The Project is located in a relatively rural area. The main land use within the Project area is agriculture (field crops and pastures) and tourist attractions are not associated with the predominant agricultural use of the land.<sup>189</sup> Outdoor recreational opportunities in the Project area include hiking, biking, boating, fishing, camping, swimming, cross country skiing, snowmobiling, hunting, and nature viewing.<sup>190</sup>

106. There are no wildlife management areas (WMAs), Aquatic Management Areas (AMAs), Sites of Biodiversity Significance, or Scientific and Natural Areas (SNAs); or United States Fish & Wildlife Service (USFWS) Waterfowl Production Areas (WPAs) within the route width of any routing option.<sup>191</sup>

107. The Cedar River State Water Trail is located approximately 9.3 miles east of the Project.<sup>192</sup> Due to this distance, no impacts to the Cedar River State Water Trail are anticipated.<sup>193</sup>

108. There are two WMAs located within five miles of the Project. The Project is within 1,600 feet of the Shell Rock WMA; however, it is located on the opposite side of US 65 from the Project.<sup>194</sup> The Panicum WMA is located approximately 2.1 miles southwest of the Project.<sup>195</sup>

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<sup>186</sup> *Id.* at 28, 29.

<sup>187</sup> See EA at 20, 28, 29-30.

<sup>188</sup> EA at 32.

<sup>189</sup> Application at 44.

<sup>190</sup> EA at 41.

<sup>191</sup> *Id.* at 83.

<sup>192</sup> Application at 40.

<sup>193</sup> *Id.* at 41.

<sup>194</sup> EA at 41.

<sup>195</sup> Application at 39.

109. The Project intersects the Shell Rock River State Water Trail.<sup>196</sup> Temporary construction impacts would be limited to short-term closure of the water trail in this section while stringing of the HVTL between the two structures spanning the Shell Rock River occurs. The trail would be closed temporarily as a safety measure. Freeborn Wind has committed to coordinating with the DNR to schedule this work.<sup>197</sup> New built features (structures) will be introduced near, but not within, the Shell Rock River Water Trail; however, conductors will span the water trail.<sup>198</sup>

110. A designated snowmobile trail travels north-south between 830th and 840th Avenues. The trail intersects the ROW of the Teal and Orange routes prior to reaching the Purple or Gold route segments. A second snowmobile trail crosses US 65 at the existing Glenworth Substation, and skirts the extreme northwest portion of the common route width. Both snowmobile trails would be impacted equally regardless of which routing option is selected.<sup>199</sup> Poles will not be located within the snowmobile trail and therefore no impacts are anticipated.<sup>200</sup> Additionally, snowmobile trails cross or follow existing built features; therefore, the proposed HVTL is consistent with visitor expectations in this area.<sup>201</sup>

111. There are no other DNR classified lands, such as State forests, State parks, State trails, AMAs, or SNAs; federal parks, forests, or refuges; or county parks within the local vicinity of the Project.<sup>202</sup>

112. The record demonstrates that impacts to recreational resources will be minimal. New built features (structures) will be introduced near, but not within, the Shell Rock River Water Trail, the Shell Rock River WMA, and existing snowmobile trails. Conductors will span the water and snowmobile trails, but not the WMA. Visual and noise impacts may occur during construction, but the Project would not impede recreational activities, such as snowmobiling, canoeing, kayaking, or fishing once the transmission line is in service.<sup>203</sup>

113. The Teal and Orange routes would cross the Shell Rock River adjacent to US 65. The presence of the highway and railway bridges adjacent to the Teal and Orange routes would likely focus recreationalists' attention on passing traffic or trains as opposed to the HVTL. The river crossing is unavoidable, but the overall impact intensity level is anticipated to be minimal.<sup>204</sup>

114. The Gold routing options would cross the Shell Rock River adjacent to the existing Dairyland Line. The river crossing is unavoidable and cannot be minimized as

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<sup>196</sup> EA at 41.

<sup>197</sup> Application at 40.

<sup>198</sup> EA at 41.

<sup>199</sup> EA at 42.

<sup>200</sup> See EA at 41; Application at 40.

<sup>201</sup> EA at 42.

<sup>202</sup> EA at 41.

<sup>203</sup> *Id.*

<sup>204</sup> EA at 42.

well as it could be for the Teal and Orange routing options. The overall impact intensity level is anticipated to be moderate.<sup>205</sup>

115. As discussed above, Shell Rock River crossing is unavoidable. However, the crossing along the Orange and Teal routes best minimize impacts.<sup>206</sup>

## 7. Socioeconomics

116. Impacts to socioeconomics are anticipated to be minimal and positive for all routing options.<sup>207</sup> The Project will not disrupt local communities or businesses and does not disproportionately impact low-income or minority populations. Adverse impacts are not anticipated.<sup>208</sup>

117. The Project will result in both short- and long-term positive socioeconomic impacts to the local community. There will be short-term positive impacts to communities near the Project area as a result of construction activity and an influx of contractor employees during construction of the various projects. Positive economic impacts include increased expenditures; for example, the use of the hotels, restaurants, and other services by the various workers at local businesses during construction.<sup>209</sup> Construction of the Project will generate up to 30 temporary jobs at any given time over an approximately 6-month period.<sup>210</sup> It is unknown if these will be local jobs.<sup>211</sup> Utility personnel or contractors will be used for all construction activities.<sup>212</sup> Additionally, materials such as utility poles and concrete may be purchased from local vendors depending on availability, and terms and conditions.<sup>213</sup> Long-term beneficial impacts from the Project include increased tax revenue from the Wind Farm that would be enabled by the Project.<sup>214</sup>

## 8. Property Values

118. While the research indicates that property value impacts vary, the majority conclude that HVTLS have “no significant impact or a slight negative impact on residential properties.”<sup>215</sup>

119. The EA provides a thorough discussion of peer-reviewed literature that demonstrates that any impacts to property values are anticipated to be minimal.<sup>216</sup> The use of multiple regression statistical analysis is generally accepted as the current

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<sup>205</sup> *Id.*

<sup>206</sup> *See, e.g.,* EA at 29, 41, 42.

<sup>207</sup> EA at 43.

<sup>208</sup> *Id.* at 43, 44.

<sup>209</sup> *Id.* at 43; Application at 38-39.

<sup>210</sup> EA at 43; Application at 38.

<sup>211</sup> EA at 43.

<sup>212</sup> Application at 38.

<sup>213</sup> EA at 43; Application at 38.

<sup>214</sup> Application at 38-39.

<sup>215</sup> EA at 38.

<sup>216</sup> *See id.* at 38-40.

professional and academic standard for evaluating potential property value impacts, as it reflects the actual behavior of property buyers and sellers in terms of recorded sales prices, while controlling for other factors. This type of analysis allows researchers to identify “revealed preferences” or what people actually did, in contrast to survey research, which identifies what people say they would do. This type of research requires large data sets; therefore, it is less subjective and more reliable than paired sales studies. The results are often reported as an average change over a number of properties; however, the effect to individual properties can vary widely.<sup>217</sup>

120. The results of these studies can be summarized, generally, as follows:

- Over time, there is a consistent pattern with about half of the studies finding negative property value effects and half finding none.
- When effects have been found, they tend to be small; almost always less than 10 percent and usually in the range of three percent to six percent.
- Where effects are found, they decay rapidly as distance to the lines increases and usually disappear at about 200 feet to 300 feet.
- Two studies investigating the behavior of the effect over time find that, where there are effects, they tended to dissipate over time.<sup>218</sup>

121. Potential impacts to property values within the local vicinity could occur; however, specific changes to a property’s value are difficult to determine. On whole, impacts are anticipated to be negative but minimal. However, impacts to specific properties within the route width could be moderate.<sup>219</sup>

122. There is no evidence in the record that shows a property value guarantee is warranted for the Project.

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

123. Minnesota routing factors require consideration of the Project’s potential effect on health and safety.<sup>220</sup>

124. There is no indication that any significant impact on human health and safety will arise from the Project.<sup>221</sup>

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<sup>217</sup> EA at 39-40.

<sup>218</sup> *Id.* at 40.

<sup>219</sup> *Id.* at 38.

<sup>220</sup> Minn. Stat. § 216E.03, Subd. 7(b)(1); Minn. R. 7850.4100(B).

<sup>221</sup> See, e.g., EA at 44-49.

## 1. Construction and Operation of Facilities

125. The Project will be designed in compliance with local, state, NESC, and Xcel Energy standards regarding clearance to ground, clearance to crossing utilities, clearance to buildings, strength of materials, and ROW widths.<sup>222</sup>

126. Construction crews and/or contract crews will comply with local, state, NESC, and Xcel Energy standards regarding installation of facilities and standard construction practices. Established Xcel Energy and industry safety procedures will be followed during and after installation of the transmission lines. This will include clear signage during all construction activities.<sup>223</sup>

127. The proposed transmission lines will be equipped with protective devices to safeguard the public from the transmission lines if an accident occurs, such as a structure or conductor falling to the ground. The protective devices include breakers and relays located where the line connects to the substation(s). The substations are fenced and contain a locking gate for access. The protective equipment will de-energize the line should such an event occur. Proper signage will be posted warning the public of the risk of coming into contact with energized equipment.<sup>224</sup>

128. The record demonstrates that construction and operation of the Project along any of the routing options will not impact public safety.

## 2. Electric and Magnetic Fields (EMFs)

129. EMFs are invisible forces that result from the presence of electricity. EMFs occur naturally and are caused by weather or the geomagnetic field. EMFs are also caused by all electrical devices and are found wherever people use electricity.<sup>225</sup>

130. Electric field strength is measured in kilovolts per meter (kV/m). Magnetic field strength is measured in milliGauss (mG). The strength of electric and magnetic fields decreases rapidly as the distance from the source increases.<sup>226</sup>

131. There are no federal standards for transmission line electric fields.<sup>227</sup> The Commission has imposed a maximum electric field limit of 8 kV/m measured at one meter above the ground at the edge of the ROW. It has not adopted a standard for magnetic fields.<sup>228</sup>

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<sup>222</sup> Application at 32.

<sup>223</sup> *Id.* at 32-33.

<sup>224</sup> Application at 33.

<sup>225</sup> EA at 44.

<sup>226</sup> *Id.*

<sup>227</sup> *Id.* at 46.

<sup>228</sup> *Id.* at 47.

132. The calculated maximum electric field for the Project directly underneath the transmission line is less than the maximum limit of 8 kV/m prescribed by the Commission.<sup>229</sup>

133. The calculated maximum electric field strength directly underneath the proposed transmission line is 3.32 kV/m. This field strength is below the 5.0 kV/m interaction level for modern, bipolar pacemakers, and although it has the potential to impact older, unipolar pacemakers directly underneath the HVTL, moving away from the HVTL centerline would return the pacemaker to normal operation and the regular presence of implantable medical devices is not expected. Additionally, there are no sensitive receptors such as hospitals or nursing homes located within the route width of any routing option; however, three residences are within the route width of the Gold routing options. Therefore, impacts to implantable medical devices and persons using these devices are not expected to occur.<sup>230</sup>

134. Magnetic fields may interfere with implantable electromechanical medical devices, such as pacemakers, defibrillators, neurostimulators, and insulin pumps.<sup>231</sup> However, interference from magnetic fields in pacemakers is not observed until 2,000 mG—a field strength greater than that associated with transmission lines.<sup>232</sup>

135. The record evidence demonstrates that no cause and effect relationship has been shown between EMF and adverse health effects.<sup>233</sup> No adverse impacts due to EMF are anticipated as a result of the Project.<sup>234</sup>

### 3. Stray Voltage

136. Stray voltage is “voltage caused by an electric current in the earth, or in groundwater, resulting from the grounding of electrical equipment or an electrical distribution system.”<sup>235</sup> Stray voltage encompasses two phenomena: neutral-to-earth voltage (NEV) and induced voltage. NEV is a type of stray voltage that can occur where distribution lines enter structures.<sup>236</sup>

137. The record demonstrates that no NEV voltage impacts are anticipated as a result of the Project. Transmission lines do not create NEV stray voltage as they do not directly connect to businesses, residences, or farms. Additionally, the proposed HVTL does not interconnect to businesses or residences within any routing option, and does not change local electrical service.<sup>237</sup>

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<sup>229</sup> See *id.* at 47-48.

<sup>230</sup> EA at 49.

<sup>231</sup> *Id.* at 48.

<sup>232</sup> *Id.* at 48-49.

<sup>233</sup> *Id.* at 45-46.

<sup>234</sup> See *id.* at 45-46, 47.

<sup>235</sup> *Id.* at 50.

<sup>236</sup> *Id.*

<sup>237</sup> *Id.*

138. Impacts due to induced voltage are not anticipated to occur, and any potential impacts from stray voltage are avoided or minimized by Commission permit requirements.<sup>238</sup> The Commission requires that transmission lines be constructed and operated to meet the standards established by the NESC as well as the Commission's electric field limit of 8 kV/m.<sup>239</sup>

### **C. Public Service and Infrastructure**

139. Public services supporting rural residences and farmsteads within the Project area include transportation/roadways, electric, and telephone/telecommunications. The largest city proximal to the Project area is the City of Albert Lea, located approximately five miles west of the northwestern corner of the Project. The city has its own police and fire departments. Three additional cities are located near the Project area. Other cities with similar services provided by Freeborn County within five miles of the Project area include Glenville, Hayward, and Myrtle.<sup>240</sup>

140. The Project is expected to have minimal effect on existing services and infrastructure of the area. Construction and operation of the Project will be in accordance with associated federal, state, and local permits and laws, as well as industry construction and operation standards and best practices. The Project is designed to have manageable temporary effects on the existing infrastructure during Project construction and operation. Only minor impacts are anticipated.<sup>241</sup>

#### **1. Emergency Services**

141. Emergency services in the Project area are provided by multiple entities—fire service by Glenville and Myrtle Fire Departments; ambulance service by Gold Cross Ambulance; and law enforcement by Freeborn County Sheriff.<sup>242</sup>

142. The overall impact to emergency services for all routing options will be negligible. Impacts to emergency communications are not anticipated and impacts to emergency response, if they occur, are anticipated to be minimal.<sup>243</sup> For example, any required temporary lane closures would be coordinated and closure protocols established with the local jurisdictions, and would provide for safe access of police, fire, and other rescue vehicles through alternate routes.<sup>244</sup>

143. Impacts to the Allied Radio Matrix for Emergency (ARMER) System are not anticipated. The Statewide Maintenance and Operations Manager with MnDOT's Office

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<sup>238</sup> *Id.* at 51; see, e.g., Generic Route Permit Template at §§ 5.4.1, 5.4.2, 5.5.1.

<sup>239</sup> EA at 51.

<sup>240</sup> Application at 41.

<sup>241</sup> See EA at 52-55; Application at 41.

<sup>242</sup> EA at 52.

<sup>243</sup> *Id.*

<sup>244</sup> Application at 41.

of Statewide Radio Communications reviewed the scoping summary and concluded that “MnDOT has no concerns with the new transmission line affecting the ARMER system.”<sup>245</sup>

## 2. Utilities

144. Impacts to utilities for all routing options will be minimal. Impacts are anticipated to be limited to electrical and telephone outages.<sup>246</sup>

145. The Project area is not serviced by city water supply or sanitary sewer; these services are provided by individual wells and septic systems. The record evidence demonstrates that impacts to wells and septic systems will not occur.<sup>247</sup>

146. Freeborn-Mower Cooperative Services provides electrical service in the Project area and distribution lines are located throughout. Several planned outages on local distribution lines would be necessary to construct the HVTL. Outages on existing transmission lines would be necessary to construct the Gold and Purple overbuild options.<sup>248</sup> However, outages will not be necessary at perpendicular crossings because Freeborn Wind will use temporary protective guards or clearance structures. Clearances associated with existing power lines will be code compliant. No long-term impacts are anticipated.<sup>249</sup>

147. No natural gas pipelines are located in the Project area. Therefore, impacts will not occur.<sup>250</sup>

148. Fiber optic and telephone cables exist in the Project area. Fiber optic cables are outside the anticipated ROW of all routing options. Telephone outages, if they occur, would be localized and long-term impacts are not anticipated.<sup>251</sup>

## 3. Transportation

149. Impacts to roads and highways are expected to be minimal along all routing options.<sup>252</sup>

150. Freeborn Wind has committed to develop structure placement and construction procedures in consultation with state, county, and local roadway authorities to meet requirements for clear zones and roadside obstructions.<sup>253</sup>

151. During construction short-term localized traffic delays and re-routes might occur. Delays will likely be associated with material delivery and worker transportation.

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<sup>245</sup> EA at 34.

<sup>246</sup> *Id.* at 54.

<sup>247</sup> *Id.* at 53, 54.

<sup>248</sup> EA at 54-55.

<sup>249</sup> *Id.* at 55.

<sup>250</sup> *Id.*

<sup>251</sup> *See id.* at 54-55.

<sup>252</sup> *Id.* at 52.

<sup>253</sup> *Id.* at 53.

Road crossings might also necessitate short-term impacts to traffic when stringing conductors. Freeborn Wind does not intend to locate structures within road ROW, though HVTL ROW might overlap with road ROW. Should this occur, it is unlikely to affect the safety of the traveling public or road/highway operations.<sup>254</sup>

152. Prior to construction, Freeborn Wind will coordinate with the applicable local and state road jurisdictional authorities to obtain the necessary permits for road access and public road ROW use.<sup>255</sup> For example, Freeborn Wind is seeking a utility permit from Freeborn County for the crossing of County Road 108/830th Avenue at one-quarter mile south of 120th Street, where Freeborn Wind has proposed a narrowed ROW in order to maintain the ROW for the Project within land owned by participating landowners and within public road ROW.<sup>256</sup> Freeborn Wind has had multiple constructive discussions with Freeborn County Staff and Shell Rock Township officials, and is confident a thorough Three Part Agreement will be reached that will address all of these issues.<sup>257</sup>

153. The Federal Aviation Administration (FAA) and MnDOT have each established development guidelines on the proximity of tall structures to public use airports. The FAA has also developed guidelines for the proximity of structures to Very-High-Frequency Omni-Directional Range navigation systems. A structure is considered to pose an adverse effect upon visual flight rules air navigation if its height is greater than 500 feet tall and within two miles of any regularly used visual flight rules route.<sup>258</sup>

154. The Project's transmission structures will be less than 100 feet tall. Additionally, the closest airports to the Project are the Albert Lea Municipal Airport and the Austin Municipal Airport in Minnesota, and the Northwood Municipal Airport (5D2) in Iowa. These airports are approximately 9, 15.5, and 4 miles from the Project.<sup>259</sup> Accordingly, construction and operation of the Project will not impact safe operation and use of the airport and impacts to airports or airport operations are not expected to occur.<sup>260</sup>

#### 4. Electronic Interference

155. Power lines have potential to interfere with the normal operation of electronic devices such as radio and television. Impacts from electronic interference are anticipated to be minimal for all routing options.<sup>261</sup>

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<sup>254</sup> *Id.*

<sup>255</sup> See *id.* at 52-53; Comment by MnDOT (Jan. 3, 2018) (eDocket No. 20181-138602-01); Litchfield Direct at 8; Application at 62.

<sup>256</sup> Application at 17.

<sup>257</sup> See Freeborn Wind Reply Comments at 8.

<sup>258</sup> Application at 42. Freeborn Wind notes that it has received determinations of no hazard from the FAA for turbine locations in the Freeborn Wind Farm. Freeborn Wind Reply Comments at 6 and Attachment A (Exemplar FAA Determination of No Hazard for the Freeborn Wind Farm turbines).

<sup>259</sup> EA at 26.

<sup>260</sup> See *id.* at 26.

<sup>261</sup> *Id.* at 32.

156. Potential impacts to radio frequencies might occur in the AM frequency range directly underneath the conductors or in close proximity to them within the ROW. Interference is not expected in the FM frequency range.<sup>262</sup> Additionally, impacts to radio frequencies can be avoided by increasing the distance between the receiver and the HVTL or by increasing signal strength through antenna modifications.<sup>263</sup> Additionally, if interference does occur, Freeborn Wind will resolve the interference as it committed to do in the Application and as it will be required to do in accordance with the Route Permit.<sup>264</sup>

157. No residences are within the route width of the Teal, Orange, or Purple routing options; therefore, impacts to television signals along these route options are not anticipated. In contrast, three residences are within the route width of the Gold Route, although impacts are not anticipated. Use of different antennas or satellite dishes, or adjusting the locations of antennas will typically resolve any impacts to television signals.<sup>265</sup> If interference does occur, Freeborn Wind will resolve the interference as it committed to do in the Application and as it will be required to do in accordance with the Route Permit.<sup>266</sup>

158. Impacts to wireless internet and cellular phone signals are not anticipated to occur for any routing option.<sup>267</sup>

159. Impacts are anticipated to be limited to temporary electrical and telephone outages. Electrical outages along the Teal and Orange routes will be short term and localized; outages necessary for the Gold and Purple overbuild options might extend beyond the Project area. Telephone outages, if they occur, would be localized. Potential impacts can be minimized.<sup>268</sup> In situations where an HVTL does cause electronic interference, Commission route permits require permittees to take actions which are feasible to restore or provide reception equivalent to reception levels before construction of the HVTL.<sup>269</sup>

#### **D. Effects on Land-Based Economies and Direct and Indirect Economic Impacts**

160. Minnesota's HVTL routing factors require consideration of the Project's impacts to land-based economies, specifically agriculture, forestry, tourism, and mining.<sup>270</sup>

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<sup>262</sup> *Id.* at 33.

<sup>263</sup> *Id.* at 34.

<sup>264</sup> *Id.*; Application at 37; Generic Route Permit Template at Condition 5.4.3.

<sup>265</sup> EA at 34.

<sup>266</sup> Application at 37; Generic Route Permit Template at Condition 5.4.3; EA at 34.

<sup>267</sup> EA at 34.

<sup>268</sup> *Id.* at 54.

<sup>269</sup> *Id.* at 34; Generic Route Permit Template at § 5.4.3.

<sup>270</sup> Minn. Stat. § 216E.03, Subd. 7(b)(5); Minn. R. 7850.4100(C).

## 1. Agriculture

161. Land use within the Project area is primarily agricultural. Cultivated cropland constitutes the majority of land within each of the route widths of the different routing options.<sup>271</sup>

162. The permanent impacts to agricultural lands will be limited to the structure foundations and is estimated to be approximately 0.25 acres.<sup>272</sup>

163. The record demonstrates that the Project will not significantly impact agricultural operations. Agricultural land within a transmission line ROW is generally available for agricultural production and use for pasture land.<sup>273</sup> Further, participants are compensated for the placement of the Project on an ongoing basis, and Freeborn Wind will compensate landowners for any damage to crops, soil compaction, fences, and drain tiles due to construction of the Project pursuant to the terms of the easement agreements.<sup>274</sup> Freeborn Wind has stated that it will place structures along field edges so as to minimize impacts to farming operations.<sup>275</sup> Additionally, to minimize loss of farmland and to ensure reasonable access to the land near the poles, Freeborn Wind stated that it intends to place the poles outside of the public roadway ROWs and as close as practicable to them.<sup>276</sup> Freeborn Wind also stated that, if possible, it will attempt to construct the transmission line before crops are planted or following harvest.<sup>277</sup> Additionally, the Commission requires permittees to compensate landowners for crop losses and damaged drain tile.<sup>278</sup>

164. Impacts to aerial spraying are anticipated to be minimal; the majority of all routing options follow existing ROW or field lines.<sup>279</sup> The Teal and Orange routes follow the existing ITC Line at a distance for a portion of their length. This would result in an approximately 257-foot gap between the HVTL and the existing ITC Line, which may impact aerial spraying in this small section of the transmission line.<sup>280</sup>

165. Construction-related impacts along the Purple and Gold overbuild options would be similar to that of the Teal and Orange routes because the height and size of the structures could impact aerial spraying.<sup>281</sup>

166. Overall impacts to agriculture are anticipated to be minimal along all routing options. While the Purple and Gold overbuild options would reduce long-term impacts to farmland and aerial spraying due to co-location within existing transmission line ROW,

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<sup>271</sup> EA at 56.

<sup>272</sup> Application at 44.

<sup>273</sup> EA at 36.

<sup>274</sup> *Id.* at 58; Litchfield Direct at 7.

<sup>275</sup> Application at 44.

<sup>276</sup> *Id.*

<sup>277</sup> *Id.*

<sup>278</sup> Generic Route Permit Template at § 5.3.19.

<sup>279</sup> EA at 57.

<sup>280</sup> *Id.* at 57-58.

<sup>281</sup> *Id.* at 58.

the incremental minimal benefit to agriculture is outweighed by the burden placed on nonparticipants' land.<sup>282</sup> Further, participating landowners will be compensated for the placement of the line on an ongoing basis, and the easement agreements also provide for compensation for crop losses during construction.<sup>283</sup>

167. The presence of the Project will not significantly impact agricultural land use.<sup>284</sup>

## 2. Forestry

168. There are no active forestry operations, including commercial timber harvest or woodlots, within the route width of any routing option.<sup>285</sup> There are no commercially harvested forested areas or woodlots within 20 miles of the Project.<sup>286</sup> Therefore, impacts to known forestry operations and resources will not occur.

## 3. Mining

169. Mining operations do not occur within the route width of any routing option.<sup>287</sup> Therefore, no impacts to mining will occur.

## 4. Tourism

170. The main land use within the Project area is agriculture (field crops and pastures) and tourist attractions are not associated with the predominant agricultural use of the land.<sup>288</sup> Tourist activities within Project area are primarily associated with the Shell Rock River State Water Trail and local snowmobile trails.<sup>289</sup>

171. Any potential effect on tourism due to construction of the Project is anticipated to be minor and temporary in nature. The Project will not preclude future tourist activities.<sup>290</sup>

172. Power lines can impact tourism if they affect visitor experiences at tourism sites, through aesthetic or noise impacts, or degrade the natural or manmade resources that provide tourist-type activities.<sup>291</sup>

173. As discussed above in the sections on recreation and aesthetics, the Orange Route best minimizes impacts to aesthetics and recreation, particularly along the Shell Rock River, while the Gold Route involves more significant impacts which cannot

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<sup>282</sup> See EA at 57-58; Litchfield Direct at 5; EA at 36.

<sup>283</sup> EA at 58-59; Litchfield Direct at 7.

<sup>284</sup> EA at 56-59.

<sup>285</sup> *Id.* at 27.

<sup>286</sup> Application at 44.

<sup>287</sup> EA at 27.

<sup>288</sup> Application at 44.

<sup>289</sup> EA at 59.

<sup>290</sup> *Id.*

<sup>291</sup> *Id.*

be minimized as well as along the Orange/Teal Route.<sup>292</sup> Further, as discussed in the noise section above, the Project will comply with the Minnesota Noise Standards.<sup>293</sup>

### **E. Effects on Archeological and Historic Resources**

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

175. To identify potential impacts to archaeological or historic resources, Freeborn Wind conducted a cultural resource literature review of the Teal Route's route width and a surrounding one-mile buffer. Cultural resource data from the Minnesota State Historic Preservation Office (SHPO) site files regarding documented archaeological sites, standing historic structures, and previously executed cultural resource surveys was used to identify site types that may be encountered and landforms or areas that have a higher potential for containing significant cultural resources. Collected data includes archaeological site files, architecture inventory files, and previous cultural resources studies and reports.<sup>294</sup>

176. The literature review revealed that no previously documented archaeological sites or inventoried architectural resources are located within the route width of the Teal Route, which encompasses the Orange Route as well. The literature review identified two previously reported architectural resources within the one-mile study area. The first property is the Glenville Creamery. The second property is the Glenville Methodist Episcopal Church. Both of these structures are located within the City of Glenville, which is approximately 0.9 miles northwest of the northern terminus of the Project.<sup>295</sup>

177. Freeborn Wind contacted the SHPO and the Office of the State Archaeologist (OSA) in March 2017 to initiate Project coordination. Freeborn Wind sent the SHPO and OSA a Project notice letter and request for comment on April 27, 2017.<sup>296</sup>

178. SHPO reviewed the Project and concluded that there are no properties listed in the National or State Registers of Historic Places and no known or suspected archaeological properties in the area that will be affected by the Project.<sup>297</sup>

179. Prior to construction, Freeborn Wind will conduct a Phase I archaeological resources inventory in cooperation with the SHPO to determine if archaeological sites exist and, if so, their boundaries.<sup>298</sup>

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<sup>292</sup> See *supra* pages 28-32.

<sup>293</sup> EA at 38; Freeborn Wind Reply Comments, Attachment D (May 2, 2018 Hankard Environmental Letter).

<sup>294</sup> Application at 45.

<sup>295</sup> EA at 60; Application at 45.

<sup>296</sup> Application at 45.

<sup>297</sup> EA at 60; Application at Appendix D.

<sup>298</sup> Application at 45; EA at 60.

180. The record demonstrates that no impacts to archeological and historic resources are anticipated for any routing option.<sup>299</sup>

## **F. Effects on Natural Environment**

181. Minnesota's HVTL routing factors require consideration of the effect on the natural environment, including effects on air and water quality resources and flora and fauna.<sup>300</sup>

### **1. Air Quality**

182. No significant impacts to air quality are anticipated from the Project. The overall impact intensity level during construction and operation is anticipated to be minimal for all routing options.<sup>301</sup>

183. Minnesota has an ozone standard of 70 parts per billion (ppb) measured over a daily eight-hour average of the three-year average of the annual fourth-highest daily maximum. The national ozone standard is 0.070 ppm over a 3-year average of the annual fourth-highest daily maximum eight-hour average concentration. Ozone and nitrous oxide emissions from the Project are anticipated to be well below these limits.<sup>302</sup>

184. Impacts due to construction dust and equipment exhaust are anticipated to be temporary and can be minimized.<sup>303</sup> Freeborn Wind will use Best Management Practices (BMPs) to minimize fugitive dust emissions during construction, including controlling soil tracking into roadways and wetting road surfaces. Additionally, Freeborn Wind will not run vehicles and equipment unnecessarily, reducing carbon emissions. Additional mitigation might include planting a seasonal cover crop in agricultural row crop fields to stabilize soils, thereby reducing potential wind erosion.<sup>304</sup>

### **2. Water Quality and Resources**

185. The Project is within the Shell Rock River watershed, which is part of the Cedar River Basin.<sup>305</sup>

186. The Shell Rock River, from Albert Lea Lake to Goose Creek, is listed on the MPCA Impaired Waters List.<sup>306</sup>

187. Impacts to surface waters are similar for all routing options, except that the Purple Route does not cross surface waters and the Gold Route crosses more public

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<sup>299</sup> EA at 60-61.

<sup>300</sup> Minn. Stat. §§ 216E.03, subd. 7(b)(1)-(2); Minn. R. 7850.4100(E).

<sup>301</sup> EA at 61.

<sup>302</sup> *Id.* at 62.

<sup>303</sup> *Id.* at 61.

<sup>304</sup> *Id.* at 62.

<sup>305</sup> *Id.* at 73.

<sup>306</sup> *Id.* at 74.

waters than any other route: the Shell Rock River and an unnamed stream.<sup>307</sup> More acres of open water are located within the Gold Route's route width than any other route option.<sup>308</sup> In contrast, the Teal and Orange routes cross only the Shell Rock River.<sup>309</sup>

188. The Project will not affect the area's water quality.<sup>310</sup> The record demonstrates that Freeborn Wind has minimized impacts to water resources. The Project design will incorporate spacing of structures to span the Shell Rock River. Temporary construction impacts would occur from installing a temporary access road to the structure locations and workspace around the foundation location for installation of the structures placed on either side of the Shell Rock River.<sup>311</sup> Temporary impacts will be minimized by using construction matting to access the structure locations.<sup>312</sup>

189. Standard mitigation measures regarding water resources are included as Commission permit conditions.<sup>313</sup> Freeborn Wind would be required to obtain all necessary "downstream" permits for construction of the Project. This will include a License to Cross Public Lands and Waters from the DNR, which will require the company to demonstrate that the water crossings are consistent with best practices.<sup>314</sup> Further, as noted in the EA, Freeborn Wind has committed to obtain a National Pollution Discharge Elimination System stormwater permit, which is necessary for the Project.<sup>315</sup>

190. The Project will not affect the area's water quality. The Project will comply with its Stormwater Pollution Prevention Plan.<sup>316</sup> During construction, Freeborn Wind will follow standard erosion control measures identified in the applicable Stormwater BMP Manual, such as using silt fences to minimize the potential for erosion and sedimentation into water bodies within the Project area. Freeborn Wind will maintain sound water and soil conservation practices during construction and operation of the transmission line to protect topsoil and adjacent water resources and minimize soil erosion. Practices include using traditional and low-impact development stormwater management approaches, such as managing stormwater on-site, controlling rate and volume of stormwater reaching receiving waters to predevelopment levels, installing vegetated buffers, containing excavated material, protecting exposed soil, stabilizing restored soil, and revegetation. Specific BMPs and practices will be developed once a route has been approved, and as engineering and design of the Project are being finalized and incorporated into the

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<sup>307</sup> *Id.* at 73, 74.

<sup>308</sup> *Id.* at 75.

<sup>309</sup> *Id.* at 73.

<sup>310</sup> See Comment by MPCA (Oct. 4, 2017) (eDocket No. 201710-136085-01) and Freeborn Wind Reply Comments on Completeness at 2 and Attachment A (Oct. 31, 2017) (eDocket No. 201710-137023-02); see also Application at 49 and EA at 74-75.

<sup>311</sup> Application at 48; see also EA at 74.

<sup>312</sup> Application at 48.

<sup>313</sup> See EA at 74; Generic Route Permit Template at § 5.3.8.

<sup>314</sup> EA at 74.

<sup>315</sup> *Id.*

<sup>316</sup> See Comment by MPCA (Oct. 4, 2017) (eDocket No. 201710-136085-01) and Freeborn Wind Reply Comments on Completeness at 2 and Attachment A (Oct. 31, 2017) (eDocket No. 201710-137023-02); see also Application at 49 and EA at 74-75.

Project-specific Stormwater Pollution Prevention Plan.<sup>317</sup> No impacts are anticipated once the Project is constructed.<sup>318</sup>

191. Impacts to groundwater are anticipated to be minimal for all routing options.<sup>319</sup> If Freeborn Wind uses wood structures, the structures will be treated using industry-standard substances that comply with applicable regulations. For example, pentachlorophenol (penta) may be used as a preservative for wood protection. Penta is used on wood structures to repel water, improve dimensional stability, and reduce checking and splitting, and is consistent with American Wood Protection Association Standard U1-17.<sup>320</sup>

192. The U.S. Environmental Protection Agency has concluded that in “considering the total amount of penta available for leaching from utility poles per area while in use, the relatively moderate mobility through the soil profile . . . and the moderate degradation under aerobic and [anaerobic] conditions . . . , contamination of water by penta and its metabolites should not be a concern.”<sup>321</sup> Penta is not mobile and has a low persistency in the environment. Because of its affinity for soil particles, penta will not move downward into the groundwater. Penta moves into surface waters absorbed to the soil particles through runoff.<sup>322</sup> Penta that reaches water “is metabolized rapidly under aerobic aquatic conditions and has a half-life of less than five days. Under anaerobic conditions, it metabolizes a little more slowly with half-life of about 34 days. It is, therefore, not a persistent substance in natural waters.”<sup>323</sup> Therefore, effects of penta on ground and drinking water will be minimal.<sup>324</sup>

193. Leaching of concrete can occur prior to setting and hardening of the concrete.<sup>325</sup> Dewatering is not anticipated to be necessary, and would only be necessary where a bentonite slurry cannot be utilized to create a seal against groundwater.<sup>326</sup> If dewatering is required, Freeborn Wind will work with the MPCA to ensure to the extent practicable that Minnesota Administrative Rule 7050.0210 and other applicable rules are followed to minimize the potential for runoff to surface and groundwater.<sup>327</sup> If dewatering is necessary, Freeborn Wind will implement dewatering strategies to prevent potential contamination from the portion of uncured concrete that comes into contact with the soil.<sup>328</sup>

194. Groundwater chemistry is affected when brought into contact with or close proximity to concrete structures because the hydration products of cement can be

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<sup>317</sup> EA at 75; see also Application at 49.

<sup>318</sup> EA at 74.

<sup>319</sup> *Id.* at 63

<sup>320</sup> EA at 64-65.

<sup>321</sup> *Id.* at 65.

<sup>322</sup> *Id.* at 66.

<sup>323</sup> *Id.*

<sup>324</sup> *Id.*

<sup>325</sup> *Id.* at 67-68.

<sup>326</sup> *Id.* at Appendix C, Information Inquiry #3.

<sup>327</sup> *Id.* at 68 and Appendix C, Information Inquiry #3.

<sup>328</sup> See Freeborn Wind Reply Comments at 20.

dissolved and leached into the groundwater. The pH of liquid leaching from concrete can be as high as 13.5; therefore, an increased groundwater pH at the surface of the concrete can be expected. This will not penetrate far into the groundwater. Potential impacts to groundwater from concrete will be minimal.<sup>329</sup>

195. The concrete mix used for the Project follows the building code requirements for concrete exposure and thus is very similar to any exterior concrete in constant contact with the ground, such as foundations for houses, barns, offices, and sidewalks. Additionally, the chemical properties of the groundwater are investigated during the subsurface investigation, and if the groundwater is determined to be acidic or potentially corrosive to concrete (which could potentially cause leaching) the concrete would be designed with a chemically resistant mix to increase the concrete durability and resistance to chemical attack.<sup>330</sup>

196. Portions of the Teal, Orange, and Gold routing options are within areas mapped as “Zone AE” by the Federal Emergency Management Agency (FEMA). Structures, should they be placed in the floodplain, are not anticipated to affect flooding. Impacts to the 100-year floodplain are not anticipated.<sup>331</sup> Therefore, the record demonstrates that impacts to floodplains as a result of the Project are not anticipated.

197. Wetlands are present throughout the Project area.<sup>332</sup> Freeborn Wind anticipates that a limited number of structures will be placed within a delineated wetland.<sup>333</sup>

198. Impacts to wetlands are anticipated to be minimal for all routing options and can be minimized, but the record evidence demonstrates that the Orange Route and Purple Parallel Route have the least impacts to wetlands.<sup>334</sup> Impacts to wetlands along the Purple Route will not occur,<sup>335</sup> and the Teal and Orange routes will have minimal impacts.<sup>336</sup> In contrast, the Gold Route is also anticipated to have minimal impacts, but will impact more acres of National Wetland Inventory (NWI) wetlands than any other route option.<sup>337</sup> For example, the Gold Route impacts more herbaceous wetlands than any other route option but intersects similar amounts of wooded wetlands.<sup>338</sup>

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<sup>329</sup> EA at 66-67.

<sup>330</sup> See Freeborn Wind Reply Comments at 20.

<sup>331</sup> EA at 27.

<sup>332</sup> *Id.* at 79.

<sup>333</sup> *Id.* at 80.

<sup>334</sup> See *id.* at 79-80.

<sup>335</sup> *Id.* at 81.

<sup>336</sup> See *id.* at 79-80.

<sup>337</sup> See *id.* at 79-80.

<sup>338</sup> *Id.* at 80.

### 3. Geology and Topography

199. The overall impact on geology and topography is anticipated to be negligible for all routing options. Potential impacts are not anticipated. Should impacts occur they can be mitigated.<sup>339</sup>

200. The record demonstrates that karst features are not anticipated in the Project area. No karst features or areas have been identified within the route width of any routing option.<sup>340</sup> The DNR maintains several GIS layers about karst topography. The first is an inventory of features such as sinkholes, springs, and stream sinks extracted from the karst feature database of Southeastern Minnesota. The DNR also maintains a GIS layer that outlines areas where karst features can form on the land surface and where karst conditions are present in the subsurface. DOC-EERA staff reviewed these layers, no karst features or areas were identified within the route width of any routing option.<sup>341</sup>

201. According to DNR information, there is one site that the DNR indicates as an area prone to surface karst features located approximately two miles southwest of the Project. Given this distance and the lack of other documented karst features in the Project area, karst features are not anticipated in the Project area.<sup>342</sup>

202. In recognition that the Minnesota Regions Prone to Surface Karst data set indicates that the Project area is located near a region prone to karst, Freeborn Wind undertook a geotechnical evaluation to evaluate the likelihood of karst in the proposed turbine locations in the Freeborn Wind Farm docket.<sup>343</sup> The geotechnical evaluation explored for voids and examined soil borings. This investigation confirmed there is no karst bedrock within 50 feet of the soil surface.<sup>344</sup> While this evaluation focused on the proposed turbine locations, based on the data presented by the geotechnical evaluation and DNR information, the Transmission Line is not likely to impact karst.<sup>345</sup>

203. Freeborn Wind has committed to geotechnical testing HVTL structure locations prior to construction. Structure design and location will be determined based upon the results of this testing, and will be sited to avoid karst features.<sup>346</sup>

204. Structures will be installed at existing grade; therefore, impacts to topography are not expected. Freeborn Wind does not anticipate any grading will be necessary. Should grading occur it would be restricted to only that necessary to establish a flat, safe workspace. Major topographical changes to the landscape would not occur.<sup>347</sup>

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<sup>339</sup> *Id.* at 62-63.

<sup>340</sup> *Id.* at 63.

<sup>341</sup> EA at 63.

<sup>342</sup> Application at 30; *see also* EA at 63.

<sup>343</sup> *See* EA at 63; Freeborn Wind Reply Comments, Attachment E (Geotechnical Report).

<sup>344</sup> Freeborn Wind Reply Comments, Attachment E (Geotechnical Report).

<sup>345</sup> *See* EA at 63; Freeborn Wind Reply Comments, Attachment E (Geotechnical Report).

<sup>346</sup> EA at 63; Freeborn Wind Reply Comments at 19-20.

<sup>347</sup> EA at 63.

#### 4. Vegetation

205. The majority of the Project area is made up of cultivated cropland or developed areas.<sup>348</sup> The Project area does not contain significant areas of forest.<sup>349</sup>

206. The record demonstrates that the Gold Route will impact more forested land than other routes. The Gold Route has more forested land located within its route width than any other routing option.<sup>350</sup> Tree clearing would occur along the Gold Parallel option. Some removal might occur along the Gold Overbuild option.<sup>351</sup>

207. Tree clearing along the Orange and Teal routes is anticipated to be minimal.<sup>352</sup> Areas where transmission line construction is planned are primarily agricultural and will require minimal tree removal.<sup>353</sup>

208. There are no mapped native prairies within any routing option. However, because not all native prairies have been identified and mapped, Freeborn Wind conducted in-field native prairie evaluations in September 2015 and November 2016 and found that there are 19.3 acres of potential prairie near the Glenworth Substation and north of the Shell Rock River.<sup>354</sup>

209. The Teal, Orange, and Gold routing options will cross potential prairie; this resource will be spanned, minimizing impacts.<sup>355</sup>

210. The overbuild options would result in increased direct impacts to vegetation. The Purple and Gold overbuild options will require construction of a temporary shoo-fly line while the existing transmission line is removed.<sup>356</sup> While the Purple and Gold overbuild options will not result in additional structures on the landscape, use of a temporary line (shoo-fly) increases direct and indirect impacts to soils because the shoo-fly itself must be installed and removed and the existing transmission line must be removed.<sup>357</sup>

211. Maintenance and emergency repair is expected to be infrequent throughout the life of the Project, and potential impacts to vegetation would be short term and more localized than construction-related impacts.<sup>358</sup>

212. Potential impacts to soils are expected to be minimal for all routing options and can be minimized.<sup>359</sup> Soils will be minimally disturbed in the location where each pole

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<sup>348</sup> See Application at 49 and EA at 86.

<sup>349</sup> See EA at 68, 75.

<sup>350</sup> See *id.* at 75.

<sup>351</sup> EA at 77.

<sup>352</sup> See Application at 50.

<sup>353</sup> Application at 50.

<sup>354</sup> EA at 76.

<sup>355</sup> *Id.* at 77.

<sup>356</sup> *Id.*

<sup>357</sup> *Id.* at 72.

<sup>358</sup> *Id.* at 77.

<sup>359</sup> *Id.* at 71.

will be installed in the ground, grading is required for construction purposes, or temporary access roads are required. Soil removed for pole installation in wetland areas will be managed in accordance with applicable BMPs and permit requirements.<sup>360</sup> Freeborn Wind will minimize soil erosion and assist in reestablishing vegetation through the use of commonly used methods, including soil de-compaction; erosion control blankets with embedded seeds; silt fences; straw bales; hydro seeding; planting individual seeds or seedlings of non-invasive, native species; and monitoring to insure invasive species do not take hold and the vegetation establishes itself.<sup>361</sup>

213. Freeborn Wind has committed to minimizing the introduction and spread of invasive species by reseeding areas disturbed by construction activities with vegetation similar to that which was removed with a seed mixture certified as free of noxious or invasive weeds.<sup>362</sup> Mitigation measures to reduce the spread of invasive and non-native plant species during construction also include: regular cleaning of construction equipment and vehicles; minimizing ground disturbance to the greatest degree practicable and rapid revegetation of disturbed areas with native or appropriately certified weed-free seed mixes; conducting field surveys of the ROW prior to construction to identify areas containing noxious weed (weed surveys during construction would identify infestations of the ROW and staging sites); and eradicating new infestations as soon as practicable in conjunction with property owners' input.<sup>363</sup>

## 5. Wildlife

214. Wildlife species utilizing the local vicinity of the Project are adapted to agriculture and developed landscapes. Terrestrial wildlife species in the Project area are common species associated with disturbed habitats, and are accustomed to human activities occurring in the area, for example, agricultural activities and road traffic. Common mammals that are likely to occur include opossum, eastern cottontail, white-tailed deer, raccoon, and prairie mole; common reptiles and amphibians include gopher snake, American toad, northern leopard frog, and snapping turtle.<sup>364</sup>

215. Freeborn Wind has conducted multiple wildlife studies for the Freeborn Wind Farm documenting avian and bat use of the Freeborn Wind Farm project area, including much of the route options. These include: raptor nest study; eagle nest monitoring; follow-up eagle nest study; large bird use study; small bird use study; wetland bird use study; and bat acoustic study. Based on these studies, the most commonly observed passerine species include the European starling, common grackle, red-winged blackbird, house sparrow, American robin, horned lark, and song sparrow. Common large birds in the Project area include the American crow, Canada goose, greater white-fronted goose, mallard, and blue-winged teal.<sup>365</sup>

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<sup>360</sup> Application at 32.

<sup>361</sup> *Id.* at 23; *see also* EA at 78.

<sup>362</sup> EA at 78.

<sup>363</sup> *Id.*

<sup>364</sup> *Id.* at 82.

<sup>365</sup> *Id.*; Application at 51.

216. The Project is not anticipated to have a significant impact on bats. Impacts to the northern long-eared bat are anticipated to be negligible. Further, the record demonstrates that Freeborn Wind has taken adequate measures, as outlined in the Application, EA, and Draft ABPP, to minimize the risk of fatalities to bats.<sup>366</sup>

217. There are no raptor nests or bald eagle nests within the studied transmission line routes. The closest bald eagle nest is located approximately 0.3 miles west of the Orange Route centerline along the Shell Rock River and is also located approximately 130 feet from an existing 161 kV transmission line.<sup>367</sup>

218. Some public commenters asserted the existence of additional eagle nests not identified in the Application.<sup>368</sup> Freeborn Wind conducted additional surveys but did not find any omitted eagle nests in or near the Project area.<sup>369</sup> Freeborn Wind already investigated and addressed all of these locations in the Freeborn Wind Farm Site Permit docket.<sup>370</sup>

219. The Project was designed to minimize impacts to avian species. Specifically, the Transmission Line will be constructed in accordance with Avian Power Line Interaction Committee (APLIC) standards designed to minimize the impacts to eagle and other avian species.<sup>371</sup>

220. APLIC is a committee of wildlife preservationists and utilities who developed guidance documents identifying causes and minimization methods for avian electrocutions and collisions, and, in conjunction with the USFWS, released Avian Protection Plan (APP) Guidelines. The APLIC Standards provide guidance for developing APPs, as well as designs and other measures aimed at preventing avian electrocutions. The APLIC Standards also include BMPs for conductor spacing and shielding to mitigate impacts to avian species caused by electrocution. A transmission line designed to APLIC standards will have substantially less risk to avian species than one not designed to APLIC standards.<sup>372</sup>

221. The Project will adhere to APLIC design standards that will minimize impacts to avian species.<sup>373</sup> Experts at WEST conducted an assessment of the Project's 161-kV transmission line structure design relative to potential avian electrocution risk. The

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<sup>366</sup> See EA at 70, 95; Application at 51-52 and Appendix F (Draft ABPP).

<sup>367</sup> Application at 51.

<sup>368</sup> See Comments by Dorene Hansen (June 1, 2018) (eDocket Nos. 20186-143501-01; 20186-143501-02; 20186-143501-03).

<sup>369</sup> Freeborn Wind Reply Comments, Attachment C at 10 and Schedule 6 (Giampoli Direct and Schedules 6, 7, and 8).

<sup>370</sup> See, e.g., Freeborn Wind Reply Comments, Attachment C at 11-12 and Schedule 6-8 (Giampoli Direct and Schedules 6, 7, and 8).

<sup>371</sup> See EA at 85; Litchfield Direct at 8-9; and Application at 51; Freeborn Wind Reply Comments, Attachment B (WEST Electrocutation Risk Review).

<sup>372</sup> See Litchfield Direct at 9; Freeborn Wind Reply Comments, Attachment B (WEST Electrocutation Risk Review).

<sup>373</sup> See Litchfield Direct at 9; Freeborn Wind Reply Comments, Attachment B (WEST Electrocutation Risk Review).

goal of this assessment was to compare proposed transmission line design and operation to potential electrocution risks to resident and migratory bald eagles, based on the Avian Power Line Interaction Committee's (APLIC) *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) and WEST's expertise in this area.<sup>374</sup> WEST concluded that:

In summary, no bald eagle electrocution risk would apply to the 161-kV transmission structures proposed to support the Freeborn Wind Energy Facility, based on the structures' design and size. This determination is based on both the guidelines outlined in APLIC's *Suggested Practices* (2006) and WEST's expertise and experience in assessing risk to birds from power line design and operation. At-risk structures for eagle perching typically involve distribution or sub-transmission lines with voltages  $\leq 69$  kV. The line voltage of the 2014 electrocution of one of the Decorah, Iowa bald eagle fledglings was identified as 69 kV.<sup>375</sup>

222. Given the Project design's compliance with APLIC standards, the risk of electrocution of avian species is extremely low. The EA did note that, comparatively, the Purple and Gold overbuild options would have a greater potential for bird collisions due to the height of the poles and number of conductors.<sup>376</sup>

223. Additionally, as requested by the DNR, Freeborn Wind will install bird diverters on the span of its transmission line that will cross the Shell Rock River and its associated habitat, which will minimize risk to swans and other waterfowl.<sup>377</sup>

224. The majority of the Project area is classified as developed or cultivated cropland; therefore, any impacts to wildlife habitat will be limited to areas near the Shell Rock River. While forested wetlands by the Shell Rock River will be converted to low stature wetlands, quality habitat conversion will be minimal given the proximity to US 65. The HVTL would be located adjacent to existing ROW near the Shell Rock River meaning these effects would largely be limited to one side of the ROW and would not create newly fragmented areas.<sup>378</sup>

225. In its comment, the DNR recommended that the "wire/border zone method" be applied at the crossing of Shell Rock River and its associated floodplain/wetlands.<sup>379</sup> The wire/border zone method allows for different types and heights of vegetation based on whether the vegetation is directly underneath the conductor (wire zone) or elsewhere in the ROW (border zone).<sup>380</sup> Freeborn Wind will comply with this recommendation.<sup>381</sup>

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<sup>374</sup> Freeborn Wind Reply Comments, Attachment B (WEST Electrocutation Risk Review).

<sup>375</sup> Freeborn Wind Reply Comments, Attachment B at 4 (WEST Electrocutation Risk Review); *see also id.* at 2.

<sup>376</sup> EA at 82, 84.

<sup>377</sup> *See id.* at 85; Freeborn Wind Reply Comments at 11.

<sup>378</sup> EA at 86.

<sup>379</sup> Comment by DNR (June 12, 2018) (eDocket No. 20186-143759-01).

<sup>380</sup> EA at 86.

<sup>381</sup> *See id.* at 85 and Freeborn Wind Reply Comments at 11.

226. Potential impacts to wildlife habitat are anticipated to be similar for all routing options. Impacts will be short- and long-term, of a relatively small size, and localized. The overall impact intensity level is expected to be minimal.<sup>382</sup>

227. As described above, the Orange and Purple Parallel routes best minimize potential impacts to wildlife.

### **G. Effects on Rare and Unique Natural Resources**

228. Minnesota's high voltage transmission line routing factors require consideration of the proposed route's effect on rare and unique natural resources.<sup>383</sup>

229. On April 24, 2018, Freeborn Wind filed a copy of an email received from Lisa Joyal, Endangered Species Review Coordinator, DNR, regarding Freeborn Wind's Natural Heritage Information System Data Request Form for the Project. The email serves as a concurrence for the rare features assessment in the Commission Route Permit Application and can be used in lieu of a formal Natural Heritage Letter.<sup>384</sup>

230. The Application indicated, and the DNR concurred, that the following rare features are present within the Project area: one record of a state-threatened vascular plant and one record of a vertebrate animal species of special concern. The Application also discussed the northern long-eared bat. DOC-EERA review of the NHIS database found two additional species present within the Project area: one record of a vascular plant of special concern and one record of a vascular plant on the watch list.<sup>385</sup> The EA stated that none of these species were documented within the route width of any routing option.<sup>386</sup> While the Minnesota Statewide Mussel Survey returned records within the Project area, none indicated the presence of state or federally listed species.<sup>387</sup> Results of a USFWS Information for Planning and Consultation (IPaC) review indicate the northern long-eared bat might be potentially affected by activities in the Project area. There are no federal critical habitats in the Project area.<sup>388</sup>

231. There are no WMAs, AMAs, Sites of Biodiversity Significance, or SNAs, or USFWS Waterfowl Production Areas, within the route width of any routing option. One WMA exists to the west of the Project across US 65 along with a Minnesota Biological Survey (MBS) Site of Biodiversity Significance.<sup>389</sup>

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<sup>382</sup> EA at 82.

<sup>383</sup> Minn. Stat. § 216E.03, subd. 7(b); Minn. R. 7850.4100(F).

<sup>384</sup> Freeborn Wind Comments – DNR National Heritage Concurrence (April 24, 2018) (eDocket No. 20184-142258-02).

<sup>385</sup> EA at 69.

<sup>386</sup> *Id.*

<sup>387</sup> *Id.*

<sup>388</sup> *Id.*

<sup>389</sup> *Id.* at 83.

232. The record demonstrates that impacts on rare and unique natural resources are anticipated to be negligible for all routing options.<sup>390</sup>

## **H. Application of Various Design Considerations**

233. Minnesota's HVTL factors require consideration of the Project's applied design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity.<sup>391</sup>

234. The Teal, Orange, and Purple Parallel routes best satisfy this factor. These routes best minimize impacts to the environment by complying with APLIC standards to all but eliminate risks of avian electrocution with the transmission lines.<sup>392</sup> In contrast, the Gold Route involves greater impacts to wetlands and wildlife.<sup>393</sup> Further, the overbuild options involve the greatest potential impact to avian species from collisions.<sup>394</sup>

### **I. Use or Paralleling of Existing ROW, Survey Lines, Natural Division Lines, and Agricultural Field Boundaries**

235. Minnesota's HVTL routing factors require consideration of the use or paralleling of existing ROW, survey lines, natural division lines, and agricultural field boundaries.<sup>395</sup>

236. The Orange Route and Purple Parallel Route best satisfy this factor. The majority of the Orange and Purple Parallel routes follow existing roadways, transmission lines, or field lines.<sup>396</sup> The Purple Parallel Route is co-located with existing transmission lines for its entire length.<sup>397</sup> While the Orange Route does not share ROW with an existing transmission line, approximately 1.5 miles of the Orange Route (21%) will be parallel to existing roadways and approximately 49 percent of the route will parallel agricultural field boundaries.<sup>398</sup>

237. The Gold Route and Purple Route co-locate the Project with existing transmission lines.<sup>399</sup>

238. The Orange Route parallels agricultural field boundaries for approximately 49 percent of the route and maximizes use of agricultural field boundaries.<sup>400</sup>

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<sup>390</sup> See *id.* at 70.

<sup>391</sup> See Minn. Stat. § 216E.03, Subd. 7; Minn. R. 7850.4100.

<sup>392</sup> See, e.g., Litchfield Direct at 5, 8-9 and Pub. Hrg. Tr. at 13 (Litchfield); EA at 84-85.

<sup>393</sup> See, e.g., EA at 29, 42, 80-81.

<sup>394</sup> See, e.g., *id.* at 84.

<sup>395</sup> Minn. Stat. § 216E.03, Subd. 7(b)(9); Minn. R. 7850.4100(H).

<sup>396</sup> See, e.g., EA at 40.

<sup>397</sup> EA at 40.

<sup>398</sup> Application at 17, 56.

<sup>399</sup> EA at 19, 20.

<sup>400</sup> See Application at 56; EA at 40, 100-101.

239. The evidence on the record demonstrates that all routing options are consistent with this factor.<sup>401</sup>

**J. Use or Paralleling of Existing Transportation, Pipeline, and Electrical Transmission System ROW**

240. Minnesota's HVTL routing factors require consideration of the proposed route's use of existing transportation, pipeline, and electrical transmission system ROW.<sup>402</sup>

241. None of the routes share pipeline ROW.

242. The Gold Route and Purple Route co-locate the Project with existing transmission lines for their entire lengths.<sup>403</sup> The Teal Route and Orange Route do not share ROW with an existing transmission line route; however, a significant portion of these routes follow existing roadways.<sup>404</sup>

**K. Electrical System Reliability**

243. Minnesota's HVTL routing factors require consideration of the Project's impact on electrical system reliability.<sup>405</sup>

244. The Project will be constructed to meet reliability requirements; therefore, all routing options are consistent with this factor.<sup>406</sup>

**L. Costs of Constructing, Operating, and Maintaining the Facility**

245. Minnesota's HVTL routing factors require consideration of the proposed route's cost of construction, operation, and maintenance.<sup>407</sup>

246. The evidence on the record demonstrates that it will be most cost-effective to construct the Project along the Teal, Orange, or Purple Parallel routes.<sup>408</sup>

247. The estimated cost of the Project along the Teal Route and Orange Route is approximately \$3.8 million and \$3.85 million along the Purple Parallel Route. As shown on Table 2, the Purple Overbuild Route and Gold Route are anticipated to have higher costs than the Orange Route and Purple Parallel Route. The Gold Overbuild Route is

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<sup>401</sup> EA at 101.

<sup>402</sup> Minn. Stat. § 216E.03, Subd. 7(b)(8); Minn. R. 7850.4100(J).

<sup>403</sup> See, e.g., EA at 40, 100-101.

<sup>404</sup> See, e.g., *id.* at 40. Approximately 1.5 miles of the Orange Route (21 percent) will be parallel to existing roadways and approximately 49 percent of the route will parallel agricultural field boundaries. Application at 17, 56.

<sup>405</sup> Minn. Stat. § 216E.03, subd. 7(b)(10); Minn. R. 7850.4100(K).

<sup>406</sup> See, e.g., EA at 104.

<sup>407</sup> Minn. R. 7850.4100(L).

<sup>408</sup> EA at 22.

more than twice as costly as the Orange Route (\$8,050,000 vs. \$3,800,000). Total costs are summarized below in Table 3:<sup>409</sup>

**Table 3: Total Estimated Costs**

Route	Estimated Cost
Teal Route	\$3,800,000
Orange Route	\$3,800,000
Purple Overbuild Option	\$4,350,000
Purple Parallel Option	\$3,850,000
Gold Overbuild Option	\$8,050,000
Gold Parallel Option	\$4,150,000

248. Operating and maintenance costs after construction of the transmission line will be nominal for several years because the line will be new and minimal initial vegetation management is required. The anticipated annual operating and maintenance costs for the 161 kV transmission line is approximately \$1,500 per mile. The principal operating and maintenance costs include inspections which are typically ground-based and occasionally done by aerial inspections, generally on a yearly basis.<sup>410</sup>

**M. Adverse Human and Natural Environmental Effects That Cannot be Avoided**

249. Minnesota’s HVTL routing factors require consideration of the adverse human and natural environmental effects, which cannot be avoided, for each proposed route.<sup>411</sup>

250. Unavoidable adverse impact will result from construction and operation of the Project.<sup>412</sup>

251. Unavoidable impacts related to construction of the project include visual and noise disturbance to nearby residents and recreationalists; soil compaction and erosion; vegetative clearing; disturbance and temporary displacement of wildlife; and minor amounts of habitat loss. Additionally, traffic delays and fugitive dust on roadways; crop losses; and direct impacts to wildlife might occur.<sup>413</sup>

252. Unavoidable impacts related to the operation of the project include visual impact of structures and conductors; loss of land use for other purposes where structures are placed; injury or death of avian species that collide with, or electrocuted by, conductors; and continued cutting of tall growing vegetation. Additionally, interference

<sup>409</sup> *Id.*

<sup>410</sup> Application at 9.

<sup>411</sup> Minn. Stat. § 216E.03, subd. 7(b)(5)-(6); Minn. R. 7850.4100(M).

<sup>412</sup> EA at 97, 98.

<sup>413</sup> *Id.*

with AM radio signals and negative impacts to property values; and impacts to agricultural operations, for example, aerial spraying, might occur.<sup>414</sup>

## **N. Irreversible and Irretrievable Commitments of Resources**

253. Minnesota's HVTL routing factors require consideration of the irreversible and irretrievable commitments of resources that are necessary for each proposed route.<sup>415</sup>

254. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the use of these resources have on future generations. Irreversible commitments of resources are those that result from the use or destruction of a specific resource that cannot be replaced within a reasonable timeframe. Irretrievable resource commitments are those that result from the loss in value of a resource that cannot be restored after the action.<sup>416</sup>

255. The Project will require minimal commitments of resources that are irreversible and irretrievable. Only construction resources, such as concrete, steel, and hydrocarbon fuels, will be irreversibly and irretrievably committed to this Project. During construction, vehicles necessary for these activities would be deployed on site and would need to travel to and from the construction area, consuming hydrocarbon fuels. Other resources would be used in pole construction, pole placement, and other construction activities.<sup>417</sup>

## **O. Summary of Factors Analysis**

256. All routing options meet Minnesota's route selection criteria in terms of Factor A (Public Services), Factor B (Public Safety), Factor D (Archaeological and Historical Resources), Factor F (Rare and Unique Resources), and Factor H (Paralleling) of Minn. R. 7850.4100.

257. With regards to Factor A (Human Settlement), the Teal, Orange, and Purple Parallel routes have lesser impacts than the Gold routing options on land use and zoning, noise, and recreation. The Gold routing options would result in significant impacts to land use and zoning.

258. With regards to Factor C (Land-Based Economies), the Teal and Orange routes have greater impacts to agricultural operations because the Purple routing options better minimize impacts in this location.

259. With regards to Factor E (Natural Environment), the Purple and Gold Overbuild routes have greater impacts to wildlife.

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<sup>414</sup> *Id.* at 98.

<sup>415</sup> Minn. Stat. § 216E.03, subd. 7(b)(11); Minn. R. 7850.4100(N).

<sup>416</sup> Application at 53.

<sup>417</sup> *Id.*

260. With regards to Factor J (Use of Existing Infrastructure), the Purple and Gold Overbuild routing options best meet this factor.

261. In terms of Factor L (Cost), the Gold Overbuild route costs significantly more than the other routing options.

262. As set forth above, because the Teal, Orange, and Purple Parallel routes make use of existing ROW and generally compare favorably in terms of cost to the route alternatives, the record demonstrates that the Teal, Orange, and Purple Parallel routes best meet Minnesota's route selection criteria. Based on consideration of all routing factors and the Applicant's preference, the Orange Route combined with the Purple Parallel Route is the best route for the Project.

#### **XIV. Notice**

263. Minnesota statutes and rules require Applicants to provide certain notice to the public and local governments before and during the Application for a Route Permit process.<sup>418</sup>

264. Freeborn Wind provided notice to the public and local governments in satisfaction of Minnesota statutory and rule requirements.

265. Minnesota statutes and rules also require DOC-EERA and the Commission to provide certain notice to the public throughout the Route Permit process.<sup>419</sup> DOC-EERA and the Commission provided notice in satisfaction of Minnesota statutes and rules.

#### **XV. Completeness of EA**

266. The EA process is the alternative environmental review approved for high voltage transmission lines.<sup>420</sup> The Commission is required to determine the completeness of the EA.<sup>421</sup> An EA is complete if it and the record address the issues and alternatives identified in the Scoping Decision.

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

268. Any finding of fact more properly considered a conclusion of law is hereby adopted as such. Any conclusion of law more properly considered a finding of fact is hereby adopted as such.

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<sup>418</sup> Minn. Stat. § 216E.03, subds. 3a, 4; Minn. R. 7850.2100, Subps. 2, 4.

<sup>419</sup> Minn. Stat. § 216E.03, subd. 6; Minn. R. 7850.2300, Subp. 2; Minn. R. 7850.3700, Subps. 2, 3, 6.

<sup>420</sup> Minn. R. 4410.4400, subp. 6 (2016).

<sup>421</sup> Minn. R. 7850.3900, subp. 2.

Based on the foregoing findings of fact and the record in this proceeding, the Administrative Law Judge makes the following:

### **CONCLUSIONS OF LAW**

1. The Commission has jurisdiction to consider the Application under Minn. Stat. §§ 14.57-14.62 (2016) and 216E.02, subd. 2.

2. The EA process is the alternative environmental review approved for high voltage transmission lines.<sup>422</sup> Accordingly, the EA process satisfies the requirements of the Minnesota Environmental Policy Act, which does not require that an EIS be completed for the Project.<sup>423</sup> DOC-EERA has conducted an appropriate environmental analysis of the Project for purposes of this Route Permit proceeding and the EA satisfies Minnesota Rule 7850.3700.

3. Freeborn Wind complied with the procedural and notice requirements of Minnesota Statutes, chapter 216E and Minnesota Rules, chapter 7850.

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

5. The evidence on the record demonstrates that the Teal, Orange, and Purple Parallel routing options best satisfy the Route Permit factors set forth in Minnesota Statutes, section 216E.04, subdivision 8 (referencing Minnesota Statutes, section 216E.03, subdivision 7) and Minnesota Rule 7850.4100.

6. The Project is consistent with and reasonably required for the promotion of public health and welfare in light of the state's concern for the protection of its air, water, land, and other natural resources as expressed in the Minnesota Environmental Rights Act.<sup>424</sup>

7. The evidence on the record demonstrates that the Orange Route combined with the Purple Parallel Route satisfies the routing criteria and minimizes human and environmental impacts.

8. A Special Route Permit Condition requiring Freeborn Wind to provide documentation when it files its plan and profile outlining how it will comply with Section 5.3.5 of the Generic Route Permit Template is warranted for the project.

9. A Special Route Permit Condition requiring Freeborn Wind to work with the local electric service provider to ensure that overhead power lines do not follow both sides

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<sup>422</sup> Minn. R. 7850.3700.

<sup>423</sup> Minn. Stat. § 116D.04 (2016).

<sup>424</sup> Minn. Stat. § 116D.02 (2016).

of 130th Street is warranted for the project. Freeborn Wind shall incur all costs associated with meeting this requirement.

10. A Special Route Permit Condition requiring Freeborn Wind to conduct karst geology investigations is warranted for the project. Freeborn Wind shall provide geotechnical testing results at all proposed pole locations when it files its plan and profile. Freeborn Wind must also file with the Commission a report for all geotechnical investigations completed, which must include methodology, results, and conclusions drawn from the investigation. Structures shall not be located over karst bedrock.

11. A Special Route Permit Condition requiring Freeborn Wind to utilize the “wire/border zone” method of right-of-way clearing and maintenance is warranted for the project.

12. The evidence on the record demonstrates that, in addition to the Special Route Permit Conditions referenced above, the general Route Permit conditions are appropriate for the Project.

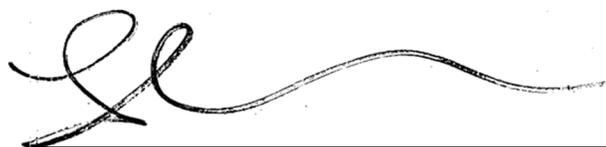
Based upon the foregoing findings of fact and conclusions of law, the Administrative Law Judge makes the following:

### RECOMMENDATIONS

The Commission should **GRANT** a Route Permit with the general and special route permit conditions for a 161 kV HVTL along the Purple Parallel Route based on Applicant’s preference and with Applicant’s proposed modification to narrow the route by 130th Street to match the Orange Route in this area.

In the alternative, the Commission should grant a Route Permit for the Orange Route with the general and special route permit conditions based on the Applicant’s preference.

Dated: July 26, 2018



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JIM MORTENSON  
Administrative Law Judge

This report is not an order and no authority is granted herein. The Minnesota Public Utilities Commission will issue the order that may adopt or differ from the preceding recommendation.

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

In the Matter of the Application of Freeborn  
Wind Energy LLC for a Route Permit for the  
Freeborn Wind Transmission Line in  
Freeborn County, Minnesota

**APPENDIX A**  
**SUMMARY OF PUBLIC**  
**COMMENTS**

**I. Background**

1. On September 20, 2017, Freeborn Wind Energy, LLC (Applicant or Freeborn Wind) filed a Route Permit Application with the Commission under the Alternative Permitting Process under Minn. Stat. § 216E.04, subd. 2(3) and Minn. R. 7850.2800 to 7850.3900. The Application is to build a transmission line that would connect the proposed Freeborn Wind Farm, which is the subject of another Commission docket (MPUC IP-6946/WS-17-410), with the Glenworth substation, southwest of Glenworth, Minnesota.<sup>425</sup>

2. On May 17, 2018, the Commission issued a Notice of Public Hearing.<sup>426</sup> The Notice included an opportunity for submission of public comments from May 17, 2018, through June 12, 2018. The public was requested to address the following questions in the comments:

- Should the Public Utilities Commission issue a route permit for the project?
- What are the costs and benefits of the proposed project?
- What are the environmental and human impacts of each route under consideration and how can these impacts be addressed?
- Are there other project-related issues or concerns?

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<sup>425</sup> Transmission Line Route Permit Application (Sept. 20, 2017) (eDocket No. 20179-135684-02).

<sup>426</sup> Notice of Public Hearing (May 17, 2018) (eDocket No. 20185-143158-01).

## II. Public Comments

3. Approximately 60 members of the public attended the public hearing held in Albert Lea, Minnesota. Approximately 20 people spoke at the public hearing.<sup>427</sup> Forty-five (45) households, organizations, and public agencies offered comments in writing or at the public hearing regarding the draft site permit. Of the comments submitted, 16 were supportive of the Freeborn Wind project, and 28 were opposed. One comment was provide by an agency.

### A. Comments in Support of the Project

4. Many of the comments in support of the transmission line project cited the help the project will bring to the local economy, including added jobs, an increased tax base, and payments to participating farmers.<sup>428</sup>

5. Other commenters supporting the transmission line project want to promote wind energy because they believe it will benefit the environment and it is the way of the future for energy development.<sup>429</sup>

6. One commenter is a participating landowner who believes the project will benefit the environment and local economy.<sup>430</sup>

7. One commenter wrote in response to the concerns of others about possible declines in property values around wind turbines and transmission lines. The commenter was looking for land with a shed for storage. A piece of property came up for auction in the Freeborn Wind project area in early February 2018. The estimated tax value was \$35,000 and the commenter hoped to buy it for \$40,000 to \$45,000. The property was sold for \$59,000.<sup>431</sup>

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<sup>427</sup> See Pub. Hrg. Tr.

<sup>428</sup> Comments of: Don Burns (June 11, 2018) (eDocket No. 20185-143283-01); John Forman (May 28, 2018) (eDocket No. 20186-143782-01); Lioba Forman (June 12, 2018) (eDocket No. 20186-143755-01); Marjory Hamersly (May 31, 2018) (eDocket No. 20186-143635-01 and Pub. Hrg. Tr at 13-15); Devonlee Haugebak (May 30, 2018) (eDocket No. 20186-143782-01); Mark Haugebak (May 30, 2018) (eDocket No. 20186-143782-01); Brad Kramer (May 31, 2018) (Pub. Hrg. Tr at 18-19); Glen Mathiason (May 31, 2018) (eDocket No. 20186-143782-01); Teresa Nicholson (May 31, 2018) (eDocket No. 20186-143782-01); Barbara O'Connor (May 31, 2018) (eDocket No. 20186-143559-01); R. O'Connor (May 31, 2018) (eDocket No. 20186-143803-01); Ray Rauenhorst (May 31, 2018) (Pub. Hrg. Tr at 36-41); and Jennifer Vogt-Erickson (June 11, 2018) (eDocket No. 20186-143782-01).

<sup>429</sup> Comments of: Don Burns (June 11, 2018) (eDocket No. 20185-143283-01); Lioba Forman (June 12, 2018) (eDocket No. 20186-143755-01); Marjory Hamersly (May 31, 2018) (eDocket No. 20186-143635-01 and Pub. Hrg. Tr at 13-15); Glen Mathiason (May 31, 2018) (eDocket No. 20186-143782-01); Teresa Nicholson (May 31, 2018) (eDocket No. 20186-143782-01); and Jennifer Vogt-Erickson (June 11, 2018) (eDocket No. 20186-143782-01).

<sup>430</sup> Comment of Marjory Hamersly (May 31, 2018) (eDocket No. 20186-143635-01 and Pub. Hrg. Tr at 13-15).

<sup>431</sup> Comment of John Forman (May 28, 2018) (eDocket No. 20186-143782-01).

8. One commenter focused on the importance of electricity to the community and the need for individuals to participate in projects such as the transmission line project for the greater good.<sup>432</sup>

## **B. Comments Opposed to the Project**

9. Many commenters opposed to the project raised concerns about the property rights of nonparticipating landowners and whether Freeborn Wind had acquired sufficient land rights to construct the transmission line without crossing nonparticipant land.<sup>433</sup>

10. Several commentators stated that they did not believe that Freeborn Wind could use eminent domain to secure land rights for the project.<sup>434</sup>

11. Some commenters raised concerns about the impact of the transmission line project on the local environment. Commenters' specific concerns included the impact to local waterways, wetlands, and water quality; the possibility of interfering with karst topography; the use of the chemical penta in utility poles; and the potential for concrete used for structure foundations to leach into the soil and groundwater.<sup>435</sup>

12. Commenters expressed concerns with the transmission line's potential impact on wildlife—including birds and bats—and wildlife habitat.<sup>436</sup> Some public comments expressed concern that eagles will be adversely impacted by the Freeborn Wind Farm and Transmission Line.<sup>437</sup> One commenter referenced reports of eagle deaths in Iowa due to electrocution from transmission lines.<sup>438</sup>

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<sup>432</sup> Comment of Ray Rauenhorst (May 31, 2018) (Pub. Hrg. Tr at 36-41).

<sup>433</sup> Comments of: Sherry Adams (Pub. Hrg. Tr at 31-32) (May 31, 2018); Brenda Bangs and Dennis Oquist (eDocket No. 20186-143736-01) (June 11, 2018); Gary Buchanen (Pub. Hrg. Tr at 42-43) (May 31, 2018); Clark Ericksen (Pub. Hrg. Tr at 48-50) (May 31, 2018); Lisa Hajek (Pub. Hrg. Tr at 55-58) (May 31, 2018); Dorene Hansen (eDocket Nos. 20186-143738-01 and 20186-143501-01) (June 11, 2018 and May 31, 2018); Linda Herman (eDocket No. 20186-143740-01) (June 10, 2018); Travis Jacobsen (Pub. Hrg. Tr at 63-64) (May 31, 2018); Linda Lorenzen (Pub. Hrg. Tr at 19) (May 31, 2018); Sue Madson (Pub. Hrg. Tr at 61-63) (May 31, 2018); Brad Nelson (Pub. Hrg. Tr at 42) (May 31, 2018); Kathy Nelson (eDocket No. 20186-143735-01) (June 11, 2018); Allie Olson (eDocket No. 20186-143739-01) (June 11, 2018); Carol Overland (Pub. Hrg. Tr at 50-55) (May 31, 2018); and Tim Westrum (eDocket No. 20186-143756-01) (June 11, 2018).

<sup>434</sup> Comments of Gary Buchanen (Pub. Hrg. Tr at 42-43) (May 31, 2018).

<sup>435</sup> See, e.g., Comments of: Dorene Hansen (eDocket Nos. 20186-143738-01 and 20186-143501-01) (June 11, 2018 and May 31, 2018); Mike Hansen (Pub. Hrg. Tr at 17-18); Kathy Nelson (eDocket No. 20186-143735-01) (June 11, 2018); Allie Olson (20186-143739-01) (June 11, 2018); and Stephanie Richter (eDocket No. 20186-143507-01) (May 31, 2018).

<sup>436</sup> Comments of: Dorene Hansen (eDocket No. 20186-143501-01) (May 31, 2018); Linda Herman (eDocket No. 20186-143740-01) (June 10, 2018); Sue Madson (May 31, 2018) (Pub. Hrg. Tr. at 61-63); Brad Nelson (May 31, 2018) (Pub. Hrg. Tr. at 42); and Stephanie Richter (May 31, 2018) (Pub. Hrg. Tr. at 43-48).

<sup>437</sup> Comments of: Dorene Hansen (May 31, 2018) (Pub. Hrg. Tr. at 33) (Hansen); Stephanie Richter (May 31, 2018) (Pub. Hrg. Tr. at 43-44); and Linda Herman (June 12, 2018) (eDocket No. 20186-143740-01).

<sup>438</sup> Comment of Dorene Hansen (June 1, 2018) (eDocket No. 20186-143501-02).

13. Commenters were concerned with the potential disturbance to the area's aesthetics.<sup>439</sup>

14. Commenters raised concerns about the potential impact on the area's outdoor recreational areas, especially along the Shell Rock River.<sup>440</sup>

15. One commenter was concerned about the potential negative impact on property values and requested a property value guarantee.<sup>441</sup>

16. Several commenters expressed disapproval that a proceeding for this route permit was moving forward despite the prior recommendation that the underlying site permit for the wind farm project was denied.<sup>442</sup>

17. The Association of Freeborn County Landowners (AFCL), an intervenor in the related Wind Farm proceeding, submitted a comment.<sup>443</sup> AFCL raised concerns about the Allied Radio Matrix for Emergency Response (ARMER) System.<sup>444</sup> Carol Overland, attorney for the AFCL, asked about the Project's interconnection queue positions at the public hearing and raised the issue in a written public comment.<sup>445</sup>

### **C. Comments Regarding Routes**

18. Some commenters submitted concerns about transmission line routes that were proposed during the proceeding.

19. Two commenters voiced support for the route travelling parallel to US 65 for approximately 1.25 miles north to the Glenworth substation, noting that they are participating landowners and the agreement is "financially important to us and was made in good faith."<sup>446</sup>

20. There was a comment "in favor of the original proposed route," noting that the line runs through "participating farm operator land and will not require extended court action."<sup>447</sup>

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<sup>439</sup> Comments of: Dorenne Hansen (eDocket No. 20186-143501-01) (May 31, 2018); and Allie Olson (eDocket No. 20186-143739-01) (June 11, 2018).

<sup>440</sup> See Comment of Stephanie Richter (May 31, 2018) (Pub. Hrg. Tr. at 43-48).

<sup>441</sup> Comment of Robert VanPelt (Pub. Hrg. Tr at 25-31, 58-61) (May 31, 2018).

<sup>442</sup> Comments of: Clark Ericksen (June 1, 2018) (eDocket No. 20186-143500-01); Lisa Hajek (May 31, 2018) (Pub. Hrg. Tr. at 55-58); Dorenne Hansen (June 1, 2018) (eDocket No. 20186-143501-01); Linda Herman (June 10, 2018) (eDocket No. 20186-143740-01); and Allie Olson (Public Hrg. Tr. at 15-16) (May 31, 2018).

<sup>443</sup> Comment of Kristi Rosenquist (Mar. 14, 2018) (eDocket No. 20183-141096-01).

<sup>444</sup> Comment of AFCL at 11 (June 12, 2018) (eDocket No. 20186-143756-01).

<sup>445</sup> Comment of Carol Overland (May 31, 2018) (Pub. Hrg. Tr. at 22).

<sup>446</sup> Comment of Valerie Wolff Cipra and Clark Cipra (May 20, 2018) (eDocket No. 20185-143283-01).

<sup>447</sup> Comment of John Forman (May 28, 2018) (eDocket No. 20186-143782-01).

21. Another commenter opposes the Gold Route segment, noting that he is a nonparticipating landowner and the route would pass very close to his property.<sup>448</sup>

22. A commenter opposes the Gold Route segment because he believes that its effects on his homestead would be “devastating.”<sup>449</sup>

23. Another commenter opposes the Gold Route segment because, as a nonparticipating landowner affected by that route, he has concerns about the electric and magnetic fields that the transmission line could create.<sup>450</sup>

### III. State Agency Comments

24. During scoping, MnDOT submitted a comment requesting that the EA assess the placement of the proposed utility poles in relation to US 65. MnDOT noted that Freeborn Wind would need to submit a Utility Accommodation on Trunk Highway Right-of-Way (Form 2525) if the Commission approved a route permit that would place the HVTL in an area that occupies a portion of MnDOT ROW. Additionally, MnDOT requested that Freeborn Wind coordinate any route construction work or delivery of materials that may affect MnDOT ROW.<sup>451</sup>

25. On April 24, 2018, Freeborn Wind filed a copy of an email received from Lisa Joyal, Endangered Species Review Coordinator at the DNR, regarding Freeborn Wind’s Natural Heritage Information System Data Request Form for the Project. The email states that it serves as a concurrence for the rare features assessment in the Commission Route Permit Application and can be used in lieu of a formal Natural Heritage Letter.<sup>452</sup>

26. On June 12, 2018, the DNR submitted comments. The DNR recommended that Freeborn Wind install bird diverters on the span of its transmission line that will cross the Shell Rock River in order to minimize risk to swans and other waterfowl.<sup>453</sup>

27. The DNR also recommended that the “wire/border zone method” be applied at the crossing of Shell Rock River and its associated floodplain/wetlands.<sup>454</sup> The wire/border zone method allows for different types and heights of vegetation based on whether the vegetation is directly underneath the conductor (wire zone) or elsewhere in the ROW (border zone).<sup>455</sup>

### J. R. M.

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<sup>448</sup> Comment of Travis Jacobsen (May 31, 2018) (Pub. Hrg. Tr. at 63-64).

<sup>449</sup> Comment of Don Flatness (June 11, 2018) (eDocket No. 20186-143782-01).

<sup>450</sup> Comment of Clark Ericksen (May 31, 2018) (Pub. Hrg. Tr. at 48-50).

<sup>451</sup> Comment by MnDOT (Jan. 3, 2018) (eDocket No. 20181-138602-01).

<sup>452</sup> Freeborn Wind Comments—DNR National Heritage Concurrence (April 24, 2018) (eDocket No. 20184-142258-02).

<sup>453</sup> See Comment by DNR (June 12, 2018) (eDocket No. 20186-143759-01).

<sup>454</sup> Comment by DNR (June 12, 2018) (eDocket No. 20186-143759-01).

<sup>455</sup> EA at 86.

July 26, 2018

See Attached Service List

**Re: In the Matter of the Freeborn Wind Farm to Glenworth Substation  
High-Voltage Transmission Line Route Permit Application (17-322)  
OAH 5-2500-35036  
MPUC Docket No. IP6946/TL-17-322**

To All Persons on the Attached Service List:

Enclosed and served upon you is the Administrative Law Judge's **FINDINGS OF FACT, CONCLUSIONS OF LAW, AND RECOMMENDATIONS** in the above-entitled matter.

If you have any questions, please contact my legal assistant Lisa Armstrong at (651) 361-7888 or [lisa.armstrong@state.mn.us](mailto:lisa.armstrong@state.mn.us), or facsimile at (651) 539-0310.

Sincerely,



JIM MORTENSON  
Administrative Law Judge

JRM:la  
Enclosure  
cc: Docket Coordinator

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

**CERTIFICATE OF SERVICE**

In the Matter of the Freeborn Wind Farm to Glenworth Substation High-Voltage Transmission Line Route Permit Application (17-322)	OAH Docket No.: 5-2500-35036 MPUC Docket No. IP6946/TL-17-322
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Lisa Armstrong certifies that on July 26, 2018, she served the true and correct

**FINDINGS OF FACT, CONCLUSIONS OF LAW, AND RECOMMENDATIONS** by

eService, and U.S. Mail, (in the manner indicated below) to the following individuals:

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