Ex. A14

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY SWEETLAND WIND FARM, LLC FOR FACILITY PERMITS OF A WIND ENERGY FACILITY AND A 230-KV TRANSMISSION FACILITY IN HAND COUNTY, SOUTH DAKOTA FOR THE SWEETLAND WIND FARM PROJECT

SD PUC DOCKET EL19-012

PRE-FILED REBUTTAL TESTIMONY OF ROBERT O'NEAL
ON BEHALF OF SWEETLAND WIND FARM, LLC

July 10, 2019

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name.

A. My name is Robert O'Neal

Q. On March 6, 2019, did you provide Direct Testimony on behalf of the Sweetland Wind Farm ("Project")?

A. Yes.

Q. On May 20, 2019, did you provide Supplemental Direct Testimony on behalf of the Project?

A. Yes.

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your Rebuttal Testimony?

A. The purpose of my testimony is to provide information regarding the sound modeling conducted for the Project in response to the pre-filed direct testimony of South Dakota Public Utilities Commission ("Commission") Staff Analyst, Jon Thurber.

III. SOUND MODELING INFORMATION

Q. In his testimony, Mr. Thurber states that Staff recommends an "ideal" sound level limit of 40 A-weighted decibels ("dBA") at non-participating residences based on David Hessler's testimony in prior Commission dockets (Thurber Testimony at 17:1-7). How does the 40 dBA "ideal" sound level recommended by Mr. Hessler relate to the sound modeling results Epsilon conducted for the Project?

A. It is my understanding that Mr. Hessler's modeling methodology does not include the manufacturer's uncertainty factor. In our modeling, however, we did include General Electric's uncertainty factor, which is +/-1.6 dBA for the turbine models under

consideration, which we rounded up to 2 dBA to be more conservative. Thus, based on our conservative sound modeling, including a 2 dBA uncertainty factor, the maximum sound level at the only non-participating residence within 1 mile of the Project (receptor 11, the Runge residence) is 42 dBA. Without the 2 dBA uncertainty factor, the modeled sound level at Mr. Runge's residence would be 40 dBA.

Moreover, in response to testimony Mr. Hessler provided in the Dakota Range I and II proceeding, I previously concluded that Epsilon's modeling approach results in modeled sound levels that are likely between 3 and 6 dBA higher than they would be if Mr. Hessler's modeling assumptions were used, as Mr. Hessler's modeling assumptions are generally less conservative.[1] As a result, Mr. Hessler's "ideal" sound level of 40 dBA would equate to a sound level of 43 to 46 dBA using Epsilon's modeling approach.

Q. In his testimony, Mr. Thurber notes that, per Epsilon's modeling, five participating receptors were modeled at either 49 or 50 dBA (Thurber Testimony at 16:12-14). Do these modeling results also include the turbine manufacturer's uncertainty factor?

A. Yes. As discussed in my prior response, Epsilon conservatively included the turbine manufacturer's uncertainty factor in its modeling analysis for the Project. Were we not to include the uncertainty factor, as I understand is Mr. Hessler's practice, our modeling results would be 2 dBA less. In other words, the modeling results would show those five residences with a modeled sound level of 47 or 48 dBA.

[1] *See In the Matter of the Application of 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*, SD PUC Docket EL 18-003, Exhibit A6 (Prefiled Rebuttal Testimony of Robert O'Neal on Behalf of Dakota Range I, LLC and Dakota Range II, LLC) at 4:17-6:8.

Q. Could you explain why Epsilon included the turbine manufacturer's uncertainty factor in modeling when Mr. Hessler has indicated in the past that he does not?

A. Yes. If one is measuring short-term sound levels post-construction (10-minute or 1-hour) and comparing to a similar short-term permit limit, the uncertainty factor should be included in the modeling, such as Epsilon has done. If one were measuring for a long time (~2 weeks or more) and presenting a long-term average sound level similar to Mr. David Hessler's methodology, then the uncertainty factor is not necessary.

Since there is not a specific post-construction monitoring statute or rule in South Dakota, and sound conditions have been agreed to or imposed on a case-by-case basis after modeling is conducted, Epsilon has taken the more conservative approach of including the turbine manufacturer's uncertainty factor in the modeling for Sweetland, as well as for prior South Dakota projects. However, if a long-term average sound level standard is imposed for Sweetland, then it would not be problematic to exclude the uncertainty factor.

Q. In his testimony, Mr. Thurber notes uncertainty regarding the participation status of certain receptors identified in your Updated Sound and Shadow Flicker Analyses, Exhibit A10-1 (Thurber Testimony at 15:29 – 16:4). Could you provide further clarification?

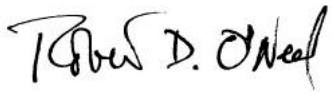
A. Yes. To avoid any confusion, we have prepared an updated letter report that notes the current participation status of all receptors based on updated information provided by Sweetland, as well as the updated maximum modeled sound levels at participating and non-participating receptors. The updated letter report is provided as **Exhibit A14-1**. Note that the modeling results, themselves, did not change.

IV. CONCLUSION

Q. Does this conclude your Supplemental Direct Testimony?

A. Yes.

Dated this 10th day of July, 2019.



Robert O'Neal

67282392