

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF SOUTH DAKOTA**

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**IN THE MATTER OF THE  
APPLICATION OF DEUEL HARVEST  
WIND ENERGY LLC FOR A PERMIT  
OF A WIND ENERGY FACILITY AND  
A 345-KV TRANSMISSION LINE IN  
DEUEL COUNTY**

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**DEUEL HARVEST WIND ENERGY  
LLC’S POST-HEARING BRIEF  
EL18-053**

**INTRODUCTION**

Deuel Harvest Wind Energy LLC (“Deuel Harvest”) submits this post-hearing brief to the South Dakota Public Utilities Commission (“Commission”) in support of its Application for an Energy Facility Permit for the proposed Deuel Harvest North Wind Farm (“Project”). Overall, the record demonstrates that Deuel Harvest has met its burden of proof and, thus, that the Commission should grant the requested permit for the Project, subject to the conditions set forth in Attachment A, which are Applicant’s and Staff’s Updated Proposed Permit Conditions.<sup>1</sup>

**BACKGROUND**

**I. THE PROJECT.**

The Project is an up to 310.1 megawatt (“MW”) wind energy conversion facility located in Deuel County, South Dakota. The Project area (“Project Area”) consists of approximately 41,980 acres of leased land in the townships of Portland, Lowe, Altamont, Glenwood, Herrick, and Antelope Valley.<sup>2</sup> The Project is proposed by Deuel Harvest, which is wholly-owned by Invenergy LLC (“Invenergy”). Invenergy develops, builds, owns, and operates large-scale

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<sup>1</sup> Attachment A includes both the conditions previously agreed to by Deuel Harvest and Staff in Exhibit A37, as well as an update to the proposed sound condition (Condition No. 26), and agreed upon conditions regarding shadow flicker (Condition No. 40), ice detection (Condition No. 41), and clarification regarding existing residences and structures (Condition No. 42).

<sup>2</sup> Ex. A14-1 (Updated Project Layout).

power plants, including 90 wind projects (12,864 MW). Invenergy currently provides wind turbine operations and maintenance services on more than 3,400 wind turbines.<sup>3</sup>

The proposed Project includes up to 112 wind turbines<sup>4</sup> and associated facilities.<sup>5</sup> Deuel Harvest proposes two turbine models for the Project: the GE 2.3-116 turbine, a 2.3 MW turbine with an 80-meter hub height and 116-meter rotor diameter (“RD”);<sup>6</sup> and the GE 2.82-127, a 2.82 MW turbine with an 88.6-meter hub height and 127-meter RD. The total number of turbines will be dependent on the final combination of turbine models.<sup>7</sup> Deuel Harvest requested the Commission provide flexibility for the Project to use a turbine of comparable capacity and specifications, so long as the new model complies with all other applicable regulations and Permit requirements.<sup>8</sup>

Otter Tail Power Company (“Otter Tail”) will construct, own, and operate a switching station (“Switching Station”) that will connect to the Big Stone South to Brookings 345-kV transmission line and will construct, own, and operate a segment of a 345-kV transmission line located from the Switching Station to the first structure outside the Switching Station (“Otter Tail Facilities”).<sup>9</sup> Deuel Harvest will construct, own and operate a 345-kV transmission line (“Gen-Tie”) between Otter Tail’s Facilities and Deuel Harvest’s Project Substation.<sup>10</sup> The transmission line owned by Otter Tail and the Gen-Tie will each be less than one-half mile long,

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<sup>3</sup> Ex. A1 at 1-2 (Application).

<sup>4</sup> The Application identified 124 potential turbine locations, 12 of which were alternates. Ex. A1 at 15-10 (Application). As a result of additional Project refinement and design, there are now only seven alternate turbine locations.

<sup>5</sup> Ex. A1 at 1-1 (Application).

<sup>6</sup> These turbines qualify the Project for the Production Tax Credit (“PTC”).

<sup>7</sup> Ex. A1 at 8-4 (Application).

<sup>8</sup> Ex. A1 at 8-4 (Application).

<sup>9</sup> Ex. A33 at 1 (Stipulation).

<sup>10</sup> *Id.* at 2.

will not cross a public highway, and will not require the use of eminent domain.<sup>11</sup> As such, Otter Tail, Commission Staff and Deuel Harvest stipulated, and the Commission agreed, that no permit needs to be issued by the Commission for construction, ownership, and operation of the Gen-Tie or the Otter Tail Facilities.<sup>12</sup>

## **II. PROJECT DEVELOPMENT.**

Deuel Harvest began developing the Project in mid-2015 with initial landowner outreach and the establishment of a local office on Main Street in Clear Lake.<sup>13</sup> Deuel Harvest undertook extensive development activities, consisting of landowner outreach and easement acquisition, detailed studies of resources in the Project Area, coordination with resource agencies, and design and refinement of the Project configuration.<sup>14</sup>

The final Project Area was primarily driven by: superior wind resources; proximity and direct access to the Big Stone to Brookings 345-kV transmission line to minimize interconnection infrastructure and need for long distance transmission lines; the Project's ability to avoid or minimize potential adverse environmental impacts; compatibility with existing agricultural use; and strong support from landowners in the Project Area, as well as the surrounding community.<sup>15</sup>

Deuel Harvest also considered input from agencies and the public in siting the Project and in identifying potential turbine locations. Some of the adjustments made during Project siting and design, in response to comments, included: avoidance of impacts to State and federal lands within or near the Project Area, and avoidance or minimization of impacts to undisturbed

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<sup>11</sup> Ex. A33 at 2 (Stipulation).

<sup>12</sup> Ex. A33 at 2 (Stipulation).

<sup>13</sup> Ex. A1 at 2-1 (Application).

<sup>14</sup> Ex. A1 at Ch. 2.0 (Application).

<sup>15</sup> Ex. A1 at 9-1 (Application).

grasslands, wetlands, and other habitats within or near the Project Area.<sup>16</sup> A previous site configuration, which included 161 turbine locations, was submitted and permitted at the County level in December 2017. Deuel Harvest’s decision to utilize a combination of 2.3 and 2.82 MW turbines reduced the number of turbine locations in the layout and reduced the total footprint of turbines.<sup>17</sup> For example, following the recommendation of South Dakota Game, Fish and Parks (“GFP”) and the U.S. Fish and Wildlife Service (“USFWS”), Deuel Harvest removed 12 proposed turbines sited in the northwest corner of the Project Area because of the concentration of wetlands in that area.<sup>18</sup>

### **III. LOCAL PERMITTING.**

On March 2, 2018, the Deuel County Board of Adjustment (“County Board”) issued a Special Exception Permit (“SEP”) for the Project.<sup>19</sup> On March 27, 2019, a South Dakota Circuit Court held that two of the County Board members should not have participated in voting on the Project SEP because they previously held easement agreements for the Project, even though those agreements were terminated before Deuel Harvest submitted its SEP application.<sup>20</sup> Deuel Harvest has appealed that decision to the South Dakota Supreme Court.<sup>21</sup>

Additionally, on April 5, 2019, Deuel Harvest submitted a new SEP application for the Project to the County Board.<sup>22</sup> Further, on April 16, 2019, Deuel Harvest submitted a request to the County for an interpretation regarding certain Deuel County Ordinance provisions to provide

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<sup>16</sup> Ex. A1 at 27-5 (Application).

<sup>17</sup> Ex. A1 at 9-2 (Application).

<sup>18</sup> Ex. A15 at 4 (Giampoli Rebuttal).

<sup>19</sup> See Ex. A1, Appendix C (Ordinance, SEP and Findings); Ex. A1 at 2-2 (Application).

<sup>20</sup> The Circuit Court issued a memorandum order dated January 25, 2019 and addendum order dated February 22, 2019 in Docket 04CIV18-00084. The Circuit Court issued Findings of Fact and Conclusions of Law dated March 27, 2019.

<sup>21</sup> Evid. Hrg. Tr. at 26 (April 15, 2019) (Draft Transcript) (Svedeman); *see also Holborn et al. v. Deuel County Board of Adjustment, et al.*, S.D. Supreme Court Docket No. 28963.

<sup>22</sup> See Evid. Hrg. Tr. at 26 (April 15, 2019) (Draft Transcript) (Svedeman) and Ex. A41 (Request for Interpretations of Deuel County Zoning Ordinance).

further clarity.<sup>23</sup> The County Board meeting at which the SEP application will be considered is scheduled for May 8, 2019.<sup>24</sup> Deuel Harvest anticipates that the County will also address Deuel Harvest's request for certain interpretations at this meeting.<sup>25</sup>

#### **IV. PROJECT NEED.**

Deuel Harvest presented evidence of consumer demand and need for the Project.<sup>26</sup> Deuel Harvest does not currently have a purchase agreement or off-take agreement for the Project but is currently negotiating two power purchase agreements with utilities. At the time of hearing, those negotiations were still in process and were confidential.<sup>27</sup> The electricity generated by the Project would be used as needed on the MISO regional grid and will help MISO operators meet electricity demand.<sup>28</sup> The output from the facility will be used to meet the needs for the region's electrical utilities and industrial, commercial, and residential customers.<sup>29</sup>

#### **LEGAL STANDARD**

Pursuant to South Dakota Codified Law ("SDCL") 49-41B-22, Deuel Harvest has the burden of proof to establish:

- (1) The proposed facility will comply with all applicable laws and rules;
- (2) The facility will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area;
- (3) The facility will not substantially impair the health, safety or welfare of the inhabitants; and

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<sup>23</sup> Ex. A41 (Request for Interpretations of Deuel County Zoning Ordinance).

<sup>24</sup> See public notice available at: [https://docs.wixstatic.com/ugd/1bce45\\_7d880d6292f94089b646c5f4092c6c5c.pdf](https://docs.wixstatic.com/ugd/1bce45_7d880d6292f94089b646c5f4092c6c5c.pdf)

<sup>25</sup> Evid. Hrg. Tr. at 112 (Apr. 18, 2019) (Rough Transcript).

<sup>26</sup> See, e.g., Ex. A1 at Ch. 6.0 (Application).

<sup>27</sup> Evid. Hrg. Tr. at 2 (Apr. 16, 2019) (Rough Transcript) (Svedeman).

<sup>28</sup> Ex. A1 at 6-1 (Application).

<sup>29</sup> Ex. A1 at 6-3 (Application).

(4) The facility will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government.

Deuel Harvest must establish these criteria by a preponderance of the evidence.<sup>30</sup> The Commission must make complete findings regarding an energy facility permit application and must grant, deny, or grant with conditions or modifications an energy facility permit.<sup>31</sup> The Commission must find that the Project meets the requirements of SDCL Ch. 49- 41B.<sup>32</sup>

## DISCUSSION

### **I. THE PROJECT WILL COMPLY WITH ALL APPLICABLE LAWS AND RULES.**

The evidence submitted by Deuel Harvest demonstrates that the Project will comply with all applicable laws and rules.<sup>33</sup> Specifically, Deuel Harvest and Staff have agreed to Condition No. 1, which provides that the Applicant “will obtain all governmental permits which reasonably may be required by any township, county, state or federal agency, or any other governmental unit for construction and operation activity of the Project prior to engaging in the particular activity covered by that permit.”<sup>34</sup>

Intervenors assert that the Project is in violation of the Deuel County Ordinance because it is not set back two miles from Lake Alice and is not set back four times the height of the turbine from the property line of Stone’s Conservation Acres LLP.<sup>35</sup> As an initial matter, the local development and interpretation of zoning regulations is outside the scope of the

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<sup>30</sup> See, e.g., *In re Setliff*, 2002 SD 58, ¶13, 645 NW2d 601, 605.

<sup>31</sup> SDCL 49-41B-25.

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

<sup>33</sup> See, e.g., Ex. A1 at 3-2 – 3-3, 8-4 – 8-5, 9-2 – 9-3, 16-1 (Application); Ex. A2 at 8-9, 22 (Svedeman Direct); Ex. A14 at 7 (Svedeman Rebuttal).

<sup>34</sup> Ex. A37 at ¶ 1 (Applicant’s and Staff’s Proposed Permit Conditions).

<sup>35</sup> See, e.g., Evid. Hrg. Tr. at 102 (April 18, 2019) (Rough Transcript) (Kilby); Ex. K14 at 7 (Kilby); Evid. Hrg. Tr. at 79 (April 18, 2019) (Rough Transcript) (W. Stone); Ex. HS9 at 2 (H. Stone Responses to Staff’s First Set of Data Requests).

Commission's jurisdiction. The Commission is not an oversight body for local land use decisions. Further, Intervenor's arguments take issue with Deuel County's interpretation of its zoning ordinance rather than the Project's compliance therewith. As stated in Section III above, Deuel Harvest has already requested further interpretation from the County on each of these issues. For detailed analysis, see also Section IV below.

Intervenor Ms. Kilby also previously argued that Deuel Harvest failed to demonstrate that it will comply with ARSD Chapter 20:10:22. However, ARSD Chapter 20:10:22 contains application content requirements, not decision-making criteria.<sup>36</sup> Further, Staff provided testimony noting that the Application was "generally complete" at the time of filing and that "an applicant supplementing its original application with additional information as requested by Commission Staff is not unusual for siting dockets."<sup>37</sup> In addition, as discussed further in the sections below, the Project meets the Commission's decision criteria set forth in SDCL 49-41B-22. Accordingly, Ms. Kilby's arguments on this issue must be rejected.

Ms. Kilby similarly asserted that the Project does not comply with SDCL Chapter 50-9, "Approval required for construction or alteration of certain structures." This argument, too, should be rejected. Specifically, the FAA has issued a Determination of No Hazard for each of the Project's proposed turbine sites, including Turbine 90 which is located near the Clear Lake Municipal Airport.<sup>38</sup> Deuel Harvest will comply with SDCL 50-9-1 and submit the Determinations of No Hazard to the South Dakota Aeronautics Commission "prior to the start of

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<sup>36</sup> Evid. Hrg. Tr. at 104 (April 18, 2019) (Rough Transcript).

<sup>37</sup> Ex. S1 at 4 (Thurber Direct).

<sup>38</sup> Ex. S7 at 31 (Applicant's Additional Data Request Responses to Staff) (Public).

construction in lieu of the application and permit required by [SDCL 50-9].”<sup>39</sup> Accordingly, Deuel Harvest has demonstrated that the Project will comply with SDCL 50-9-1.

**II. THE PROJECT DOES NOT POSE A THREAT OF SERIOUS INJURY TO THE ENVIRONMENT OR SOCIAL AND ECONOMIC CONDITION IN THE PROJECT AREA.**

The evidence demonstrates that the Project does not pose a threat of serious injury to the environment or social and economic condition in the site proposed for the Project, and that Deuel Harvest has adopted numerous avoidance and minimization measures and commitments to further limit potential environmental impacts.<sup>40</sup> More specifically, Deuel Harvest has demonstrated that it will avoid and/or minimize impacts to:

- Geological resources;<sup>41</sup>
- Soil resources;<sup>42</sup>
- Hydrology;<sup>43</sup>
- Vegetation;<sup>44</sup>
- Wildlife;<sup>45</sup>
- Federally- and state-listed species;<sup>46</sup>
- Aquatic ecosystems;<sup>47</sup>
- Land use;<sup>48</sup>
- Recreation;<sup>49</sup>
- Conservation easements;<sup>50</sup>

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<sup>39</sup> SDCL 50-9-1 and Ex. S7 at 31-32 (Applicant’s Additional Data Request Responses to Staff) (Public).

<sup>40</sup> See, e.g., Ex. A1 at Ch. 10.0, §§ 11.1.2, 11.2.2, 12.1.2, 12.2.2, 13.1.2, 13.2.2, 13.3.4, 14.2, 17.2, 18.2 (Application).

<sup>41</sup> *Id.* at 11.1.

<sup>42</sup> *Id.* at 11.2.

<sup>43</sup> *Id.* at Ch. 12.0.

<sup>44</sup> *Id.* at 13.1.

<sup>45</sup> *Id.* at 13.3.

<sup>46</sup> *Id.* at 13.3.2.

<sup>47</sup> *Id.* at Ch. 14.0.

<sup>48</sup> *Id.* at Ch. 15.0.

<sup>49</sup> *Id.* at 15.1.

<sup>50</sup> *Id.* at 15.2.

- Noise;<sup>51</sup>
- Visual resources;<sup>52</sup>
- Telecommunications;<sup>53</sup>
- Water quality;<sup>54</sup>
- Air quality;<sup>55</sup>
- Socioeconomic and community resources;<sup>56</sup>
- Commercial, industrial, and agricultural sectors;<sup>57</sup>
- Transportation;<sup>58</sup> and
- Cultural resources.<sup>59</sup>

This evidence is included in the Application and applicable testimony and will not be restated here; rather, Deuel Harvest will address those specific and discrete issues which were the focus of the evidentiary hearing.

**A. Environment.**

At the hearing, Intervenors generally testified regarding concerns about eagles (including an eagle nest north of Lake Alice) and other avian species. In addition, Ms. Paige Olson presented testimony on behalf of the South Dakota State Historical Preservation Office (“SHPO”) regarding cultural resources. These issues are discussed further below.

1. Deuel Harvest Has Avoided or Minimized Impacts to Wildlife.

The record evidence demonstrates that the siting and design of the Project avoids or minimizes wildlife impacts, including impacts to avian species. The Project has generally been sited to avoid and minimize impacts to wildlife habitat, such as waterbodies, potentially

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<sup>51</sup> *Id.* at 15.3.

<sup>52</sup> *Id.* at 15.4.

<sup>53</sup> *Id.* at 15.6.

<sup>54</sup> *Id.* at Ch. 17.0.

<sup>55</sup> *Id.* at Ch. 18.0.

<sup>56</sup> *Id.* at 20.1.

<sup>57</sup> *Id.* at 20.2.

<sup>58</sup> *Id.* at 20.4.

<sup>59</sup> *Id.* at 20.5.

undisturbed grasslands, wetlands, wooded areas, and critical habitat.<sup>60</sup> In addition, the record demonstrates that Deuel Harvest followed applicable guidelines and coordinated with the applicable resource agencies both with respect to the siting of the Project and the types and scope of pre-construction surveys conducted to assess wildlife in the Project Area.<sup>61</sup> For example, Deuel Harvest conducted two years of pre-construction avian use surveys to assess the use of the Project Area by avian species. Deuel Harvest also conducted two years of nest surveys to locate and assess the status of bald eagle and other raptor nests in and around the Project Area.<sup>62</sup>

## 2. Deuel Harvest Has Avoided Impacts to Bald Eagles.

Deuel Harvest has also demonstrated that it will avoid impacts to bald eagles. With respect to the bald eagle nest north of Lake Alice, there is no dispute that this nest was not identified during Deuel Harvest's pre-construction surveys. However, as discussed in more detail below, the record demonstrates that Deuel Harvest conducted appropriate surveys and coordinated with the appropriate agencies. Specifically:

- Deuel Harvest submitted an information request regarding known bald eagle nest sites through GFP Natural Heritage Program and to the GFP Wildlife Division and the USFWS South Dakota Ecological Services Field Office. Both agencies responded in August 2016 but in the response to Deuel Harvest, the agencies did not include information about the eagle nest near Lake Alice at that time.<sup>63</sup> The GFP local conservation officer became aware of the eagle nest near Lake Alice in 2016 and began monitoring it.<sup>64</sup> As Staff witness Mr. Kirschenmann testified, the information regarding the nest was not submitted to GFP and the Natural Heritage Database until after Deuel Harvest submitted its Natural Heritage Database request; accordingly, the information regarding that eagle nest was not in the Natural Heritage Database at the time of Deuel Harvest's

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<sup>60</sup> Ex. A1 at 3-1, 9.2 (Application).

<sup>61</sup> *See, e.g.*, Ex. A1 at 2-2 – 2-3, 13-9, 13-23, §§ 13.2.2, 13.3 (Application); Ex. A3 at 7 (Giampoli Direct); Ex. A15 at 9-10 (Giampoli Rebuttal); Ex. A10 at 5 (Giampoli Supplemental); Evid. Hrg. Tr. at 328 (April 16, 2019) (Rough Transcript) (Kirschenmann); Evid. Hrg. Tr. at 82-83 (April 16, 2019) (Rough Transcript) (Giampoli).

<sup>62</sup> Ex. A15 at 15 (Giampoli Rebuttal).

<sup>63</sup> Ex. A10 at 2 (Giampoli Supplemental).

<sup>64</sup> Evid. Hrg. Tr. at 328-29 (April 16, 2019) (Draft Transcript) (Kirschenmann).

request.<sup>65</sup> Deuel Harvest did not request an update following its August 2016 request because of ongoing coordination with GFP and USFWS and, as Mr. Kirschenmann testified, GFP did not provide an update notifying Deuel Harvest of the nest.<sup>66</sup>

- Deuel Harvest surveyed the Project Area and a ten-mile buffer by helicopter for eagle nests in 2016 and conducted a follow-up ground-based survey in the Project Area in 2017.<sup>67</sup> No eagle nests were detected near Lake Alice or in the Project Area during either survey.<sup>68</sup>

In February 2018, the USFWS informed Deuel Harvest that a landowner had brought to USFWS' attention that there may be an eagle nest north of Lake Alice.<sup>69</sup> Deuel Harvest reviewed the GFP Natural Heritage Program response, and the results of the two years of nest surveys and found that while there were medium sized raptor nests observed north of Lake Alice, none was considered large enough to be an eagle nest, so no further due diligence was conducted at that time.<sup>70</sup> Following comments made at the January 24, 2019 public input hearing regarding a potential eagle nest near Lake Alice, Deuel Harvest contacted the USFWS and GFP. On February 5, 2019, the GFP responded that it was aware of a nest and provided its coordinates.<sup>71</sup> Deuel Harvest retained two qualified biologists to survey the area of the potential nest on February 5 and 6, 2019. The biologists confirmed the nest was an eagle nest.<sup>72</sup>

Deuel Harvest also conducted an additional raptor nest survey in Spring 2019, and that survey did not identify any new eagle nests.<sup>73</sup> Deuel Harvest is now coordinating with GFP and USFWS regarding eagle flight path mapping and eagle nest monitoring at the identified eagle

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<sup>65</sup> Evid. Hrg. Tr. at 333-34 (April 16, 2019) (Draft Transcript) (Kirschenmann).

<sup>66</sup> Evid. Hrg. Tr. at 333-34 (April 16, 2019) (Draft Transcript) (Kirschenmann).

<sup>67</sup> Ex. A10 at 2 (Giampoli Supplemental).

<sup>68</sup> Ex. A10 at 2 (Giampoli Supplemental).

<sup>69</sup> Ex. A10 at 2 (Giampoli Supplemental).

<sup>70</sup> Ex. A10 at 2 (Giampoli Supplemental).

<sup>71</sup> Ex. A10 at 2 (Giampoli Supplemental).

<sup>72</sup> Ex. A10 at 3 (Giampoli Supplemental); *see also* Ex. A10-1 (Burns & McDonnell Memorandum, Eagle Nest Monitoring near Lake Alice, South Dakota for the Deuel County North Wind Farm, Deuel County, South Dakota (February 11, 2019)).

<sup>73</sup> Evid. Hrg. Tr. at 17-18 (Apr. 16, 2019) (Rough Transcript) (Giampoli).

nest north of Lake Alice.<sup>74</sup> This involves having staff in the field for multiple days every three to four weeks during nesting season to map the flight paths of eagles in and around the nest and to understand the activity in the nest; this final study plan has been shared with GFP and USFWS.<sup>75</sup>

With respect to that nest:

- In accordance with the recommendations under the South Dakota Bald Eagle Management Plan, Deuel Harvest has committed to relocating two turbines (Turbine Nos. 40 and 41) to meet a minimum 800 meters (0.5 mile) setback from the Lake Alice eagle nest to limit disturbance to eagles.<sup>76</sup>
- Further, according to the USFWS, no eagle fatalities have been reported at a wind energy facility in South Dakota.<sup>77</sup>
- Similarly, Ms. Andrea Giampoli testified concerning Invenergy's ongoing research at another wind project in which adult eagles built a nest and has had two years of offspring within that project area; this indicates that eagles may successfully coexist with wind turbines.<sup>78</sup>
- In addition, Deuel Harvest has agreed to a number of avian-related impact minimization and avoidance measures, including: conducting post-construction avian mortality monitoring for two years; and implementing the BBCS developed in accordance with the USFWS WEG to minimize impacts to avian and bat species during construction and operation of the Project.<sup>79</sup>

Overall, the record evidence demonstrates that, through its siting, survey, agency coordination, and post-construction commitments, Deuel Harvest is committed to avoiding and minimizing impacts to avian species, including bald eagles.

3. A Level III Intensive Survey is Being Completed for All Areas Disturbed by the Project.

With respect to cultural resources, Ms. Olson recommended that Deuel Harvest conduct a Level III intensive survey for all areas that would be physically disturbed by the Project,

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<sup>74</sup> Ex. A15 at 2 (Giampoli Rebuttal).

<sup>75</sup> Evid. Hrg. Tr. at 18 (Apr. 16, 2019) (Rough Transcript) (Giampoli).

<sup>76</sup> Ex. A15 at 15 (Giampoli Rebuttal).

<sup>77</sup> Ex. A15 at 15 (Giampoli Rebuttal).

<sup>78</sup> Evid. Hrg. Tr. at 108-110 (Apr. 16, 2019) (Rough Transcript) (Giampoli).

<sup>79</sup> See, e.g., Ex. A37 at ¶ 31 (Applicant's and Staff's Proposed Permit Conditions); Ex. A5-1 (Updated BBCS); Ex. A15 at 2, 8, 15 (Giampoli Rebuttal); Ex. A3 at 8 (Giampoli Direct).

including buffer areas. Deuel Harvest committed to conducting this work. SHPO concurred with Deuel Harvest's planned survey approach, methodology and timeframe.<sup>80</sup> These surveys are currently in progress<sup>81</sup> and a report is scheduled to be submitted to Deuel Harvest by July 10, 2019.<sup>82</sup> Further, Deuel Harvest has agreed to develop an unanticipated discovery plan for cultural resources in consultation with SHPO.<sup>83</sup> As Staff witness Ms. Paige Olson testified, these measures, coupled with avoidance of known cultural resource sites, have addressed SHPO's concerns.<sup>84</sup>

## **B. Social and Economic Condition.**

The record demonstrates that the Project will not pose a threat of serious injury to the social and economic condition.<sup>85</sup> At the hearing, there was testimony concerning alleged property value impacts, the concerns about the impact of the Project on the Stones' pheasant hunting operation ("Stone Hunting Operation"), and more generalized community impacts.

### **1. The Project Will Not Impact Property Values.**

With respect to property values, Deuel Harvest has demonstrated that the Project will not adversely impact property values.<sup>86</sup> Mr. MaRous, a South Dakota State Certified General Appraiser and a certified Member Appraisal Institute appraiser with extensive experience evaluating the impact of wind turbines on property values, conducted a Market Analysis to analyze the potential impact of the Project on the value of the surrounding properties and found no market data indicating property values will be adversely impacted due to proximity to the

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<sup>80</sup> Ex. A14 at 10 (Svedeman Rebuttal); Ex. A14-5 (SHPO Concurrence Letter, March 26, 2019); *see also* Evid. Hrg. Tr. at 129-30 (April 16, 2019) (Draft Transcript) (Olson).

<sup>81</sup> Evid. Hrg. Tr. at 24-25 (April 15, 2019) (Draft Transcript) (Svedeman).

<sup>82</sup> Ex. A14 at 10 (Svedeman Rebuttal).

<sup>83</sup> Ex. A14 at 12 (Svedeman Rebuttal) and Ex. S5 at 9 (Olson Direct); Ex. A37 at ¶ 12 (Applicant's and Staff's Proposed Permit Conditions).

<sup>84</sup> Evid. Hrg. Tr. at 129-30 (April 16, 2019) (Draft Transcript) (Olson).

<sup>85</sup> *See, e.g.*, Ex. A1 at §§ 20.1.2, 20.2.2 (Application).

<sup>86</sup> *See* Ex. Ex. A1 at § 20.1.2.3 (Application); Ex. A1, Appendix W (Market Impact Analysis); Ex. A5 at 6, 7-9 (MaRous Direct).

Project.<sup>87</sup> Mr. MaRous further noted that the additional income from participating in the Project may actually increase the value of participating agricultural land.<sup>88</sup> This conclusion is also consistent with the Commission's recent findings regarding property values in the Prevailing Wind Park, Dakota Range I and II, and Crocker wind farm proceedings.<sup>89</sup>

2. There is no Evidence the Project will Negatively Impact the Stones' Hunting Operation.

With respect to the Stones' pheasant hunting operation, there is no evidence in the record that the Project will adversely impact hunting or gaming operations in the area. Intervenors Heath and Will Stone testified regarding their concerns about the Project's impact on the Stone Hunting Operation.<sup>90</sup> However, there is no factual evidence in the record that the Project will impact the Stone Hunting Operation, or hunting in general. The Project does not prohibit or otherwise restrict hunting.<sup>91</sup> The study cited by Heath Stone in his testimony does not support his claim that the Project will affect pheasant distribution in the area and around the Stone property. Rather, the study referenced by Mr. Stone found that there was "no biologically

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<sup>87</sup> See Ex. A1, Appendix W (Market Impact Analysis) and Ex. A5 at 8-9 (MaRous Direct).

<sup>88</sup> Ex. A5 at 6 (MaRous Direct).

<sup>89</sup> See *In the Matter of the Application by Prevailing Wind Park, LLC for a Permit of a Wind Energy Facility in Bon Homme County, Charles Mix County and Hutchinson County, South Dakota, for the Prevailing Wind Park Project*, Docket EL18-026, Final Decision and Order Granting Permit to Construct Facilities and Notice of Entry (Nov. 28, 2018) at ¶ 52; *In the Matter of the Application by Dakota Range I, LLC and Dakota Range II, LLC for a Permit of a Wind Energy Facility in Grant County and Codington County, South Dakota, for the Dakota Range Wind Project*, Docket EL18-003, Final Decision and Order Granting Permit to Construct Wind Energy Facility; Notice of Entry (July 23, 2018) at ¶¶ 53-54; *In the Matter of the Application by Crocker Wind Farm, LLC for a Permit of a Wind Energy Facility and a 345 kV Transmission Line in Clark County, South Dakota, for Crocker Wind Farm*, Docket EL17-055, Final Decision and Order Granting Permit to Construct Facilities and Notice of Entry (June 12, 2018) at ¶¶ 58-60; see also Ex. A5 at 6-7 (MaRous Direct); Ex. A5-1 (Surrebuttal Testimony of David Lawrence in Dakota Range Docket).

<sup>90</sup> Ex. HS4 (H. Stone Direct); Ex. WS1 (W. Stone); Evid. Hrg. Tr. at 65-104 (April 18, 2019) (Draft Transcript) (W. Stone).

<sup>91</sup> Ex. A14 at 16-17 (Svedeman Rebuttal).

significant avoidance of wind turbines by male Ring-necked pheasants.”<sup>92</sup> In addition, Mr. Heath Stone testified that the Stone Hunting Operation primarily uses raised pheasants (approximately 6,000 per year) and only 25-50 wild pheasants annually.<sup>93</sup> There is no evidence in the record that the presence of a wind turbine on another property would have an adverse impact on a pheasant, whether it is wild or raised. There was contrary evidence suggesting that wind turbines are fully compatible with hunting preserves—Mr. MaRous noted that the Oak Tree hunting preserve in Clark has approximately 10 wind turbines on its property.<sup>94</sup>

Further, removing turbines from other landowners because of the Stone Hunting Operation would have significant adverse impacts on those landowners.<sup>95</sup> It would be inappropriate and not supported by the evidence to adversely impact these landowners when there is no evidence that the Stone Hunting Operation would be adversely impacted in any way.

### 3. The Record Demonstrates that the Project will Benefit Local Residents.

With respect to community impacts, the record demonstrates that the Project will benefit and is supported by residents. None of the Intervenor lives within the Project Area, and half of them do not live in Deuel County.<sup>96</sup> In contrast, the Commission heard testimony of landowners who do support the Project, and numerous other landowners submitted supportive comments in

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<sup>92</sup> Ex. HS2 at 33 (Dupuie, Ring-necked Pheasant responses to wind energy in Iowa). The Dupuie paper also states that while the results “suggest that wind energy infrastructure impacts pheasant abundance, because of the relatively small scale of these effects, we argue they are not biologically significant. Large changes in turbine density and distance equate to changes in only a fraction of a bird.” *Id.* at 23.

<sup>93</sup> Evid. Hrg. Tr. at 211 (April 18, 2019) (Draft Transcript) (H. Stone).

<sup>94</sup> Evid. Hrg. Tr. at 4-17 and 127-128 (April 17, 2019) (Draft Transcript) (MaRous).

<sup>95</sup> *E.g.*, Evid. Hrg. Tr. at 49-50 (April 17, 2019) (Draft Transcript) (Thompson); Ex. A22 at 2-3 (Kenyon Rebuttal); Ex. A23 at 2-3 (Thompson Rebuttal); Evid. Hrg. Tr. at 66-67 (April 17, 2019) (Draft Transcript) (Kenyon).

<sup>96</sup> For example, Ms. Kilby and Mr. Garrett Homan testified that they live in Minnesota and visit South Dakota a few times a year. Evid. Hrg. Tr. at 53 and 62 (April 18, 2019) (Draft Transcript) (Kilby); Evid. Hrg. Tr. at 110 (April 18, 2019) (Draft Transcript) (G. Homan). Mr. Kenyon, on the other hand, lives in his property year-round (which is his family’s century farm) and relies on the land to making a living to support himself and his family.

this docket.<sup>97</sup> Participating landowners Mr. Doyle Thompson and Mr. Cody Kenyon testified to their good working relationships with Deuel Harvest and how they believe the Project will benefit the community.<sup>98</sup> Mr. Thompson and Mr. Kenyon explained that the Project will generate much-needed revenue for the county, townships, and local schools, provide an additional stable source of income for landowners, and create opportunities for future generations to be able to stay in the community, buy land and actually make a living off the land.<sup>99</sup> Mr. Kenyon in particular, who resides within the Project Area, testified about the difficulties of being a young farmer and raising his family in Deuel County on his family's century farm, and how the economic benefits of the Project would provide additional, stable income for his family and other participants.<sup>100</sup> Overall, the record demonstrates that the Project has minimized impacts to non-participating landowners and others, and that it is supported in the community.

### **III. THE PROJECT WILL NOT SUBSTANTIALLY IMPAIR HEALTH, SAFETY, OR WELFARE.**

#### **A. Sound.**

The record demonstrates Deuel Harvest has minimized impacts from noise.<sup>101</sup> Section 1215.03(13)(a) of the Deuel County Ordinance provides that the noise level from wind energy systems “shall not exceed 45 dBA average A-Weighted Sound pressure at the perimeter of

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<sup>97</sup> See the public comments filed by supporters in Docket EL 18-053.

<sup>98</sup> See Ex. A22 at 2-3 (Kenyon Rebuttal); Ex. A23 at 2-3 (Thompson Rebuttal); see also Evid. Hrg. Tr. at 66-67, 70, 78 (April 17, 2019 (Draft Transcript) (Kenyon); Evid. Hrg. Tr. at 3-4, 10-11, 13, 18 (April 17, 2019) (Draft Transcript) (Thompson).

<sup>99</sup> Ex. A22 at 2 (Kenyon Rebuttal); Ex. A23 at 2-3 (Thompson Rebuttal); Evid. Hrg. Tr. at 66-67, 70, 78 (April 17, 2019 (Draft Transcript) (Kenyon); Evid. Hrg. Tr. at 3-4, 10-11, 13, 18 (April 17, 2019) (Draft Transcript) (Thompson).

<sup>100</sup> Evid. Hrg. Tr. at 65-67 (April 17, 2019) (Draft Transcript) (Kenyon).

<sup>101</sup> See Ex. A17-1 (Updated Noise Analysis); Ex. A17 (Hankard Rebuttal); Ex. A1 at § 15.3.2 (Application); see also, generally, Ex. A4 (Hankard Direct); Ex. A9 (Hankard Supplemental).

existing residences, for non-participating residences.”<sup>102</sup> Deuel Harvest voluntarily committed to limit noise to 50 dBA at participating residences.<sup>103</sup> Based on the modeling conducted, the Project will comply with the requirements of Deuel County and Deuel Harvest’s voluntary commitment.

The Project’s acoustic modeling utilized conservative assumptions.<sup>104</sup> For example, the modeling did not include the turbine manufacturers’ uncertainty factor, but did apply a conservative ground factor of 0.0, which represents completely reflective ground material such as pavement or flat water, and results in a higher modeled sound level at a receptor.<sup>105</sup> Deuel Harvest’s acoustical expert Mr. Hankard has verified the accuracy and conservativeness of the modeling method through field measurements at other operating wind projects.<sup>106</sup> These measurements have demonstrated that his pre-construction modeling methods typically exceed actual operational noise levels of proposed projects.<sup>107</sup> As such, actual noise levels for the Project are expected to be lower than the modeled levels at all times.<sup>108</sup>

Mr. Hankard testified that Deuel County’s 45 dBA Leq limit is a reasonable regulatory standard for non-participating landowners based on what he has seen used in other counties and states across the United States.<sup>109</sup> As Mr. Hankard testified, Deuel County’s 45 dBA limit is on the low end of the range of United States wind farm limits that he is familiar with; further, it is often difficult to discern wind turbine noise at 45 dBA in the presence of noise from the wind blowing through vegetation (trees, grass, crops), the noise level of which ranges from 35 to 55

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<sup>102</sup> Ex. A1, Appendix C (WES Ordinance, SEP, and Findings); Ex. A1 at 15-7 (Application).

<sup>103</sup> Ex. A7 at 2 (Svedeman Supplemental).

<sup>104</sup> See Ex. A17-1 at 5, 6 (Updated Noise Analysis).

<sup>105</sup> Ex. A4 at 6-7 (Hankard Direct); Ex. A17-1 at 6 (Updated Noise Analysis).

<sup>106</sup> See Ex. A4 at 7-8 (Hankard Direct); Ex. A17-1 at 7, 12 (Updated Noise Analysis).

<sup>107</sup> See Ex. A4 at 7-8 (Hankard Direct); Ex. A17-1 at 7, 12 (Updated Noise Analysis).

<sup>108</sup> See Ex. A4 at 8 (Hankard Direct); Ex. A17-1 at 7, 12 (Updated Noise Analysis); *see also* Evid.

Hrg. Tr. at 261 (April 16, 2019) (Draft Transcript) (Hankard).

<sup>109</sup> Ex. A9 at 3 (Hankard Supplemental).

dBA. Staff witness Mr. Hessler agreed that 45 dBA Leq at non-participating residences and 50 dBA at participating residences are reasonable limits the Commission should apply to the Project.<sup>110 111</sup> Mr. Hessler and Mr. Hankard also agreed that Intervenor Homan's proposal of 35 dBA at non-participating residences is not a reasonable condition for the Project, and Mr. Robert Rand admitted that his recommended 35 dBA has not previously been adopted.<sup>112</sup>

Likewise, Mr. Hessler and Mr. Hankard agreed that L10 should not be used as the sound level metric for the Project.<sup>113</sup> First, the L10 (the level exceeded 10% of the time) is typically applied to sources of transient noise, such as highways, where there is a significant fluctuation in the noise level (e.g., very loud when a truck goes by, and almost silent when no traffic is present).<sup>114</sup> Wind turbines, when operating near or at full power (which is the condition of interest in noise compliance studies), emit a relatively continuous noise.<sup>115</sup> Continuous noise sources are best quantified using the Leq, which is suitable for use on a wide range of environmental noise sources and is by far the most commonly used metric by environmental acoustics professionals, noise standards, regulations, and ordinances for wind turbine projects, highways and airports.<sup>116</sup> Because the L10 represents the highest noise levels measured over a time interval, it better quantifies the non-turbine intermittent noise in the background than it does the constant noise from the wind turbines.<sup>117</sup> In addition, a majority of the acoustic standards

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<sup>110</sup> See Ex. S3 at 5, 6-8 (Hessler Direct); *see also* Evid. Hrg. Tr. at 10 (April 18, 2019) (Draft Transcript) (Hessler).

<sup>111</sup> Ex. A24 at 8 (Hankard Surrebuttal); *see also* Evid. Hrg. Tr. at 264-65 (April 16, 2019) (Draft Transcript) (Hankard).

<sup>112</sup> Ex. S3 at 6 (Hessler Direct); Ex. A17 at 2 (Hankard Rebuttal).

<sup>113</sup> *See, e.g.*, Ex. S3 at 6-7 (Hessler Direct); Ex. A17 at 2, 4-5 (Hankard Rebuttal).

<sup>114</sup> Ex. A9 at 6 (Hankard Supplemental).

<sup>115</sup> Ex. A9 at 6 (Hankard Supplemental).

<sup>116</sup> Ex. A9 at 6 (Hankard Supplemental).

<sup>117</sup> Ex. A9 at 6-7 (Hankard Supplemental).

applicable to wind turbine projects quantify noise using the Leq metric.<sup>118</sup> Specifically, manufacturers quantify noise from turbines using the Leq, and propagation models specify the Leq, as so do environmental noise measurement standards.<sup>119</sup> The primary method of measuring compliance and of separating turbine and non-turbine noise, using ANSI S12.9 Part 3, is designed to be used with the Leq.<sup>120</sup>

The record further demonstrates that ambient sound modeling (a community noise assessment) is not warranted. As Mr. Hessler testified, ambient (background) noise levels in rural areas “all over the country” are “remarkabl[y]” similar<sup>121</sup> and ambient sound surveys “tend to be repetitive” and “[t]end to get the same results,” in the 35 to 40 dBA range.<sup>122</sup> Further, Mr. Hessler noted that other projects recently permitted by the Commission have also not conducted a community noise assessment.<sup>123</sup>

Staff and Deuel Harvest previously agreed upon Condition 26 regarding noise,<sup>124</sup> and, in response to Commission questions at the evidentiary hearing, Deuel Harvest proposes to supplement that condition to describe any potential post-construction monitoring survey for the Project based on input from both Mr. Hankard and Mr. Hessler.<sup>125</sup> This revised Condition 26 is included in Attachment A. Overall, the record demonstrates that the Project will comply with all applicable noise requirements and that such requirements are reasonable limits.

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<sup>118</sup> Ex. A9 at 7 (Hankard Supplemental).

<sup>119</sup> Ex. A9 at 7 (Hankard Supplemental).

<sup>120</sup> Ex. A9 at 7 (Hankard Supplemental).

<sup>121</sup> Evid. Hrg. Tr. at 12 (April 18, 2019) (Draft Transcript) (Hessler) (“I’ve done I would estimate 50 to 60 ambient studies before wind projects are built, and just about all wind projects are in rural areas to begin with. It’s remarkable how similar the background is all over the country. Almost to the point where I feel like it’s not even necessary to do the survey. You can also guess what the level’s going to be. ... What we find is that level is often in the 35 to 40 range.”).

<sup>122</sup> Evid. Hrg. Tr. at 45 (April 18, 2019) (Draft Transcript) (Hessler).

<sup>123</sup> Evid. Hrg. Tr. at 40-41 (April 18, 2019) (Draft Transcript) (Hessler).

<sup>124</sup> Ex. A37 at ¶ 26 (Applicant’s and Staff’s Proposed Permit Conditions).

<sup>125</sup> Attachment A at ¶ 26.

**B. Flicker.**

Section 1215.03(13)(b) of the Deuel County Ordinance states the following: “Limit for allowable shadow flicker at existing residences to no more than 30 hours annually.”<sup>126</sup> The Project is not projected to result in shadow flicker levels above 30 hours per year at any existing residential inhabited building. Therefore, the Project will comply with the Deuel County Ordinance.<sup>127</sup>

The record further demonstrates that the 30 hour/year limit is an appropriate limit.<sup>128</sup> There is no federal standard for shadow flicker exposure from wind turbines, and state and local standards are uncommon.<sup>129</sup> The 30-hour-per-year limit was established by Deuel County after a zoning amendment process. Thus, it is the appropriate community standard for the Project based on that community process and because the 30-hour annual limit is a typical standard in the United States for shadow flicker, when such a limit is established.<sup>130</sup>

The record does not support a limit on minutes of shadow flicker per day.<sup>131</sup> First, shadow flicker does not cause human health impacts. Further, as Deuel Harvest’s expert Ms. Blank testified, there are approximately 4,463 hours of daylight in South Dakota annually. In percentage terms, 30 hours represents less than 1 percent of daylight hours.<sup>132</sup> Accordingly, 30 hours per year is a reasonable limit.

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<sup>126</sup> See, e.g., Ex. A1 at § 15.5.2 (Application); Ex. A18-1 (Updated Shadow Flicker Analysis).

<sup>127</sup> Ex. A18 at 2 (Blank Rebuttal); Ex. A18-1 at 5 (Updated Shadow Flicker Analysis).

<sup>128</sup> See Ex. A8 at 1-2, 3-4 (Blank Supplemental).

<sup>129</sup> Ex. A6 at 4 (Blank Direct) and Ex. A8 at 1 (Blank Supplemental).

<sup>130</sup> Ex. A8 at 3-4 (Blank Supplemental).

<sup>131</sup> Ex. A8 at 2-3 (Blank Supplemental).

<sup>132</sup> Ex. A8 at 3 (Blank Supplemental).

### C. Health.

There is no record evidence that the Project will have adverse impacts on human health.<sup>133</sup> Deuel Harvest offered the testimony of two highly qualified medical doctors with unchallenged credentials: Dr. Mark Roberts and Dr. Jeff Ellenbogen. Both Dr. Roberts and Dr. Ellenbogen testified, unrebutted,<sup>134</sup> that there is no scientific evidence that wind turbines cause adverse health effects.<sup>135</sup>

Dr. Roberts concluded that there is no peer-reviewed, scientific data to support a claim that wind turbines are causing disease or specific health conditions.<sup>136</sup> Further, Dr. Ellenbogen testified concerning a study that Health Canada recently completed with 1,200 participants and published that formally investigated the potential for wind turbine noise to impact human health.<sup>137</sup> As Dr. Ellenbogen testified, the Health Canada study “is by far the largest and most

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<sup>133</sup> See, e.g., Ex. A12 at 6-7, 8-9, 14 (Roberts Supplemental); Ex. A11 at 5 (Ellenbogen Rebuttal) (“None of the limited epidemiological evidence reviewed suggested an association between noise from wind turbines and a wide range of topics we considered: pain, stiffness, diabetes, high blood pressure, tinnitus, hearing impairment, cardiovascular disease, and/or headache/migraine. In addition, claims that infrasound from wind turbines directly impacts the vestibular system have not been demonstrated scientifically. . . . We did not find evidence in the human or animal literature to support that vibrations of the kind produced by a wind turbine could influence the vestibular system.”); Ex. A11 at 12 (Ellenbogen Supplemental) (“This rigorous study demonstrated no relationship between noise from wind turbines and a wide variety of subjective and objective measures of adverse health outcomes. More simply, the most comprehensive study of the effect of wind turbine noise on human health to date did not show adverse health effects at sound levels up to 46 dBA at the receptor.”); Ex. A19 at 2 (Ellenbogen Rebuttal) (“there is not only ‘insufficient evidence to establish a significant risk to human health,’ but also, there is now evidence to establish that there is not a significant risk to human health.”); Evid. Hrg. Tr. at 134-35, 143, 144, 152-53, 169-70 (April 16, 2019) (Draft Transcript) (Roberts); Evid. Hrg. Tr. at 175, 184, 202-03, 208 (April 16, 2019) (Draft Transcript) (Ellenbogen).

<sup>134</sup> Intervenor Kilby submitted pre-filed testimony from Mr. Robert Rand, who was precluded from testifying regarding health effects because he lacks the education, training, and experience to provide expert testimony on health effects. See Evid. Hrg. Tr. at 193, 195-96 (April 18, 2019) (Draft Transcript).

<sup>135</sup> See, e.g., Ex. A11 at 5 (Ellenbogen Supplemental); Ex. A19 at 2 (Ellenbogen Rebuttal); Ex. A12 at 6-7, 9, 10-11 (Roberts Supplemental); Evid. Hrg. Tr. at 134-35, 143, 144, 152-53, 169-70 (April 16, 2019) (Draft Transcript) (Roberts); Evid. Hrg. Tr. at 175, 184, 202-03, 208 (April 16, 2019) (Draft Transcript) (Ellenbogen).

<sup>136</sup> Ex. A12 at 6-7 (Roberts Supplemental); Evid. Hrg. Tr. at 135, 144 (April 16, 2019) (Draft Transcript) (Roberts).

<sup>137</sup> See Ex. A19 at 2-3 (Ellenbogen Rebuttal); see also Ex. A11 at 6-7 (Ellenbogen Supplemental); Ex. A25 at 3 (Ellenbogen Surrebuttal).

comprehensive study on the topic of health effects for humans and wind turbines.”<sup>138</sup> This research examined multiple dimensions, including stress, sleep, and cardiovascular disease. Researchers examined self-reported and objective measures of health-related outcomes associated with wind turbine noise of more than one thousand people exposed to outdoor calculated wind turbine noise levels up to 46 dBA.<sup>139</sup>

The overall conclusion of that work is that there were no positive associations between wind turbine noise and a wide variety of subjective and objective measures of adverse health outcomes. Specifically, the study did not show adverse health effects at sound levels up to 46 dBA at the receptor.<sup>140</sup> Notably, Intervenors in this case have attempted to argue that wind turbines may cause annoyance, which could then result in adverse health effects; however, the Health Canada study specifically considered this issue and did not find support for Intervenors’ argument. Similarly, the Health Canada study found no evidence of sleep disruption from wind turbines at up to 46 dBA: “[wind turbine noise] levels up to 46 dB(A) had no statistically significant effect on any measure of sleep quality.”<sup>141</sup>

Intervenors also referred generally to infrasound. Infrasound is generated by both natural and man-made sources.<sup>142</sup> These sources are in the range of infrasound produced by wind turbines and are multiple orders of magnitude below the threshold of human hearing.<sup>143</sup> There is

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<sup>138</sup> Evid. Hrg. Tr. at 177 (April 16, 2019) (Draft Transcript) (Ellenbogen).

<sup>139</sup> See Ex. A19 at 2-3 (Ellenbogen Rebuttal); see also Ex. A11 at 6-7 (Ellenbogen Supplemental); Ex. A25 at 3 (Ellenbogen Surrebuttal).

<sup>140</sup> See Ex. A19 at 2-3 (Ellenbogen Rebuttal); see also Ex. A11 at 6-7 (Ellenbogen Supplemental); Ex. A25 at 3 (Ellenbogen Surrebuttal).

<sup>141</sup> Ex. A11-5 at 107 (Michaud et al., Effects of Wind Turbine Noise on Self-Reported and Objective Measures of Sleep (2016)) (emphasis added).

<sup>142</sup> Ex. A12 at 9 (Roberts Supplemental).

<sup>143</sup> Ex. A12 at 9 (Roberts Supplemental); Ex. A17 at 5 (Hankard Rebuttal); Ex. A19 at 5-6 (Ellenbogen Rebuttal); Evid. Hrg. Tr. at 197-98 (April 16, 2019) (Draft Transcript) (Ellenbogen).

no scientifically proven evidence of adverse effects in the range produced by wind turbines.<sup>144</sup> As Staff's witness Mr. Hessler testified, there are currently over 50,000 wind turbines installed in the United States, with self-reported adverse health effect complaints at only a very small number of those turbines.<sup>145</sup>

Overall, the record shows that Deuel Harvest has met its burden to demonstrate that the Project will not substantially impair human health. Indeed, there is no evidence in the record that the Project would impair human health (substantially or insubstantially).

#### **D. Turbine Blade Icing.**

The record demonstrates that Deuel Harvest has taken appropriate measures to avoid and/or minimize the risk of ice throw occurring.<sup>146</sup> Although icing can occur on turbine blades during freezing rain conditions, the record demonstrates that it is not common and is generally controlled by ice detection systems on the turbines.<sup>147</sup> Deuel Harvest and Commission Staff have agreed upon the following condition with respect to icing (Condition No. 41 in Attachment A):

The Project will use the following method to detect icing conditions on turbine blades: (1) Applicant will install sensors on the nacelle and instrumentation that will measure air temperature, wind speed, and power output. That information, in addition to monitoring for deviations in each turbine's power curve, will then be used by an algorithm in the software system to assess whether there is ice buildup on the blades. (2) Applicant will also utilize meteorological data from onsite permanent meteorological towers, on-site anemometers, and other relevant meteorological sources to determine if ice accumulation is occurring. These control systems

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<sup>144</sup> See Ex. A12 at 9 (Roberts Supplemental); Evid. Hrg. Tr. at 152-53, 169-70 (April 16, 2019) (Draft Transcript) (Roberts); Ex. A19 at 3-4 (Ellenbogen Rebuttal).

<sup>145</sup> See Evid. Hrg. Tr. at 18 (April 18, 2019) (Draft Transcript) (Hessler) ("The Shirley project had six turbines and lots of people upset. There's 56 thousand wind turbines in this country, and all we ever hear about is Shirley from years ago. If this were a common problem that was multiplied by the number of turbines, we'd be hearing about all kinds of projects with this problem. In South Dakota there's 15 projects, 1,000 megawatts operating. Does anyone know of any problems in this state from any of those projects in terms of infrasound? I wasn't able to find anything.").

<sup>146</sup> See, e.g., Ex. A13 at 2-5 (Baker Supplemental); Evid. Hrg. Tr. at 55-56 (April 18, 2019) (Draft Transcript) (Baker).

<sup>147</sup> Ex. A13 at 2 (Baker Supplemental); Ex. A16 at 1 (Baker Rebuttal).

would either automatically shut down the turbine(s) in icing conditions, or Applicant would manually shut down turbine(s) if icing conditions are identified. Turbines would not return to normal operation until the control systems indicate icing is no longer a concern. Applicant will pay for any documented damage caused by ice thrown from a turbine.

As referenced above, turbine control systems would either automatically shut down the turbine(s) in icing conditions (per the sensors), or Deuel Harvest would manually shut down turbine(s) if icing conditions are identified (using meteorological data).<sup>148</sup> Turbines would not return to normal operation until the control systems indicate icing is no longer a concern.<sup>149</sup>

The evidence presented in the record demonstrates that Project setbacks and the condition proposed above will protect human health and safety.<sup>150</sup> Deuel Harvest provided testimony from Mr. Jacob Baker, the Director of Operations and Maintenance, Renewables, at Invenergy, who has more than thirteen years of experience working with site operations and maintenance of wind energy facilities.<sup>151</sup> In addition, Deuel Harvest confirmed with General Electric (“GE”) the condition proposed above to detect icing “as the method employed by GE to sense and assess ice build-up on the blades and to control the machine appropriately, and that GE’s recommended setback guidance of *1.1\*Tip Height* is intended to cover residual risks of blade icing.”<sup>152</sup> As such, Project setbacks are consistent with the setbacks recommended by GE in its Setback Considerations for Wind Turbine Siting, which are intended to cover ice and blade throw.<sup>153</sup> The real-world data and experience, coupled with the manufacturer recommendations and turbine

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<sup>148</sup> Ex. A13 at 2-3 (Baker Supplemental).

<sup>149</sup> Ex. A13 at 2-3 (Baker Supplemental).

<sup>150</sup> See, e.g., Ex. A13 at 5 (Baker Supplemental); Ex. A16 at 1 (Baker Rebuttal); see also Attachment A at ¶ 41.

<sup>151</sup> See Ex. A13 at 1 (Baker Supplemental).

<sup>152</sup> Ex. A40.

<sup>153</sup> Ex. A13 at 5 (Baker Supplemental); see also Ex. A1 at Appendix V (General Electric Setback Considerations for Wind Turbine Siting).

control software, show that the Project as designed is appropriately sited and will minimize the potential for ice throw.

**E. Risk of Turbine Fire.**

Intervenors expressed some concerns about fires at wind turbines. The record demonstrates that Deuel Harvest has taken appropriate measures to avoid and/or minimize the risk of fire at the Project.<sup>154</sup> Turbine fires are rare. As Mr. Baker testified, he is aware of one turbine fire on all of Invenergy's wind farms, and that fire burned itself out.<sup>155</sup> Turbines are constructed of fiberglass and steel, which are not highly flammable materials.<sup>156</sup> Further, Deuel Harvest will take steps to reduce the risk of fire at the Project. Deuel Harvest will acquire turbines from reputable suppliers.<sup>157</sup> With respect to Project maintenance activities, a rigorous hot works program (a program to reduce risks associated with an activity, such as welding, which provides an ignition source) is adhered to whenever any open flames or heat sources are introduced in a tower.<sup>158</sup> All up tower entries require a fire extinguisher be taken up the tower. All employees are trained annually on use.<sup>159</sup> Additionally, Deuel Harvest will coordinate fire emergency plans and hold emergency response drills at the Project with local fire departments both before the Project becomes operational and annually thereafter.<sup>160</sup>

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<sup>154</sup> See, e.g., Ex. A16 at 3-4 (Baker Rebuttal); Evid. Hrg. Tr. at 88-89 (April 18, 2019) (Draft Transcript) (Baker).

<sup>155</sup> Ex. A16 at 3 (Baker Rebuttal); Evid. Hrg. Tr. at 57-58 (April 18, 2019) (Draft Transcript) (Baker).

<sup>156</sup> Ex. A16 at 3 (Baker Rebuttal).

<sup>157</sup> Ex. A16 at 3 (Baker Rebuttal).

<sup>158</sup> Ex. A16 at 3 (Baker Rebuttal).

<sup>159</sup> Ex. A16 at 3 (Baker Rebuttal).

<sup>160</sup> Ex. A16 at 4 (Baker Rebuttal); Ex. A30-4 (Attachment 2-10).

**F. Aviation.**

1. Turbine Locations Have Received Determinations of No Hazard.

The FAA has issued a Determination of No Hazard for each of the Project’s proposed turbine sites, including Turbine 90 which is located near the Clear Lake Municipal Airport.<sup>161</sup> Deuel Harvest will comply with SDCL 50-9-1 and submit the Determinations of No Hazard to the South Dakota Aeronautics Commission “prior to the start of construction in lieu of the application and permit required by [SDCL 50-9].”<sup>162</sup>

2. The Project Does Not Interfere with the Homan Airstrip.

1) *The Homans Do Not Have a Right to Unrestricted Airspace.*

Mr. John Homan and Mr. Garrett Homan both testified concerning their grass airstrip (“Homan Airstrip”), which is currently being graded in the middle of a cultivated field.<sup>163</sup> Mr. John Homan received an SEP for the Homan Airstrip from Deuel County; Deuel County required him to submit a letter of assurance stating: “Applicant hereby acknowledges that the only way to be guaranteed unrestricted access to the airspace over the neighbor’s property is to secure those rights from the adjacent property owners. By signing this letter of assurance, Applicant does not waive any legal rights to which he is entitled. . . .”<sup>164</sup> At the evidentiary hearing, Mr. John Homan did not dispute these requirements: “The letter we agreed to states what is in the law.”<sup>165</sup> In an exchange with Commissioner Nelson, Mr. John Homan stated as follows:

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<sup>161</sup> Ex. S7 at 31 (Applicant’s Additional Data Request Responses to Staff) (Public).

<sup>162</sup> SDCL 50-9-1 and Ex. S7 at 31-32 (Applicant’s Additional Data Request Responses to Staff) (Public).

<sup>163</sup> Ex. J15 at 5 (Pictures).

<sup>164</sup> Ex. JH19.

<sup>165</sup> Evid. Hrg. Tr. at 35 (April 18, 2019) (Draft Transcript) (John Homan).

Q: And so perhaps what they were telling you by making sure you signed this is if in fact you wanted to guarantee that it stayed that way you would need to acquire those rights; is that correct?

A: That is the way I understand the law itself. Correct.<sup>166</sup>

Despite acknowledging that he is not entitled to unrestricted airspace over those properties, Mr. John Homan has neither sought nor received any airspace or avigation easements from his neighbors (Mr. Doyle Thompson and Mr. Darold Hunt). Nonetheless, the Homans ask the Commission to remove six turbine locations proposed on their neighbors' property, apparently asking the Commission to grant Mr. Homan airspace rights over his neighbors' properties.<sup>167</sup> Further, Mr. Thompson testified that losing one turbine would he would financially lose more than six figures over the life of the Project.<sup>168</sup> In contrast, as discussed further below, the Homan Airstrip is intended for – and could only have – limited use.<sup>169</sup>

The Homans appear to variously assert that FAA guidelines and regulations should apply, and not apply, to the Homan Airstrip as they see fit. For example, Mr. Garrett Homan apparently asserts that the Commission should apply airspace protections to the Homan Airstrip that the FAA could apply to a public airport.<sup>170</sup> However, the Homan Airstrip is not a public airport.<sup>171</sup> In addition, Mr. Garrett Homan fails to acknowledge that the FAA counsels that even public airports are responsible for obtaining their own airspace rights through easements, eminent domain, or zoning:

- The FAA “Conditional No Objection” regarding the Homan Airstrip states: “The airport environment can only be protected through such

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<sup>166</sup> Evid. Hrg. Tr. at 35-36 (April 18, 2019) (Draft Transcript) (John Homan).

<sup>167</sup> Evid. Hrg. Tr. at 29 (Apr. 18, 2019) (Draft Transcript) (J. Homan).

<sup>168</sup> Evid. Hrg. Tr. at 49-50 (April 17, 2019) (Draft Transcript) (Thompson).

<sup>169</sup> Evid. Hrg. Tr. at 28 (Apr. 18, 2019) (Draft Transcript) (J. Homan).

<sup>170</sup> *See, e.g.*, Ex. G1 at 4 (G. Homan Direct); Ex. G9 at 5 (G. Homan Rebuttal); Ex. S1 at 16-17 (Thurber Direct).

<sup>171</sup> Evid. Hrg. Tr. at 122 (Apr. 18, 2019) (Draft Transcript) (G. Homan); Ex. G1 at 3 (G. Homan Direct).

means as local zoning ordinances, acquisitions of property in fee title or aviation easements, letters of agreements, or other means.”<sup>172</sup>

- In a guidance document, the FAA explains, for example: “Airports that do not own the entire [runway protection zone (“RPZ”)] should consider the need to acquire such land if there is any possibility that incompatible land uses could occur within the RPZ. In particular easements should be reviewed to ensure that land uses are restricted not to just obstructions. Where necessary, requests should be made to the appropriate zoning authority to rezone such land to prevent future incompatible use. Where neither zoning nor easements are adequate the RPZ should be acquired in fee.”<sup>173</sup>

The Homans have not acquired any such property rights and instead ask the Commission to grant them the property rights the FAA has told them they must obtain by other means. Conversely, Mr. Garrett Homan asserted that he is not required to obtain property rights for the RPZ that would be required for the Homan Airstrip by the FAA because it is not a public airport.<sup>174</sup> Deuel Harvest agrees that it is not a public airport and, as such, should not be treated as a public airport by the Commission.

In contrast, Deuel Harvest presented testimony from Mr. Doyle, the president and owner of Capitol Airspace Group, LLC, and a former U.S. Army air traffic controller, describing federal and state airspace regulations and explaining that they do not grant protections to private airstrips like the Homan Airstrip.<sup>175</sup> Mr. Doyle explained that the FAA is the preeminent regulator of flight safety regulations and that it does not restrict turbines in the vicinity of private airstrips and also that it has issued DNHs for each of the Project’s turbine locations.<sup>176</sup> Mr.

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<sup>172</sup> Ex. JH 30.

<sup>173</sup> Ex. A42 at 500-15; *see also id.* at 500-17 (explaining purpose and need for aviation easements).

<sup>174</sup> Mr. Garrett Homan also stated that he has designed the Homan Airstrip for Category B aircraft. However, based upon the review of Mr. Doyle and Mr. Rice, the airstrip is likely not usable by Category B aircraft. In addition, Mr. Garrett Homan further stated that he was not qualified to design an airport and has not been involved in its construction. Evid. Hrg. Tr. at 140, 147 (April 18, 2019) (Draft Transcript) (G. Homan).

<sup>175</sup> Ex. A21.

<sup>176</sup> Evid. Hrg. Tr. at 160-62, 163 (Apr. 17) (Draft Transcript) (Doyle); Ex. A21 at 3-4, 9-11 (Doyle Rebuttal).

Doyle further explained that “none of the proposed turbines penetrate the 20:1 surfaces for [the Homan Airstrip] and therefore would not have been deemed to have an impact on the airport.”<sup>177</sup>

Similarly, Mr. Doyle stated that, even if the Homan Airstrip were treated as public, no turbines are located within the Visual Flight Rules traffic pattern area on the east side of the airstrip.<sup>178</sup>

2) *The Record Demonstrates that the Project Will Not Interfere with Safe Flight at the Homan Airstrip.*

Overall, the Homans cite safety concerns as the basis for their demand that six turbine locations be removed from their neighbors. However, these concerns are not supported by the record evidence. Mr. Garrett Homan relies upon a “qualitative” paper (the “COPA Paper”) to support his arguments and admitted that the one source he had been able to find that was cited in that paper speaks only to waking and says nothing about interactions with aircraft.<sup>179</sup> Despite his efforts to do so, Mr. Garrett Homan was unable to contact the authors of the COPA Paper. Mr. Garrett Homan further acknowledged that the COPA Paper: indicated that the risk it purported to assess was at the infrequent end of the frequency spectrum; did not include quantitative data regarding the interaction of wind turbines and aircraft; described risks as “remote”; and cites to non-scientific references.<sup>180</sup> In addition, Mr. Garrett Homan testified that he has not been involved in the construction of the Homan Airstrip, does not know what an airport layout plan is, and he is not “an expert in airport design or the acquisition of any sort of land or air rights.”<sup>181</sup>

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<sup>177</sup> Ex. A21 at 12 (Doyle Rebuttal).

<sup>178</sup> Evid. Hrg. Tr. at 163 (Apr. 17) (Draft Transcript) (Doyle).

<sup>179</sup> Evid. Hrg. Tr. at 130-31, 134 (Apr. 18, 2019) (Draft Transcript) (Garrett Homan).

<sup>180</sup> Evid. Hrg. Tr. at 123-34 (April. 18, 2019) (Draft Transcript) (Garrett Homan).

<sup>181</sup> Evid. Hrg. Tr. at 120, 135, 140, 147 (Apr. 18, 2019) (Draft Transcript) (Garrett Homan). In addition, Mr. Garrett introduced testimony from Mr. Kevin Elwood, a pilot in Canada. However, Mr. Elwood is not an expert in U.S. aviation regulations, has no formal engineering training, has no expertise regarding wind turbines, and did not have an independent basis for the opinions he was offering. Evid. Hrg. Tr. at 254-66 (Apr. 17, 2019) (Draft Transcript) (Elwood).

Specifically, Mr. Rice, with Capitol Airspace Group, LLC and pilot and former Marine Corps Officer, testified that:

- The Homan Airstrip has been designed for small general aviation aircraft for which there are crosswind limitations.<sup>182</sup>
- In a study of aviation and wind turbine waking based on real-world conditions, pilots reported that “corrected control inputs were accomplished with minimal urgency.” Mr. Rice compared this to “hitting a bump.”<sup>183</sup>
- Turbine waking would not occur under all circumstances. Where it would occur, the crosswind component would be such that it would not be safe for small general aviation aircraft like those proposed by the Homans to land or depart from the Homan Airstrip.<sup>184</sup>

Similarly, Mr. Doyle explained that the FAA prescribes that general aviation aircraft pilots (like Mr. Garrett Homan would be) should maintain between 500 feet (less populated areas) and 1,000 feet (populated areas) between their aircraft and any obstacle (include wind turbines).<sup>185</sup> The closest wind turbine to the Homan Airstrip is 2,430 feet; the closest wind turbine to the purported Homan Airstrip approach surface is 1,593 feet.<sup>186</sup>

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<sup>182</sup> Evid. Hrg. Tr. at 134-35 (Apr. 18, 2019) (Draft Transcript) (Matt Rice).

<sup>183</sup> Evid. Hrg. Tr. at 146-47 (Apr. 18, 2019) (Draft Transcript) (Matt Rice).

<sup>184</sup> Evid. Hrg. Tr. at 139-40 (Apr. 18, 2019) (Draft Transcript) (Matt Rice) (“[I]f you look at the orientation of that north south runway with the project area and where the turbines are located, as I previously discussed regarding crosswind limitations, if the wind was blowing strong enough to preclude take off due to crosswind, then the aircraft would not be flying even if the turbines didn’t exist.”); *see also id.* at 148-49 (“I believe that based off of the orientation of where the project area is and where those turbines are [sited] and the orientation of his north sound runway I do not believe that if the wind was blowing severe enough to create wing tip vortices that would be a hazard to general aviation aircraft that he would want to fly anyway on that day, even if the turbines didn’t exist, because of the excessive crosswind component blowing from west to east. And I back that opinion up based on my own experience of never having experienced any type of turbulence anywhere in the vicinity of a wind turbine in a low altitude environment.”).

<sup>185</sup> Evid. Hrg. Tr. at 185-186 (Apr. 17, 2019) (Draft Transcript) (Benjamin Doyle).

<sup>186</sup> Evid. Hrg. Tr. at 172-74 (Apr. 18, 2019) (Draft Transcript) (Benjamin Doyle).

3) *The Record Demonstrates that the Use of Homan Airstrip will be Limited.*

The record demonstrates that Homan Airstrip will not be frequently used. For example, Mr. Homan testified that he “**hope[s]** to have several” landings per year at the Homan Airstrip.<sup>187</sup> Also, given the fact that the FAA’s approval of the Homan Airstrip was conditioned upon it being for private use only, it is unclear who exactly Mr. Homan contemplates using the airstrip.<sup>188</sup> Similarly, weather conditions will limit the use of the airstrip; for example, as noted above, crosswind limitations will limit operations, and it is generally not safely feasible to land small general aviation aircraft at a grass landing strip (such as the Homan Airstrip) during frozen ground conditions.<sup>189</sup>

Overall, the record with respect to the Homan Airstrip demonstrates that the Project complies with all applicable requirements and that neither the presence of the turbines themselves nor waking from turbines would inhibit activity on the Homan Airstrip. The record also demonstrates that the Homans unjustifiably ask the Commission to take financial opportunities away from his neighbors and remove six turbines to essentially grant the Homans unrestricted airspace over their neighbors’ property for an airstrip that will be used infrequently, even while Mr. John Homan acknowledges that the FAA and the County have both correctly informed him that it is his responsibility to acquire airspace rights over adjacent properties.

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<sup>187</sup> Evid. Hrg. Tr. at 28 (Apr. 18, 2019) (Draft Transcript) (John Homan) (emphasis added). In contrast, the Canadian airport referenced by the testimony of Mr. Kevin Elwood had approximately 400 movements per year. Evid. Hrg. Tr. at 259 (Apr. 17, 2019) (Draft Transcript) (Elwood).

<sup>188</sup> Similarly, Mr. Garrett Homan states that he has flown to South Dakota “once or twice.” Ex. G22 at 6 (GHoman Response to Applicant’s DR1).

<sup>189</sup> Evid. Hrg. Tr. at 136 (Apr. 18, 2019) (Draft Transcript) (Matt Rice).

#### **IV. THE PROJECT WILL NOT UNDULY INTERFERE WITH ORDERLY DEVELOPMENT IN THE REGION.**

##### **A. County Permitting Process.**

Intervenors presented much testimony regarding the Deuel County Ordinance and permitting process. Deuel Harvest continues to assert that these issues are factually incorrect and are not in the Commission's purview because the Commission is not responsible for overseeing or reviewing (and lacks jurisdiction over) local land use decisions and processes. Regardless, Deuel Harvest has reapplied for an SEP from Deuel County, and, as such, outstanding issues will be resolved through that process.

##### **B. Interpretation of County Ordinance.**

Intervenors take issue with Deuel County's interpretation of its zoning ordinance. As an initial matter, the local development of zoning regulations is outside the scope of the Commission's jurisdiction and is not relevant to this proceeding. The Commission must give due consideration to the views of governing bodies of affected local units of government pursuant to SDCL 49-41B-22(4).<sup>190</sup> Further, the County's interpretation of its own ordinance is entitled to deference.<sup>191</sup>

With respect to Intervenors' arguments regarding the Lake Alice Park District setback, Staff asked the Deuel County Zoning Officer how Section 1215.03(2)(d) of the Ordinance is applied and she stated "the setback was from the Lake Park District at Lake Alice, not from Lake Alice itself."<sup>192</sup> The Project is set back two miles from the Lake Park District at Lake Alice and therefore complies with how the Ordinance is applied.<sup>193</sup> In addition, the record

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<sup>190</sup> Ex. S1 at 23 (Thurber Direct).

<sup>191</sup> SDCL § 11-2-61.1 (providing that a court "shall give deference to the decision of the approving authority in interpreting the authority's ordinances").

<sup>192</sup> Ex. S1 at 23 (Thurber Direct).

<sup>193</sup> Ex. A14 at 7 (Svedeman Rebuttal).

demonstrates that Deuel County intended the setback to apply from the Lake Park District at Lake Alice, rather than the lake itself.<sup>194</sup> Deuel Harvest also submitted a request on April 16, 2019 to the County for an interpretation regarding Section 1215.03(2)(d) as it relates to the setback from the Lake Park District at Lake Alice. Deuel Harvest must comply with the ultimate determination by the County regarding the established setback which would affect 19 turbines. Deuel Harvest recognizes that the Commission may have concerns regarding the scope of the setback, but no further condition is required to ensure that Deuel Harvest complies with the County's requirements, which it is already required to do. The Commission's standard condition here, proposed Condition No. 2, requires the Permittee to "construct, operate, and maintain the Project in a manner consistent with ... any permits issued by a federal, state, or local agency." Any permit issued by Deuel County will include requirements specific to the Lake Alice/Lake Park District setback that Deuel Harvest must abide by.

The same is true for Mr. Will Stone's contention that Deuel County Ordinance Section 1215.03(2)(A) requires that wind turbines be set back at least four times the height of the turbine from the property boundary of the Stones Hunting Operation. The County will interpret and apply this requirement when determining whether to grant an SEP for the Project. The Commission need not delve into this matter of local law. On April 16, 2019, Deuel Harvest submitted a request on April 16, 2019 to the County for an interpretation confirming how "business" is used in Section 1215.03(2)(a). Deuel Harvest will be required to comply with the Board of Adjustment's determinations and any requirements placed on an SEP.

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<sup>194</sup> Ex. A14-3 (Deuel County Commissioners Meeting Minutes (Mar. 28, 2017) ("Add a setback from the Lake Park District located at Lake Cochrane and Lake Alice of two miles from the boundary of the Lake Park district and one mile from the lake park district at Bullhead Lake.").

### **C. Stone Homestead.**

Mr. Heath Stone requests a 2,000-foot setback from his family's homestead at which there is currently an abandoned residence. Although Deuel Harvest previously met with Mr. Heath Stone regarding the Project during its development phase, he did not mention this request at that time.<sup>195</sup> He also did not request the setback in his post-hearing brief. Deuel Harvest strives to cooperate with all landowners where it is aware of concerns and where it is possible to do so. For example, Deuel Harvest has removed turbines in response to the construction of residences by participating landowners prior to Deuel Harvest's application to the Commission.<sup>196</sup> In addition, Deuel Harvest treated the existing structure on the Homan property as a building (Receptor No. 332), and the structure for which a building permit has been issued on that property as a non-participating residence (Receptor No. 803).<sup>197</sup> However, Deuel Harvest was not aware of Mr. Stone's request and his future plans and did not have the opportunity to try to incorporate such setbacks into the proposed Project layout submitted to the Commission.<sup>198</sup> Further, the record reflects that Mr. Heath Stone has no specific plans for the homestead. It is abandoned, and there is no building permit or other permit that has been issued for that property. Accordingly, Deuel Harvest requests that no additional setback be imposed.

### **V. ADDITIONAL PROPOSED CONDITIONS.**

Deuel Harvest and Commission Staff have developed proposed conditions for the Project. The bulk of these conditions were filed as Exhibit A37 at the evidentiary hearing. Since the conclusion of the evidentiary hearing, Deuel Harvest and Staff have come to agreement

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<sup>195</sup> Ex. S7 at 7 (Applicant's Additional Data Request Responses to Staff).

<sup>196</sup> Ex. A14 at 4-5 (Svedeman Rebuttal). The new homes are Receptor 804 (Toben LP) and 805 (Eugene Lorenzen).

<sup>197</sup> See Ex. A38 (Distance from Residences to the Nearest Wind Turbine, Modeled Shadow Flicker and Sound Levels) and Ex. A17-1 at A-5 (Update Pre-Construction Noise Analysis) and Ex. A26 (Updated Land Ownership Map).

<sup>198</sup> Ex. S7 at 7-8 (Applicant's Additional Data Request Responses to Staff).

regarding several additional conditions, including (as discussed in Section III(A) above) a noise measurement protocol. These conditions have been added to the conditions previously agreed upon by Deuel Harvest and Staff, and all are included in Attachment A. Deuel Harvest believes that each of these conditions is supported by the record and will result in a Project that complies with all applicable requirements and minimizes or avoids human and environmental impacts.

### **CONCLUSION**

The record demonstrates that Deuel Harvest has met its burden of proof to establish that: (1) the Project will comply with applicable laws and rules; (2) the Project does not pose a threat of serious injury to the environment or social and economic condition; (3) the Project will not substantially impair health, safety, or welfare; and (4) the Project will not unduly interfere with orderly development. The record further demonstrates that, in addition to meeting those criteria, the Project will benefit local landowners and the community. Accordingly, Deuel Harvest respectfully requests that the Commission grant an Energy Facility Permit for the Project on the terms and conditions set forth in the attached Applicant's and Staff's Updated Proposed Permit Conditions.

Dated this 7th day of May 2019.

By /s/ Lisa Agrimonti  
Mollie M. Smith  
Lisa M. Agrimonti  
Haley L. Waller Pitts  
FREDRIKSON & BYRON, P.A.  
Attorneys for Applicant  
200 South Sixth Street, Suite 4000  
Minneapolis, MN 55402  
Phone: (612) 492-7000  
Fax: (612) 492-7077