
STAFF MEMORANDUM SUPPORTING SETTLEMENT STIPULATION

TO: COMMISSIONERS AND ADVISORS

FROM: KRISTEN EDWARDS, AMANDA REISS, DARREN KEARNEY, JOSEPH REZAC, AND JON THURBER

RE: DOCKET EL19-026 – IN THE MATTER OF THE APPLICATION BY TATANKA RIDGE WIND, LLC FOR A PERMIT OF A WIND ENERGY FACILITY IN DEUEL COUNTY, SOUTH DAKOTA

DATE: OCTOBER 8, 2019

Commission Staff (Staff) submits this Memorandum in support of the Settlement Stipulation (Stipulation) in the above-captioned matter.

BACKGROUND

On June 17, 2019, the Commission received an Application for a Facility Permit (Application) from Tatanka Ridge Wind, LLC (Tatanka Ridge Wind), a subsidiary of Avangrid Renewables, LLC. Tatanka Ridge Wind proposes to construct a wind energy facility in Deuel County, South Dakota, known as the Tatanka Ridge Wind Farm Project (Project). The Project would be situated within an approximately 27,900-acre project area, located near the Towns of Toronto and Brandt (Project Area). The Project Area is in Blom, Brandt, Grange, Hidewood, and Scandinavia Townships. The total installed capacity of the Project would be approximately 155 megawatts (MW) of nameplate capacity. The proposed Project includes up to 56 wind turbine generators, access roads to turbines and associated facilities, above/underground electrical collector lines, communication systems, a collection substation, one permanent meteorological tower, less than 0.5-mile long 345-kV gen-tie line connecting the Project, and an operations and maintenance facility. The Project would interconnect to the regional electric grid via the Astoria substation, a new Otter Tail Power Company interconnection substation scheduled to be operational in 2020, located in Scandinavia Township. Tatanka Ridge Wind has entered into two purchase power agreements, one with Google for 98 MW and one with Dairyland Power Cooperative for the balance. The Project is expected to be completed in 2020. Applicant estimates the total construction cost to be \$216 million.

On June 20, 2019, the Commission electronically transmitted notice of the Petition and the intervention deadline of August 16, 2019, to interested individuals and entities on the Commission's PUC Weekly Filings electronic listserv. On June 20, 2019, the Commission issued a Notice of Application; Order for and Notice of Public Input Hearing; Notice of Opportunity to Apply for Party Status. On July 31, 2019, the Commission issued its Order Assessing Filing Fee; Order Authorizing Executive Director to Enter into Consulting Contract.

On August 7, 2019, the Commission held a Public Input Hearing in Toronto, South Dakota. No applications for Party Status were received by the Commission.

On October 4, 2019, Staff and Tatanka Ridge Wind filed a Joint Motion for Approval of the Settlement Stipulation.

STAFF'S ANALYSIS AND SETTLEMENT RESOLUTIONS

Staff reviewed the contents of the Application as it relates to the Energy Facility Siting statutes, SDCL 49-41B, and Energy Facility Siting Rules, ARSD 20:10:22. Staff then identified information required by statute or rule that was either missing from the Application or unclear within the Application and requested Tatanka Ridge Wind to provide or clarify that information. Staff also reviewed and considered the comments made at the Public Input Hearing and submitted to the Commission.

Staff consulted with multiple State Agencies to assist Staff with our review. Game, Fish, and Parks reviewed the potential impacts to wildlife and associated habitats. The State Historic Preservation Office reviewed the project to ensure historic properties are taken into consideration.

For approval, Tatanka Ridge Wind must show that:

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

Tatanka Ridge Wind and Staff (jointly the Parties) positions were discussed thoroughly at several settlement discussions. As a result, some Party positions were modified, and others were accepted where consensus was found. The Parties have resolved all issues subject to this proceeding except for the funding for the decommissioning of the Project. Ultimately, the Parties agreed to 39 conditions on the construction, operation, or maintenance of the facility.

The Parties used the permit conditions from the Triple H Wind Project permit as a starting point and modified certain conditions based on the specific facts and evidence associated with this Project. The following sections provide a summary of the Project's non-participant impacts and discuss specific conditions for this Project.

PROJECT NON-PARTICIPANT IMPACTS

The combination of the rural nature of the Project Area and the setbacks in Deuel County's zoning ordinance mitigate many of the common concerns of non-participating residents. Deuel County requires a 2,000-foot setback from non-participating residences. For this Project, three non-participating residences are within a half-mile of the Project, and fourteen non-participating residences are within three-quarters of a mile of the Project. The table below provides the sound and shadow flicker information for each non-participating residence within a half-mile of the Project:

Receiver ID	Nearest Turbine	Distance to Turbine (ft)	Expected Shadow Flicker (Hours per Year)	Sound Pressure Level NARUC (dBA)
H137	L1	2,010	8:15	41
H83	G3	2,426	9:09	41
H45	O5	2,614	14:51	40

Based on the Sound Level Modeling Report and Shadow Flicker Modeling Report submitted with the Application, all non-participating residences are expected to receive less than 15 hours per year of shadow flicker impacts and are predicted to experience sound levels at or below 41 dBA based on the method established in NARUC's whitepaper - Assessing Sound Emissions from Proposed Wind Farms & Measuring the Performance of Completed Projects.

CONDITIONS

Turbine Adjustment Condition – Material Change Definition

Tatanka Ridge Wind proposes to make turbine adjustments of 200 feet or less from the turbine locations identified at the time a permit is issued without prior Commission approval as long as specific requirements are met. In prior wind facility permits, the Commission has established a threshold of 250 feet for turbine adjustments that do not require Commission approval. The Applicant proposed using 200 feet as the threshold to be consistent with the permit issued by Deuel County. Staff supported this proposal as it is more stringent than Commission precedence.

In the Prevailing Winds Park permit, Docket EL18-026, an intervenor objected to a material deviation request to shift a turbine and raised concerns about the process established in the condition to request further Commission review. The condition allowed Staff to request further Commission review but did not specifically include a process for an interested party or the Commission to request further review. Staff analyzes turbine shifts for (1) compliance with permit conditions and (2) the expected change in impact to the closest non-participant. While compliance with permit conditions is a relatively straightforward analysis, the expected change in impact to the closest non-participants is more subjective. Although the parties discussed changes to the condition to specifically outline a process for the Commission or interested parties to

request further review, the Parties were unable to agree on a new process and the stipulation incorporates the process previously approved by the Commission.

Ice Detection and Mitigation Condition

The Applicant proposed the following condition to address the risk associated with ice throw:

The Project will monitor icing conditions of the turbines while under severe weather conditions. If these conditions occur during normal business hours or outside of such hours, the control systems will automatically shut down the affected turbines until severe icing is no longer a concern. In some cases, during normal business hours, site personnel may manually shutdown turbines that pose a significant concern. Turbine control sensors will detect the reduction of efficiency of the blade due to ice buildup by utilizing meteorological data from on-site permanent meteorological towers, on-site anemometers, and other relevant turbine control parameters to determine if ice accumulation is occurring. These control systems will either automatically shut down the turbine(s) in severe icing conditions or Applicant may manually shut down turbine(s) if these conditions pose a significant concern. Applicant will pay for any documented damage caused by ice thrown from a turbine.

The primary change from Commission precedent in this ice detection condition is to create a distinction between “icing” and “severe icing” conditions in the permit condition.

Avian and Bat Mortality Monitoring

During settlement discussions, the Applicant requested to reduce the avian and bat mortality monitoring commitment made in the Application from 2 years to 1 year. While the Applicant has received no proposals from consultants to conduct the monitoring at this Project, Tatanka Ridge Wind estimates the cost of mortality monitoring to be approximately \$180,000 to \$220,000 per year. To support the estimate, the Applicant provided actual expenses incurred for fatality monitoring at four wind energy facilities in different States:

- \$142,000 (2017 dollars) for 104 turbines
- \$285,000 (2015 dollars) for 101 turbines
- \$153,000 (2011 dollars) for 105 turbines
- \$105,000 (2011 dollars) for 50 turbines

To further verify the estimate, Commission Staff surveyed two additional wind developers and received the following estimates:

- \$100,000 for approximately 60 turbines
- \$150,000 to \$200,000 for approximately 100 turbines

While there does not appear to be a perfect correlation on mortality monitoring cost in relation to turbines and there may be some regional cost differences, the actual monitoring costs and estimates represent a cost that was higher than Staff anticipated and can arguably be considered significant.

Staff agreed to a condition that provides the Applicant with the ability to request an exemption from conducting the second year of post-construction monitoring based on the results from year one:

Applicant agrees to undertake two years of independently-conducted post-construction avian and bat mortality monitoring for the Project, and to provide a copy of the report and all further reports to the United States Fish and Wildlife Service, South Dakota Game, Fish, and Parks, and the Commission. Applicant may request an exemption from the Commission from conducting the second year of post-construction avian and bat mortality monitoring for the Project based on the results from year one. If Applicant requests an exemption as contemplated by this condition, Applicant may temporarily suspend monitoring until such time as the Commission rules on the exemption. If the exemption is not granted, monitoring will resume for a period of twelve months from the date of the Commission's order denying the exemption.

Based on the results of year one, the Applicant may request an exemption if the cost exceeds the benefit of obtaining additional information. Staff will consult with Game, Fish, and Parks to help form Staff's recommendation regarding the need for a second year of mortality monitoring should Tatanka Ridge Wind request the exemption. At this time, Staff makes no representation or commitment to support or oppose a request for an exemption if made.

Whooping Crane Mitigation Measures

Since the Project is outside the whooping crane migration corridor, Staff did not propose a specific condition to address the collision risk for whooping cranes.

RECOMMENDATION

Through this settlement, the Parties limit the issue to be litigated to the funding for the decommissioning of the Project. Staff recommends the Commission grant the Joint Motion for Approval of Settlement Stipulation and adopt the Stipulation without modification.