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**STAFF MEMORANDUM SUPPORTING SETTLEMENT STIPULATION**

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**TO:** COMMISSIONERS AND ADVISORS  
**FROM:** AMANDA REISS, DARREN KEARNEY, AND JON THURBER  
**RE:** DOCKET EL18-046 – IN THE MATTER OF THE APPLICATION OF DAKOTA RANGE III, LLC FOR A PERMIT OF A WIND ENERGY FACILITY AND A 345-KV TRANSMISSION LINE IN GRANT AND ROBERTS COUNTIES  
**DATE:** FEBRUARY 8, 2019

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

**BACKGROUND**

On October 26, 2018, the South Dakota Public Utilities Commission (Commission) received a wind energy facility permit application (Application) from Dakota Range III, LLC, a wholly owned subsidiary of Apex Clean Energy Holdings, LLC (Dakota Range). Dakota Range proposes to construct an approximately 8-mile 345-kilovolt (kV) interconnection transmission line and an up to 151.2-megawatt (MW) wind energy conversion facility (Project). The Project will be in Grant County and Roberts County, South Dakota, with the wind portion in an 18,717-acre area. The transmission line will run from the Project's substation located in section 13 of Blooming Valley Township, outside the public right of way along 455th Avenue, turning east on Farmington Township's 159th Street to the Ottertail Power switchyard located in section 14 of Mazeppa Township. The Project is expected to be in service by December 31, 2020, with a total of up to 42 wind turbines and associated facilities. Dakota Range estimates the total cost of the proposed Project to be approximately \$200 million.

On November 1, 2018, the Commission electronically transmitted notice of the Petition and the intervention deadline of December 26, 2018, to interested individuals and entities on the Commission's PUC Weekly Filings electronic listserv. On October 31, 2018, the Commission issued a Notice of Application; Order for and Notice of Public Input Hearing; Notice of Opportunity to Apply for Party Status. On November 21, 2018, the Commission issued its Order Assessing Filing Fee; Order Authorizing Executive Director to Enter into Consulting Contract. On December 11, 2018, Dakota Range filed an update to their Application. On December 18, 2018, Dakota Range notified the Commission that it had been acquired by ENGIE IR Holdings, LLC, (ENGIE) and is now a wholly-owned subsidiary of ENGIE.

On December 18, 2018, the Commission held a Public Input Hearing in Summit, South Dakota. No applications for Party Status were received by the Commission.

On January 3, 2019, the Commission issued its Order Adopting Procedural Schedule. On January 4, Dakota Range filed Supplemental Direct Testimonies and Exhibits. On February 1, 2019, Staff filed a letter requesting that the procedural schedule be suspended as the parties reached a settlement agreement in principle. On February 7, 2019, Staff and Dakota Range 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 Dakota Range 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 hired David Hessler, Vice President at Hessler Associates, Inc., to review the information on noise emitted from the project. Staff also consulted with multiple State Agencies to assist Commission 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. The Department of Transportation reviewed the project to assess potential shadow flicker or ice throw impacts on Interstate 29 and State Highway 12.

For approval, Dakota Range 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.

Dakota Range 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 ultimately agreed that the permit should be granted with 42 conditions on the construction, operation, or maintenance of the facility.

The Parties used the permit conditions from the Prevailing Wind Park permit, Docket EL18-026, as a starting point, and modified the conditions based on the specific facts and evidence associated with this docket. Exhibit A provides a red-line comparison of the conditions from the Prevailing Wind Park permit and the conditions agreed to for Dakota Range. Staff provides a summary of some of the condition changes below and will be available to discuss all permit conditions at the February 15 commission meeting.

### **SHADOW FLICKER**

The Parties agreed that Dakota Range will mitigate shadow flicker concerns at any residences that could experience flicker levels above 30 hours per year. The shadow flicker model indicates that residences owned by Project participants may experience shadow flicker levels greater than 30 hours per year, and Dakota Range has obtained waiver agreements from those residence owners.

Staff was comfortable supporting the county requirements for shadow flicker in this docket as staff is unaware of significant community concerns regarding shadow flicker levels from landowners near this project. Shadow flicker may be viewed by some as a nuisance and an intrusion on property rights, and these concerns are often better addressed at the county level where no specific landowner has intervened

to raise them before the Commission. This stipulated shadow flicker condition is almost identical to the shadow flicker condition required for the Dakota Range I and II facility in Docket EL18-003.

## **SOUND**

The Parties agreed that the project will not generate a long-term average sound pressure level (Leq) of more than 45 dBA for non-participants and 50 dBA for participants. This sound condition is more stringent for non-participating residences than the requirement included in the Grant County (45 dBA, L90 measurement) and Roberts County (50 dBA) zoning ordinance. In addition, this condition was modeled after the sound condition the Commission ordered for the Dakota Range I and II facility. Staff's justification for the non-participants sound limit, participants sound limit, and the compliance measurement is provided below.

### 45 dBA Non-Participant Sound Limit

Staff views the 45 dBA noise limit as a definite maximum at non-participating residences. As an ideal design goal, staff recommends 40 dBA at non-participating residences because that sound level is so low in absolute terms that complaints or issues with noise become quite rare. This goal is often difficult to achieve because the project would require large set back distances that are practical only at sparsely populated sites.

For Dakota Range, the modeling indicated that 34 non-participating receptors would be in the 41 to 43 dBA range. In reviewing the constraints map, Figure 7, submitted on December 11, 2018, it appears that there is not the ability to move turbines to lower the sound level at non-participating residences to 40 dBA. While Staff continues to advocate for a 40 dBA design goal, for this particular project, it has been shown that the difficulty in achieving this would outweigh the benefit, as there is an apparent lack of community opposition regarding noise. This is an issue Staff will continue to evaluate on a case-by-case basis.

### 50 dBA Participant Sound Limit

While staff doesn't necessarily agree with a 50 dBA limit for participants, the predicted sound levels at residences are far enough below the limit that the condition is practically a moot point. A limit of 50 dBA is too high to ensure that a wind project will only have a minimal impact, often resulting in unacceptable levels of noise complaints or issues. However, all receptors for this project are predicted to be at or below 43 dBA, regardless of participation status. For settlement purposes, staff was willing to agree to the condition.

### Leq Compliance Measurement

Staff supports sound limits that are long-term averages measured over a period of a week or more and not instantaneous or short-lived maxima. Wind turbines operate in environments filled with contaminating wind-induced noises. Wind turbine sound levels at large distances are subtle and similar in magnitude to normal background levels making them quite challenging to measure in practice. Over a typical measurement interval, wind facilities produce a fairly constant and steady underlying sound that is most perceptible during the quiet lulls between interfering noise events.

Without evaluating long-term averages, it is difficult to assess project specific sound for compliance in a field survey. The L10 compliance measurement is the sound level that is exceeded only 10% of the time during a measurement interval. As such, the measurement captures the near-maximum sound level that occurred during the measurement. Almost invariably, this near maximum sound is generated by contaminating noise events that are completely unrelated to the project, like cars passing by, intermittent man-made noises, or wind gusts rustling nearby foliage. Based on Mr. Hessler's years of experience doing pre-construction surveys for wind projects in rural areas, approximately 80% of the baseline background surveys show L10 sound levels higher than 40 dBA before the project is built. The statistical measure selected should have the best chance of detecting and quantifying project-only sound levels during the windy conditions necessary for the project to operate. Staff recommends selecting Leq as the compliance measurement.

Mr. Hessler will be available by phone to answer questions relating to the sound condition.

### **RECOMMENDATION**

Staff recommends the Commission grant the Joint Motion for Approval of Settlement Stipulation and adopt the Stipulation without modification.