

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

**IN THE MATTER OF THE APPLICATION BY DEUEL HARVEST WIND ENERGY LLC  
FOR ENERGY FACILITY PERMITS OF A WIND ENERGY FACILITY AND A  
345-KV TRANSMISSION LINE IN DEUEL COUNTY, SOUTH DAKOTA FOR THE  
DEUEL HARVEST NORTH WIND FARM**

**SD PUC DOCKET NO. \_\_\_\_\_**

**PRE-FILED DIRECT TESTIMONY OF ANDREA GIAMPOLI  
ON BEHALF OF DEUEL HARVEST WIND ENERGY LLC**

November 30, 2018

1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. Please state your name, employer, and business address.**

3 A. My name is Andrea Giampoli. I am employed by Invenergy LLC (“Invenergy”),  
4 and my business address is One South Wacker Drive, 1800, Chicago, Illinois  
5 60606.

6 **Q. Briefly describe your educational and professional background and duties.**

7 A. I obtained a Bachelor of Arts degree from the University of Wisconsin-Madison in  
8 2006 with a double major in Communication Arts and Spanish. I worked as a  
9 writer and editor for four years before starting law school in 2010 at Rutgers  
10 University School of Law. I graduated in December 2013, and briefly worked as  
11 an associate. I joined Invenergy as a specialist in my current position in  
12 September 2014. I was promoted to manager in March 2016, and to senior  
13 manager in March 2018. I manage environmental permitting and compliance  
14 with federal, state, and local laws and policies for development and operation of  
15 wind and solar projects in the United States. I also oversee teams of  
16 environmental consultants at project sites during the preparation and execution  
17 of field studies through to the editing of final technical reports. My resume is  
18 attached as **Exhibit 1**.

19 **Q. What is your role with respect to the Deuel Harvest North Wind Farm**  
20 **(“Project”)?**

21 A. I am the environmental manager overseeing the wildlife and wetlands survey  
22 work and permitting for the Project.

23 **II. PURPOSE OF TESTIMONY**

24 **Q. What is the purpose of your Direct Testimony?**

25 A. The purpose of my Direct Testimony is to provide information concerning existing  
26 environmental conditions in the area of the proposed Project (“Project Area”),  
27 potential impacts of the Project on the existing environment, and how the Project  
28 will avoid or minimize potential impacts. In addition, I describe the environmental

29 survey work conducted on behalf of Deuel Harvest to analyze the Project Area,  
30 local permitting, as well as the associated federal and state agency  
31 correspondence and coordination.

32 **Q. Please identify which sections of the Application you are sponsoring for**  
33 **the record.**

34 A. I am sponsoring the following sections of the Application:

- 35 • Section 10.0: Environmental Information
- 36 • Section 13.0: Effect on Terrestrial Ecosystems
- 37 • Section 14.0: Effect on Aquatic Ecosystems
- 38 • Section 15.0: Land Use (with the exception of those subsections  
39 concerning sound, shadow flicker, and electromagnetic interference)
- 40 • Section 17.0: Water Quality
- 41 • Section 18.0: Air Quality
- 42 • Section 27.1: Permits and Approvals
- 43 • Section 27.2: Agency Coordination
- 44 • Section 27.3: Public and Agency Comments
- 45 • Appendix B: Agency Correspondence
- 46 • Appendix G: Wetland Delineation Report
- 47 • Appendix I: 2017 Raptor Nest Survey
- 48 • Appendix J: Avian Use Report
- 49 • Appendix K: Second Year Large Bird Use Study
- 50 • Appendix L: 2016 Bat Mist-Netting Survey Report
- 51 • Appendix M: 2017 Bat Acoustic Study
- 52 • Appendix N: 2018 Protected Butterfly Species Report
- 53 • Appendix O: Bird and Bat Conservation Strategy (“BBCS”)

54

55 **III. ENVIRONMENTAL SURVEYS/STUDIES**

56 **Q. What was the overall approach to environmental analysis of the Project**  
57 **Area?**

58 A. Deuel Harvest conducted or authorized various environmental surveys and  
 59 studies in and around the Project Area. The purpose of this analysis was to  
 60 identify the potential for sensitive species and their habitats, wetlands/waterways,  
 61 and other environmental resources within the Project Area and identify strategies  
 62 to avoid or minimize impacts to those resources. The surveys address numerous  
 63 resources and have been conducted to comply with applicable regulations and  
 64 guidelines, including the U.S. Fish and Wildlife Service (“USFWS”) Land-Based  
 65 Wind Energy Guidelines, the USFWS Eagle Conservation Plan Guidance, and  
 66 the South Dakota Siting Guidelines for Wind Projects. Survey results have  
 67 informed Project design efforts and have been used to develop avoidance or  
 68 minimization strategies to be implemented in connection with Project construction  
 69 and operations.

70 **Q. Discuss the environmental surveys and/or studies conducted with respect**  
 71 **to the Project.**

72 A. The environmental studies and field surveys conducted for the Project are  
 73 summarized in Table 2-1 of the Application and below:

Study	Dates	Status
Site Characterization Studies	Fall 2017 and Spring 2018	Complete
Wetland Delineations	Fall 2018	Complete
Wetlands and Waterbodies Surveys	Fall 2016; and Fall 2017	Complete
Raptor Nest Surveys	Spring 2016 and Spring 2017	Complete
Breeding Bird Survey	June 2016	Complete
Small Bird Use Surveys	April-November 2016; and March 2017	Complete
Large Bird Use Surveys	April 2016-March 2017; and May 2017-April 2018	Complete
Bat Mist Netting Survey	Summer 2016	Complete
Bat Acoustic Surveys	Summer-Fall 2016; and Summer-Fall 2017	Complete
Protected Butterfly Species Habitat Surveys	Fall 2017 and 2018	Complete
Cultural Resources Surveys (Level I and Level III)	Summer 2018	Complete
Historic / Architectural Survey	Summer 2018	Complete

Study	Dates	Status
AM and FM Radio Report	November 2018	Complete
Communication Tower Study	November 2018	Complete
Microwave Study	November 2018	Complete

74

75 In addition to the studies above, a sound study (Appendix D) and shadow flicker  
76 study (Appendix F) were completed, and those analyses are discussed further in  
77 the Direct Testimony of Mr. Mike Hankard and Ms. JoAnne Blank, respectively.

78

79 **Q. How has Deuel Harvest incorporated the results of the surveys and studies**  
80 **conducted into Project design?**

81 A. Results of environmental studies have influenced Project design and have been  
82 used to avoid or minimize impacts to potentially sensitive environmental areas.  
83 During the Tier 1 and 2 site characterization studies, protected and designated  
84 lands, potential habitat and other environmental resources were identified and  
85 mapped in the Project Area. The Project facilities have been sited to avoid these  
86 resources. For example, no Project facilities have been sited on USFWS critical  
87 habitat or USFWS easements. Suitable northern long-eared bat (“NLEB”)  
88 foraging habitat was also mapped and turbines were sited at least 1,000 feet  
89 away; raptor nests were also located and all turbines are set back at least 1,312  
90 feet from these nests. Turbines are also sited more than two miles from the  
91 nearest known eagle nest. The Project also mapped and evaluated undisturbed  
92 grasslands, and Project facilities were removed and adjusted to minimize impacts  
93 to those resources.

94 **IV. ENVIRONMENTAL SITE ANALYSIS OVERVIEW**

95 **Q. Please provide a general overview of the Project Area from a land use**  
96 **perspective.**

97 A. Land use within the Project Area is predominantly agricultural, with land cover  
98 consisting of a mix of cultivated crops, hay/pasture and herbaceous vegetation  
99 (including grassland). Analyses from the field and grassland reconnaissance  
100 documented grassland areas including both native and introduced species. The

101 remaining land cover in the Project Area consists of developed land, open space;  
102 emergent herbaceous wetlands; deciduous forest; open water; and shrub/scrub  
103 vegetation; woody wetlands. There are 91 occupied residences within the  
104 Project Area.

105 **Q. What steps will Deuel Harvest take to avoid or minimize impacts to existing**  
106 **land uses?**

107 A. As discussed in more detail in Section 15.0 of the Application, Project  
108 construction will result in conversion of only a small portion of the land within the  
109 Project Area from existing land uses into Project facilities. Following completion  
110 of construction, areas disturbed due to construction that will not host permanent  
111 facilities will be re-vegetated with vegetation types matching the surrounding  
112 agricultural landscape.

113 **Q. Describe the wetlands present within the Project Area.**

114 A. Formal wetland and stream delineations were completed in August and  
115 September 2018. A follow-up wetland delineation was conducted on November  
116 14, 2018 to survey an additional 30.2 acres, referred to as the Interconnection  
117 Area, resulting from design changes. A total of 25.25 acres of wetlands and  
118 2,879 linear feet of stream channel were identified within the Survey Corridor and  
119 Interconnection Area. Section 13.2 and Appendices G and H provide additional  
120 detail on wetlands within the Project Area.

121 **Q. What measures will Deuel Harvest employ to avoid or minimize potential**  
122 **impacts to wetland resources?**

123 A. If needed, Deuel Harvest will obtain coverage under a U.S. Army Corps of  
124 Engineers (“USACE”) Section 404 permit in connection with impacts to wetlands  
125 or waterbodies under USACE jurisdiction and will comply with all applicable  
126 permit requirements.

127 **Q. Are aquatic ecosystems present in the Project Area and, if so, what**  
128 **measures will Deuel Harvest employ to avoid or minimize potential**  
129 **impacts?**

130 A. Surface waters are present within the Project Area; however, Deuel Harvest will  
131 employ various Best Management Practices (“BMPs”) to avoid or minimize any  
132 impacts to aquatic habitat, and if determined to be present, will avoid impact to  
133 any state or federally protected aquatic species.

134 **Q. Are any federally-listed species, federally-designated critical habitat, or**  
135 **state-listed species present within the Project Area?**

136 A. There is the potential for certain federally-listed wildlife species to occur within  
137 the Project Area, although the likelihood may be extremely low. The species  
138 include: whooping crane, NLEB, rufa red knot, Dakota skipper, Poweshiek  
139 skipperling, and Topeka shiner. Five species that are State-listed may occur in  
140 Deuel County: whooping crane, osprey, banded killifish, northern redbelly dace,  
141 and northern river otter. The whooping crane, rufa red knot, osprey, banded  
142 killifish, northern redbelly dace, and northern river otter are not likely to occur  
143 within the Project Area due to limited suitable habitat and lack of historical  
144 records.

145 More than 800 hours of avian surveys were conducted. During those surveys,  
146 there were two osprey observations recorded on the same day in September  
147 2017, potentially of the same individual, identifying the potential for this species  
148 to be extremely low. No other federally or state endangered or threatened  
149 species have been observed during surveys in the Project area. One parcel of  
150 land designated as critical habitat for the Dakota skipper occurs within the Project  
151 Area; this same parcel is also critical habitat for the Poweshiek skipperling. No  
152 NLEB were captured during bat mist netting surveys; however, they have the  
153 potential to migrate through the Project Area during the fall. Federally-protected  
154 bald and golden eagles have been observed in the Project Area, though turbines  
155 have been sited away from the nearest known eagle nests.

156 **Q. Is the Project anticipated to impact federally-listed species, federally-**  
157 **designated critical habitat, or state-listed species?**

158 A. No. Most of the species listed above are not expected to occur in the Project  
159 area due to a lack of suitable habitat. Project facilities have also been sited to  
160 avoid federally-designated critical habitat, USFWS easements, protected lands,  
161 and sensitive resources that may provide habitat for protected species. As stated  
162 above, Deuel Harvest set turbines back 1,000 feet from potential foraging habitat  
163 for NLEB. Deuel Harvest also conducted a field assessment for Dakota skipper  
164 and Poweshiek skipperling habitat, and sited Project facilities to avoid grasslands  
165 with the potential to support these species. Deuel Harvest conducted a wetlands  
166 and waterways delineation to avoid impact to water resources that may host  
167 aquatic species. As mentioned, turbines were sited away from eagle and other  
168 raptor nests.

169 **Q. Discuss the analyses conducted of avian use in the Project Area.**

170 A. Two years of avian/eagle use point-count surveys were completed for the Project  
171 from April 2016 to April 2018 to evaluate species composition, relative  
172 abundance, and spatial characteristics of avian use in accordance with agency  
173 recommendations (Appendices I, J, and K). The Year One surveys, conducted  
174 April 2016 to March 2017, included large-bird surveys and small-bird surveys.  
175 The Year Two surveys, conducted May 2017 to April 2018, included surveys for  
176 large birds. The small-bird surveys conducted in Year One recorded 2,715 birds  
177 in 1,073 groups (defined as one or more individuals), representing 49 species.

178 During Year One of the large-bird use surveys, 42 unique bird species, including  
179 30,640 observations in 1,039 separate groups, were recorded. Waterfowl  
180 accounted for most (95.7 percent) observations recorded. Raptors (8 different  
181 species) accounted for 0.7 percent of large bird observations. The most common  
182 raptor species were red-tailed hawk (*Buteo jamaicensis*) and northern harrier  
183 (*Circus cyaneus*). Bald eagle and unidentified eagles accounted for 19.6 percent  
184 of raptor observations (39 and 2 observations, respectively) and 0.1 percent of  
185 large bird observations. Sensitive species observed during the Year One large  
186 bird surveys included American white pelican (*Pelecanus erythrorhynchos*), bald  
187 eagle, marbled godwit (*Limosa fedoa*), and willet (*Tringa semipalmata*). No



188 State- or federally threatened or endangered species were observed, and no  
189 golden eagles were observed.

190 During Year Two of the large-bird surveys, 3,528 large bird observations of 29  
191 species in 539 separate groups were observed. Waterfowl accounted for 86.5  
192 percent of observations (3,051 observations). Raptors accounted for 6.3 percent  
193 of large bird observations (223 observations). The most common raptor species  
194 identified was the red-tailed hawk, with 130 observations. Eagles accounted for  
195 6.7 percent of raptor observations (15 observations). Eagle observations  
196 included 11 bald eagles and 4 golden eagles. Sensitive species observed during  
197 the Year Two surveys included American white pelican, bald eagle, golden eagle,  
198 and osprey. Two osprey observations were recorded a few hours apart in  
199 September 2017. The osprey is listed by the South Dakota Game, Fish and  
200 Parks (“SDGFP”) as a threatened species.

201 **Q. Is the Project anticipated to impact wildlife species?**

202 A. Terrestrial wildlife species could be impacted during the construction phase of  
203 the Project. Direct disruption of habitat and potentially direct mortality could  
204 occur during the construction phase of the Project, though the potential for these  
205 impacts is low. Permanent habitat loss due to construction of wind turbines and  
206 other Project facilities, including the 150-foot long Transmission Line, would be  
207 minimal across the Project Area and localized. The Project will follow various  
208 BMPs as discussed in the BBCS (Appendix O) to minimize these impacts. With  
209 respect to wildlife species impacts, bird and bat species are typically the primary  
210 concern associated with wind energy facility construction and operation. The  
211 Project may directly impact birds and bats. However, the Project has been sited  
212 in an area and designed in a manner to avoid and minimize impacts to birds and  
213 bats, including indirect impacts to grassland birds. The Project was sited to  
214 minimize impacts to potentially undisturbed grasslands.

215 **Q. What measures will Deuel Harvest implement to avoid or minimize impacts**  
216 **to other wildlife species?**

217 A. Construction crews will be instructed on how to avoid disturbing and harassing  
218 wildlife. BMPs will be practiced by construction and operations personnel to  
219 reduce attractants to scavengers and potential nest predators.

220 **Q. Is the Project anticipated to impact existing water or air quality?**

221 A. No. As discussed in Sections 17.0 and 18.0 of the Application, the Project is not  
222 anticipated to have significant impacts to water or air quality.

## 223 **V. AGENCY COORDINATION**

224 **Q. Please discuss Deuel Harvest's agency coordination efforts.**

225 A. As discussed in Section 27.2 of the Application and in the BBCS (Appendix O),  
226 Deuel Harvest has coordinated with various federal, state, and local agencies  
227 regarding the Project. Numerous meetings and discussions have been held with  
228 USFWS and SDGFP regarding avoidance and minimization of potential impacts  
229 to wildlife and associated habitat. Deuel Harvest anticipates that Project  
230 coordination will continue.

## 231 **VI. PERMITS AND APPROVALS**

232 **Q. In addition to Energy Facility Permits, what other permits are required for  
233 the Project?**

234 A. Various federal, state, and local approvals may be required for the Project. Table  
235 27-1 in the Application identifies potential permits or approvals required for the  
236 construction and operation of the Project, and also identifies the status of each  
237 permit/approval.

238 **Q. Will Deuel Harvest obtain all local, state, and federal permits required for  
239 the Project?**

240 A. Yes. Deuel Harvest or its contractors will obtain all permits and licenses required  
241 for the Project.

## 242 **VII. CONCLUSION**

243 **Q. Does this conclude your direct testimony?**

244 A. Yes.

245 Dated this 30th day of November, 2018.

246

247

*Andrea Giampoli*

248

249

---

250 Andrea Giampoli

251

252

253