

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY TATANKA RIDGE WIND, LLC. FOR A
PERMIT FOR A WIND ENERGY FACILITY IN DEUEL COUNTY, SOUTH DAKOTA, FOR
TATANKA RIDGE WIND FARM

SD PUC DOCKET EL _____

PRE-FILED DIRECT TESTIMONY OF JESSE BERMEL
ON BEHALF OF TATANKA RIDGE WIND, LLC.

JUNE17, 2019

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1 Q. **Please state your name, employer and business address for the record.**

2 A. My name is Jesse Bermel and I am a Senior Project Developer with Avangrid
3 Renewables, Inc., the owner of Tatanka Ridge Wind Project (Tatanka Ridge), LLC. My office
4 location is 1125 NW Couch, Suite 700, Portland, OR 97209.

5 Q. **Briefly describe your educational background.**

6 A. I have a Bachelor of Science in Environmental Science from Iowa State University and
7 pursuing a Master of Business Administration (MBA) from the University of Liverpool. I have
8 12 years of experience in renewable energy development, project entitlements/permitting, and
9 environmental review. I have been involved in the successful development of multiple utility
10 scale wind energy projects across the USA. My work involves the oversight and management of
11 the development of the Tatanka Ridge Wind Project.

12 Q. **Briefly describe your professional experience.**

13 A. I have been employed in renewable energy development and operations for the past 12
14 years. Prior to the that time, I worked as a supervisor for an AmeriCorps program on Cape Cod,
15 Massachusetts.

16 Q. **Have you attached a resume or CV.**

17 A. Yes, my resume is attached.

18 Q. **Have you previously submitted or prepared testimony in this proceeding in South
19 Dakota?**

20 A. No, I have not.

21 Q. **What is the purpose of your direct testimony?**

22 A. My purpose is to support the application and to make commitments on behalf of the
23 applicant where appropriate and necessary.

24 **Q. Please give us an overview of your involvement in the proposed project?**

25 A. I am currently the lead developer on the Tatanka Ridge Project. I took over the
26 responsibilities in the fall of 2015. I have negotiated wind agreements with landowners, engaged
27 the community with project updates, and have responsibility for permitting the project at the
28 county and state level.

29 **Q. Which sections of the application are you sponsoring with your testimony?**

30 A. I'm responsible for all or portions of Sections 1-5, 15, 16.1, 16.2, 16.3, 16.4, 17, 18, and
31 21.

32 **Q. Please provide an overview of the location of the project?**

33 A. The Project is located entirely within Deuel County in the Townships of Scandinavia,
34 Blom, Brandt, Hidewood, and Grange, approximately 4 miles west, northwest, north, north east,
35 and east of Toronto, South Dakota. The Project will be located on mostly privately held land
36 within a 27,900-acre Project Area.

37 **Q. What is covered by the application submitted for the Tatanka Ridge Wind Project?**

38 A. Tatanka Wind Project, LLC is submitting an application for approval of an Energy
39 Facility Permit to construct and operate the Tatanka Ridge Wind Project from the South Dakota
40 Public Utilities Commission. The total installed capacity of the Project is up to 155 megawatts
41 (MW). The application includes the requested approval of 62 locations, of which 56 will be
42 constructed. The proposed layout of 62 turbines reflects an optimal configuration to maximize
43 the wind energy resource within the Project area, while taking into consideration the siting
44 criteria and consultations with landowners.

45 Project components will include up to 50 GE 2.82 MW-127 wind turbine generators and
46 6 GE 2.3 MW 116, temporary/permanent access roads, 34.5 kilovolt (kV) underground/overhead
47 electrical collector lines, project substation, interconnection substation, permanent met tower,
48 and may include an O&M facility. Additional temporary construction areas, include crane paths,
49 public road improvements, laydown yard/staging area and a concrete batch plant if needed. The
50 Project will interconnect to the high-voltage transmission grid via the 345kV Astoria Substation
51 from our 34.5kV collector substation.

52 **Q. What is the purpose of the facility and why is it needed?**

53 A. The purpose of the Project is to generate electricity via wind power to supply the needs
54 required for contracts with Tatanka Ridge Tatanka Ridge has entered into two purchase power
55 agreements (PPA), one with Google for 98 MW and one with Dairyland Power Cooperative in
56 Wisconsin for the balance. Recent analysis has consistently shown that wind energy is one of the
57 most cost-effective electricity sources for customers, making it a desirable investment. New
58 wind energy facilities are less expensive to construct than new conventional energy sources, even
59 without the existing production tax credit program. This is demonstrated by the PPAs that have
60 been executed for the Project.

61 **Q. What are the beneficial attributes of the project?**

62 A. The Project will provide significant economic benefits to the local community and
63 government. Construction of the Project will create approximately 200 jobs. After construction,
64 an expected 12 to 15 permanent employees will be necessary for ongoing maintenance and
65 operation of the Project.

66 Tatanka Ridge will make payments to landowners before, during, and after construction. The

67 project will act as a natural hedge for landowners to help offset annual instability in crop yields
68 and prices. These payments are not dependent on the amount of energy generated from the
69 turbines, and will increase by 2.5% per year. Tatanka Ridge estimates the Project will pay
70 participating landowners, in aggregate, approximately \$2.3 million annually over the entire life
71 of the facility.

72 Current state law levies taxes on wind farms on a nameplate capacity and an actual
73 production basis. Those payments are made to the state, which then allocates the revenue among
74 itself and the Project area school districts, counties and townships. Tatanka Ridge estimates that
75 the Project will pay approximately \$720,000 annually in taxes. Of this, Tatanka Ridge estimates
76 that the local school districts will divide approximately \$260,000 between them, based on tower
77 locations. Deuel County will receive approximately \$180,000 on an annual basis. The townships
78 will divide approximately \$75,000 between them. Finally, the Project will pay sales and use
79 taxes, and the contractors will pay excise taxes based upon construction costs. Each will receive
80 a rebate of a portion of those taxes through the state's current economic development board.

81 **Q. Please provide a description of the proposed decommissioning plan for Tatanka?**

82 At present, the anticipated Project life is approximately 40 years beyond the date of
83 initiating commercial operation. It is possible that the project could be continued past that date or
84 retrofitted with upgrades. At the end of commercial operation, Tatanka will be responsible for
85 removing wind facilities and the turbine foundations to a depth of four feet below grade.

86 In any event, at the end of commercial life, Tatanka will be responsible for all costs to
87 decommission the Project and associated facilities. The net cost to decommission will depend
88 upon the prevailing rates for salvage value of the equipment, and labor costs. Because of the

89 uncertainties surrounding future decommissioning costs and salvage values, Tatanka will review
90 and update the cost estimate of decommissioning and restoration for the Project every five years
91 after Project commissioning pursuant to State Law Requirements. Tatanka will comply with
92 permit requirements, county ordinances and state law at the time of decommissioning.

93 At present, the net decommissioning cost (in 2018 US dollars) is estimated to be
94 approximately \$4.989 million dollars assuming salvage and no resale of Project components.
95 This cost includes a partial offset from the salvage value of the towers, turbine components and
96 electrical equipment. Tatanka proposes to cover the cost of the decommissioning through a
97 parent guarantee or letter of credit.

98 **Q. Do your agreements with landowners speak to decommissioning? If so, what do they**
99 **say?**

100 A. Our agreements provide 18 months after the life of the project to remove all above
101 ground facilities, concrete removal to a depth of 4ft below the surface, and restore all surfaces to
102 a condition equal or better than when we initially developed.

103 **Q. Why was the Project location selected and what other alternative areas were**
104 **considered?**

105 A. Generally, a wind project location, or early prospect, is identified through a combination
106 of identifying a high wind resource area based on publicly available data and access to
107 transmission. From there, the land use considerations are factored in such as the environmental
108 compatibility of a given area, current land uses, and land owner support. Avangrid and its
109 predecessors have had substantial success in this area of South Dakota, as well. All of these
110 factors were determined to be favorable based on the Tatanka area and thus the Project was

111 pursued for further development.

112 **Q. Did you work with the County Agencies in coordinate with the CUP process and**
113 **what efforts were made to address questions or concerns?**

114 A. Yes. Deuel County had an existing wind energy development ordinance within the
115 existing zoning ordinance that was a bit dated. County officials elected to update this ordinance
116 in order to improve it and started the process in early 2016. I worked closely with the County to
117 provide information and participate through the public process while the zoning ordinance
118 update was being prepared. The County approved its zoning ordinance in October 2018.
119 Avangrid was able to work with the county and design the project so that it was consistent with
120 the requirements in the zoning ordinance.

121 We have many points of contact with the public to convey information about the Project,
122 in particular during the public meetings to update the Deuel County Zoning Ordinance. In
123 addition, there was an open house meeting regarding the Tatanka Wind Project. The open house
124 occurred in June of 2018 while Deuel County was still updating their Zoning Ordinance.

125 On June 11, 2019, the Deuel County Board of Adjustment voted 5-0 in favor of granting
126 a Wind Energy System and Special Exception permit to Tatanka Ridge.

127 **Q. What is the proposed time schedule for the Project and what are the implications of**
128 **a delay?**

129 A. The Project is scheduled to be operational by late fall of 2020. We are hopeful to receive
130 favorable determinations on the SDPUC facility permits by December of 2019. Current
131 activities through the spring and summer of 2019 will include completion of an ALTA survey,
132 supplemental environmental studies (as needed), geotechnical studies, and final engineering and

133 design.

134 A delay in the Project would result in several consequences. First, the project has
135 existing PPAs that have been executed that have contractual commercial operation date
136 requirements in them. If we are not able to meet these deadlines, liquated damages would be
137 incurred or at worst, the PPA's could be cancelled if the Project cannot meet certain deadlines.
138 Further the Production Tax Credit is slated to start to decline in future years. If the Project is not
139 operational by the end of 2020, the Project will not be eligible to receive the full PTC. Under the
140 reduced benefits schedule of the PTC, the amount of tax benefit to the Project will decrease until
141 the PTC is fully phased out. Such a delay would significantly alter the project's economic
142 assumptions and likely cause disruption.

143 **Q. Are you proposing to install an aircraft detection lighting system (ADLS)?**

144 A. Tatanka Ridge is electing to use an aircraft detection lighting system (ADLS) at the
145 Project. ADLS is a sensor-based system designed to detect aircraft as they approach an
146 obstruction. The system will automatically activate the appropriate obstruction lights (lights on
147 each turbine) until the aircraft clears the area. ADLS is an all-weather, continuously operating,
148 low voltage, radar-based obstacle avoidance system that does not require additional equipment in
149 an aircraft. Traditional obstruction lighting for turbines continuously flash on a set interval.
150 Tatanka Ridge plans to use the ADLS lighting system in response to landowner requests.
151 ADLS vendors must receive approval from the FAA to confirm their technology meets the
152 requirements of Advisory Circular (AC) 70/7460-1L, "Obstruction Marking and Lighting." At
153 present, there are a limited number of ADLS vendors that have received FAA approval. Tatanka
154 Ridge will determine the location of ADLS radars based upon the selected ADLS vendor's
155 engineering analysis, and will provide Deuel County with a map of the planned locations upon

156 confirmation. The final locations will be on land leased for the Project and will comply with
157 applicable setbacks, FAA specifications, and other requirements.

158 **Q. What is the estimated cost of the Tatanka Wind Farm Project?**

159 A. We estimate the cost to be approximately \$216,000,000.00.

160 **Q. What will be the impacts upon the community expected from the project?**

161 A. The project will create both short-term and long-term positive impacts to the local
162 economy. Impacts to social and economic resources resulting from construction will be
163 temporary. A typical wind project results in an influx of millions of dollars into the local
164 economy. Many local businesses will experience increased activity during this period.

165 **Q. What payments will the project make?**

166 A. The project will make payments to landowners before, during, and after construction.

167 **Q. What will be the impacts to commercial, industrial, and agricultural sectors?**

168 A. The area within and surrounding the project is primarily agricultural. The project will
169 take a small amount of existing agricultural land out of crop and forage production. The project
170 will compensate landowners for losses to crop production during construction. No further
171 mitigation measures are necessary or proposed.

172 **Q. What will be the expected impacts on community facilities and services?**

173 A. Based on the short-term duration of construction activities, the project does not anticipate
174 significant impacts to community facilities and services. The existing facilities should be
175 sufficient to support any demand from the work force during construction and/or operation.

176 **Q. Are mitigation measures proposed for community facilities and services?**

177 A. The project will work with local emergency management agencies to develop procedures
178 for response to emergencies, hazards, and potential incidents.

179 **Q. Are there expected impacts to local transportation?**

180 A. A variety of small to large construction vehicles will use area roadways during Project
181 construction. Once construction is complete, only small-to-medium sized vehicles will access
182 local roadways to perform routine maintenance on turbines and associated facilities. Heavy
183 equipment will occasionally return to the site as part of the maintenance of large turbine
184 components. Tatanka Ridge estimates that the maximum construction workforce at the Project
185 will create approximately 350 to 450 additional trips per day on local roadways during peak
186 construction. Total trips per day will decrease following turbine installation.

187 Because of the size of the equipment, and the turning radii of the delivery trucks, some
188 local roadways may require upgrades to improve drivability and access. This typically includes
189 widening select intersections to allow long delivery trucks to turn, and upgrading road surfaces
190 by grading or the addition of gravel. Tatanka Ridge is evaluating the degree to which existing
191 roadways will require upgrading for the Project. Pavement reinforcement depends on the time of
192 year, but Tatanka Ridge will return all roads to pre-construction condition at the conclusion of
193 construction of the Project.

194 Prior to the use of approved haul roads, Tatanka Ridge will make satisfactory
195 arrangements with the appropriate governmental body having jurisdiction for the maintenance
196 and repair of the haul roads that will be subject to extra wear and tear due to transportation of
197 materials, equipment, and turbine components.

198 Tatanka Ridge anticipates that impacts to traffic during the operation of the Project will
199 be minimal. This will include a small maintenance crew driving through the area in pickup trucks
200 on a regular basis to monitor and maintain the wind turbines and collector lines. There will be a
201 slight increase in traffic for occasional turbine, collector substation repair and/or collector line

202 repair; however, it will not have an impact on traffic function.

203 **Q. Are mitigation measures proposed for ground transportation impacts?**

204 A. Yes. Unless otherwise negotiated with the affected landowner, Tatanka Ridge will
205 promptly repair all private roads or lanes damaged when moving equipment or when obtaining
206 access to the site during construction and operation of the Project.

207 **Q. Are there aviation impacts expected?**

208 A. There are no airports within or near the project boundary. The nearest airports appear to
209 be just north of the city of Clear Lake approximately eight miles north of the project boundary.

210 **Q. Are there expected impacts to aviation from the project?**

211 A. There are no airports within or near the Project boundary. Air traffic may be present near
212 the Project for crop dusting of agricultural fields. Highly maneuverable airplanes or helicopters
213 typically conduct crop dusting typically during the daylight hours. The installation of wind
214 turbines and a MET tower in active croplands will create potential hazards for crop-dusting
215 aircraft.

216 Tatanka Ridge submitted Form 7460-1 in April 2019, Notice of Proposed Construction or
217 Alteration with the FAA and will submit Notices of Proposed Construction for the final layout
218 after construction is complete. Tatanka Ridge expects to receive Determinations of No Hazard
219 for the proposed layout. The Project will comply with applicable FAA requirements. Tatanka
220 Ridge will also submit Tall Structures Aeronautical Hazard Applications with the South Dakota
221 Aeronautics Commission (SDAC) for a permit for the proposed turbine and MET tower
222 locations.

223 **Q. Are mitigation measures proposed for aviation impacts?**

224 A. Yes. The turbines and MET tower will be visible from a distance. The MET tower will

225 be freestanding with no guy wires that could limit the flights of crop dusting aircraft.
226 Furthermore, Tatanka Ridge will notify local airports about the Project including locations of
227 turbines and MET towers in the area to minimize impacts and reduce potential risks to crop
228 dusters. In addition to meeting the required turbine obstruction markings, Tatanka Ridge is
229 electing to use an ADLS at the Project.

230 **Q. What are the project employment estimates?**

231 A. It's expected that construction of the project will create approximately 200 jobs over the
232 estimated nine-month construction. It is further estimated that 12-15 permanent jobs will be
233 created by the project.

234 **Q. Are there future additions and modifications proposed?**

235 A. No. Tatanka Ridge is a stand-alone project as detailed in this application. Tatanka Ridge
236 does not have plans for modifications or expansion that should be included in this permit
237 application.

238 **Q. Will the project obtain all applicable permits for construction and operation?**

239 A. Yes. See Table 22-1 in Section 22.1 of the application, which details the expected
240 required permits and approvals for the project. In addition, Tatanka Ridge conducted agency
241 consultation as detailed in Section 22.2 of the application.

242

243 Dated this 17 day of June 2019.

244 /s/

245 Jesse Bermel