BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY PRAIRIEWINDS SD1, INC., A SUBSIDIARY OF BASIN ELECTRIC POWER COOPERATIVE, FOR A WIND ENERGY FACILITY PERMIT FOR THE PRAIRIEWINDS SD1 WIND FARM AND ASSOCIATED FACILITIES	**AFFIDAVIT** **EL09-028**

STATE OF NORTH DAKOTA)
) ss.
COUNTY OF BURLEIGH)

Erin Fox Dukart, being first duly sworn upon oath, deposes and states as follows:

I. AFFIANT

1. My name is Erin Fox Dukart. I am employed by Basin Electric Power Cooperative (Basin Electric) as Director, Environmental Services and my business address is 1717 East Interstate Avenue, Bismarck, ND 58503.

2. In my position, I am responsible for the permitting of Basin Electric generation resources as well as the ongoing environmental compliance as part of the operation of these facilities. I am competent to make this Affidavit and have personal knowledge of the facts stated herein, or knowledge based on my review of business records maintained by Basin Electric in the ordinary course of business and on studies prepared at Basin Electric's direction.

3. I submit this Affidavit in support of Basin Electric's request that the South Dakota Public Utilities Commission (Commission) approve Basin Electric's proposed repowering of the PrairieWinds Project (Project) as a material deviation pursuant to Condition 18 of the Wind Energy Facility Permit (Permit) issued by the Commission for the Project in 2010.

II. BACKGROUND AND PROJECT DESCRIPTION

4. The PrairieWinds SD1 Wind Project, also known as the Crow Lake Wind Project, is a wind energy facility located in Aurora, Brule, and Jerauld Counties, South Dakota, approximately 7 miles northeast of Kimball, South Dakota.

5. On July 14, 2010, the Commission issued a Wind Energy Facility Permit for the Project to PrairieWinds SD 1, Inc. in Docket No. EL09-028. PrairieWinds SD 1, Inc. was a wholly owned subsidiary of Basin Electric. In early 2018, PrairieWinds SD 1, Inc. was merged into Basin Electric, which assumed ownership and operation of the Project.

6. The Project began full operation in 2011. As constructed, the Project consists of 108 General Electric (GE) 1.5 MW SLE model wind turbine generators with a total nameplate capacity of 162 MW, each with a hub height of 80 meters (262 feet) and a rotor diameter of 77 meters (252 feet), together with turbine foundations, step-up transformers, access roads, crane pads, an underground electrical collection system, an overhead transmission line, a substation, and an operations and maintenance building. The power is delivered to the grid via a generator interconnection agreement with the Western Area Power Administration with a capacity of 174.96 MW.

7. Basin Electric proposes to repower the Project by installing longer blades on the existing turbines, increasing the nameplate capacity of each turbine from 1.5 MW to 1.6 MW (the Repower Project). The Repower Project will increase the rotor diameter of each turbine from 77 meters (252 feet) to 97 meters (approximately 318 feet), increase blade length from approximately 35 meters (115 feet) to approximately 45 meters (148 feet), and increase total turbine height (blade vertical) from approximately 119 meters (389 feet) to approximately 129 meters (422 feet). The hub height will remain at 80 meters (262 feet).

8. Upon completion of the Repower Project, the nameplate capacity of each of the 108 turbines will increase from 1.5 MW to 1.6 MW, for a total nameplate capacity of 172.8 MW. Repowered turbines generate a more efficient power curve, providing increased MW at lower wind speeds when compared to the existing non-repowered turbines. As a result, the annual energy production is expected to increase. The Repower Project would extend the life of the turbines 20 years from the date of repowering.

9. The Repower Project will not change the number or location of turbines, the hub height, or the Project footprint, and no permanent ground disturbance is anticipated.

III. UPDATED NOISE AND SHADOW FLICKER STUDIES

10. At Basin Electric's direction, updated noise modeling was performed for the Project under both the existing and repowered turbine configurations. A true and correct copy of the noise modeling results (the Noise Study) is attached to this Affidavit as Exhibit A.

11. At Basin Electric's direction, 1898 & Co. prepared an updated Shadow Flicker Study for the Project, issued October 8, 2026, evaluating both the existing layout (108 GE1.5sle-77 turbines) and the repowered layout (108 GE1.6-97 turbines). A true and correct copy of the shadow flicker study (the Shadow Flicker Study) is attached to this Affidavit as Exhibit B.

12. The Noise Study evaluated 87 receptors. All 68 non-participating receptors (including receptors located outside the Project area) are modeled at or below 43.1 dBA under both the existing and repowered configurations.

13. Of the 19 participating receptors, 16 are modeled at or below 50 dBA following the Repower Project. Three participating receptors—REC-07, REC-75, and REC-83—are modeled above 50 dBA, at 50.7 dBA, 51.6 dBA, and 51.9 dBA, respectively. Basin Electric holds sound waivers from each of these participants.

14. One of these participating receptors, REC-75, is an abandoned schoolhouse that has been repurposed as a part-time hunting lodge/cabin. REC-75 has no full-time occupant and is used by seasonal guests only.

15. The Shadow Flicker Study evaluated 86 receptors. Under the existing layout, 80 receptors experience 0 hours per year of shadow flicker; under the repowered layout, 72 receptors experience 0 hours per year. Eight receptors that previously experienced 0 hours of shadow flicker are modeled to experience some shadow flicker following the repower, including six participants and two receptors outside the Project area modeled at no more than 5.6 hours per year. Two participating receptors, REC-75 and REC-83, will experience more than 30 hours of shadow flicker per year. Basin Electric will obtain a waiver from the owner of REC-83, a residence, prior to replacing the blades on the turbines contributing to the shadow flicker. If a waiver is not obtained from the owner of REC-83, Basin Electric will use turbine control software to limit shadow flicker to 30 hours per year or will not repower the turbine(s) contributing to more than 30 hours annually of shadow flicker on that residence.

IV. COMPLIANCE STATEMENT

16. Based on my personal knowledge and my review of Basin Electric's records and the reports attached hereto, Basin Electric has operated the Project and will operate the Project, as modified by the Repower Project, in compliance with the conditions of the Permit.

17. Basin Electric will ensure that the Project, as modified by the Repower Project, continues to meet the conditions upon which the Permit was issued.

I declare under penalty of perjury under the laws of the State of South Dakota that the foregoing is true and correct to the best of my knowledge, information, and belief.

FURTHER AFFIANT SAYETH NOT.

Dated this 23 day of October, 2026.

Erin Fox Dukart

Erin Fox Dukart
Director, Environmental Services
Basin Electric Power Cooperative

NOTARY ACKNOWLEDGMENT

STATE OF NORTH DAKOTA)
) ss.
COUNTY OF BURLEIGH)

Subscribed and sworn to before me this 23 day of October, 2026, by Erin Fox Dukart, Director, Environmental Services of Basin Electric Power Cooperative, who is personally known to me or who produced satisfactory evidence of identity.

SHAUNA L SCOTT
Notary Public
State of North Dakota
My Commission Expires Mar 13, 2028

Shauna L Scott

Notary Public
State of North Dakota
My Commission Expires: Mar 13, 2028
(SEAL)

EXHIBITS

Exhibit A – Noise Study
Exhibit B – Shadow Flicker Study