

**BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION**

**IN THE MATTER OF BLACK HILLS )  
POWER, INC. d/b/a BLACK HILLS )  
ENERGY FOR A COGENERATION AND ) Docket EL19-\_\_\_\_  
SMALL POWER PRODUCTION SERVICE )  
SIMULTANEOUS NET BILLING RATE )  
CHANGE )**

**APPLICATION OF BLACK HILLS POWER, INC. d/b/a BLACK HILLS ENERGY**

**I. INTRODUCTION**

Black Hills Power, Inc. d/b/a Black Hills Energy (“Black Hills” or the “Company”), a South Dakota corporation, respectfully requests approval from the South Dakota Public Utilities Commission (the “Commission”) for a change to the Company’s Cogeneration and Small Power Production Service Simultaneous Net Billing Generation Credit Rate, to become effective on June 1, 2019. This rate sets forth the rate under which Black Hills is obligated to purchase energy and capacity from Qualifying Facilities (“QF”) with a design capacity of 100 KW or less.

**II. EXHIBITS THAT SUPPORT THE APPLICATION**

- Exhibit 1 – Black Hills’ proposed tariff in legislative form
- Exhibit 2 – Black Hills’ proposed tariff in clean form
- Exhibit 3 – Black Hills’ proposed customer notice letter
- Exhibit 4 – Black Hills’ 100 kW or less wind project rate calculation
- Exhibit 5 – Black Hills’ 100 kW or less solar project rate calculation
- Confidential** Exhibit 6 – QF Plan 100 kW Solar QF
- Confidential** Exhibit 7 – QF Plan 100 kW Wind QF
- Confidential** Exhibit 8 – No-QF Plan
- Confidential** Exhibit 9 – Solar QF Avoided Cost Calculation
- Confidential** Exhibit 10 – Wind QF Avoided Cost Calculation

### **III. NOTICE**

Black Hills will provide notice in accordance with South Dakota Administrative Rule § 20:10:13:19 by mailing a letter to each affected customer. A sample of the letter has been attached as Exhibit 3 to the Application.

### **IV. REPORT OF PROPOSED TARIFF CHANGES**

The following information is consistent and being provided pursuant to South Dakota Administrative Rule § 20:10:13:26 regarding this application for an adjustment to the Company's Cogeneration and Small Power Production Service Simultaneous Net Billing Generation Credit Rate:

(1) **Name and address of the public utility:**

Black Hills Power, Inc. d/b/a Black Hills Energy  
7001 Mount Rushmore Rd.  
Rapid City, SD 57702

(2) **Section and sheet number of tariff schedule:**

The Company's Cogeneration and Small Power Production Service Simultaneous Net Billing Generation Credit Rate tariff sheet, Section No. 3B, Sheet No. 9, contained in Exhibit 1 and Exhibit 2 attached hereto. Black Hills proposes to cancel tariff sheets, Section No. 3B, Sheets No. 1 through 8. These tariff sheets have been in the Company's tariff since the Commission approved them in Docket F-3365 and the Company has never had any customers take service under them.

(3) **Description of the change:**

Black Hills requests Commission approval to change its Cogeneration and Small Power Production Service Simultaneous Net Billing Generation Credit Rate contained in its tariff, Section No. 3B, Sheet No. 9 and cancel Sheets No. 1 through 8.

(4) **Reason for the change:**

Pursuant to 18 CFR § 292.302, at least every two years, Black Hills must provide to its state regulatory authority data from which avoided cost may be derived. Pursuant to South Dakota Public Utilities Commission's Order Approving Tariff Sheets for Black Hills in Docket F-3365, Black Hills is required to refile its tariff sheet(s) for qualified facilities with a design capacity of 100 kW or less at least once every two years and as a matter of course in all general rate review

filings.

(5) **Present rate:**

Generation Credit: \$0.0275 / kWh

(6) **Proposed rates:**

**100 kW or less Wind Project**

	<u>Winter On-Peak</u>	<u>Summer On-Peak</u>	<u>Winter Off-Peak</u>	<u>Summer Off-Peak</u>
Generation Credit (per kWh):	\$ 0.0259	\$ 0.0259	\$ 0.0209	\$ 0.0192

**100 kW or less Solar Project**

	<u>Winter On-Peak</u>	<u>Summer On-Peak</u>	<u>Winter Off-Peak</u>	<u>Summer Off-Peak</u>
Generation Credit (per kWh):	\$ 0.0260	\$ 0.0263	\$ 0.0225	\$ 0.0213

(7) **Proposed effective date of modified rates:**

Black Hills proposes that the new rate(s) be effective June 1, 2019.

(8) **Approximation of annual amount of increase or decrease in revenue:**

Black Hills will see a small increase in its annual amount of revenue due to the decrease in generation credits.

(9) **Points affected:**

All points of service that have cogeneration and/or small power production will be affected.

(10) **Estimation of the number of customers whose cost of service will be affected and annual amount of either increase or decreases, or both, in cost of service to those customers:**

Approximately 63 customers will see a decrease in their generation credit.

(11) **Statement of facts, expert opinions, documents, and exhibits to support the proposed changes.**

- a. 18 CFR § 292.302 (b) (1) states: The estimated avoided cost on the electric utility's system, solely with respect to the energy component, for various levels of

purchases from qualifying facilities. Such levels of purchases shall be stated in blocks of not more than 100 megawatts for systems with peak demand of 1000 megawatts or more, and in blocks equivalent to not more than 10 percent of the system peak demand for systems of less than 1000 megawatts. The avoided costs shall be stated on a cents per kilowatt-hour basis, during daily and seasonal peak and off-peak periods, by year, for the current calendar year and each of the next 5 years.

Based on an all-time peak demand of 452 MW (July 2011), in this filing Black Hills is submitting its avoided cost estimates based on modeling accomplished for two types of qualifying facilities: a theoretical 100kW solar QF and a theoretical 100kW wind QF. Exhibit 5 and 6 of this Application contains the Company's avoided costs, on a cents per kilowatt-hour basis, for seasonal on-peak and off-peak periods.

The basic method used by Black Hills for calculating avoided costs includes comparing two scenarios to forecast the resource composition, costs and benefits of the utility's future electric system with and without a qualifying facility over a planning period. Generally, avoided costs can include items such as purchased power expense, variable O&M production expense, reductions in or delays of future generation capacity additions and/or reductions in firm energy purchases. Since the tariff rate is updated every two years, Black Hills only calculated the avoided cost for 2019, 2020 and 2021.

The first scenario is a QF Plan that reflects the utility's resource plan including a 100 kW qualifying facility, attached as Confidential Exhibit 6 and Confidential Exhibit 7. Confidential Exhibit 6 contains a 100 kW Solar QF and Confidential Exhibit 7 contains a 100 kW Wind QF. The second scenario is a No-QF Plan which reflects the utility's resource plan including existing or planned resources reasonably available, attached as Confidential Exhibit 8. The avoided cost of energy is calculated using a production cost model<sup>1</sup> to determine the hourly dispatch and costs of the two scenarios. Black Hills then compares the hourly production costs of the two models to determine the avoided cost of energy. The difference between the hourly total system costs of the two scenarios divided by the amount of energy supplied by the qualifying facility represents the avoided cost of energy of the qualifying facility.

The avoided cost calculations are attached as Confidential Exhibit 9 and Confidential Exhibit 10. Confidential Exhibit 9 contains the avoided cost

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<sup>1</sup> Black Hills used ABB's Portfolio Optimization software to complete its production cost modeling for this filing.

calculation associated with the 100 kW Solar QF and Confidential Exhibit 10 contains the avoided cost calculation associated with the 100 kW Wind QF.

Black Hills used the performance characteristics of a solar project located in the southwestern corner of the Company's service territory and a wind project located in the northwestern corner of the Company's service territory in the modeling. The modeling assumptions included fuel and electric price forecasts from ABB's Fall 2018 Reference Case. In accordance with Commission direction, the Company is providing on-peak and off-peak seasonal avoided cost rates<sup>2</sup>. The Company used a two year average (June 2019 – May 2021) of the on-peak avoided cost rates for the summer months and the winter months to derive seasonal on-peak avoided cost rates for on-peak hours. The same calculation was completed for seasonal off-peak avoided cost rates.

- b. 18 CFR § 292.302 (b) (2) states: The electric utility's plan for the addition of capacity by amount and type, for purchases of firm energy and capacity, and for capacity retirements for each year during the succeeding 10 years;

Black Hills completes system-level peak demand and energy forecasts and a load and resource balance annually to determine the resources necessary to serve its customers. The load and resource balance showed that Black Hills will have sufficient capacity resources to serve customer electricity demand, including a 15% reserve margin, over the three-year planning period (2019 through 2021). The Company does estimate that seasonal firm energy will be required in years 2017 through 2021. The need for seasonal firm energy is primarily driven by contractual commitments that the Company has through 2023. Table b-1 below includes the Company's peak demand and energy forecast for the three-year planning period. Table b-2 below shows the estimated firm energy purchases over the three-year planning period without the addition of any qualifying facilities.

**Table b-1**  
**Load Forecast (2019-2021)**

	<u>2019</u>	<u>2020</u>	<u>2021</u>
Peak Demand (MW's)	388	389	389
Energy (GWh's)	1,917	1,923	1,923

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<sup>2</sup> Seasonal rates include a summer and winter rate. Summer rates are calculated by averaging the avoided cost rates calculated June, July, August and September for the 2 year period. Winter rates are calculated by averaging the avoided cost rates of the remaining months for the 2 year period.

**Table b-2**

**Season Firm Energy Purchases (MW) (2019-2021)**

	<u>2019</u>	<u>2020</u>	<u>2021</u>
June	-	-	-
July	-	50	-
August	-	-	-

Black Hills does not have plans to retire any of its existing capacity resources during the three-year planning period.

- c. 18 CFR § 292.302 (b) (3) The estimated capacity costs at completion of the planned capacity additions and planned capacity firm purchases, on the basis of dollars per kilowatt, and the associated energy costs of each unit, expressed in cents per kilowatt hour. These costs shall be expressed in terms of individual generating units and of individual planned firm purchases.

As noted in (b) above Black Hills does not expect to add any planned capacity resources over the three-year planning period; therefore, no future utility owned capacity resources are included in the resource portfolio and Black Hills would not include capacity credit in its calculation of avoided costs for qualified facilities of 100 kW or less. If Black Hills' analysis (for this filing a system-level peak demand and energy forecast along with a load and resource balance) showed that the qualified facility reduces or eliminates seasonal firm energy purchases, the avoided costs associated with the reduction of those seasonal firm energy purchases would be captured in the production cost model and reflected in the total avoided energy costs included in Exhibit 4 and 5 of the Application. Thus, where applicable, there is some value attributable to capacity and it is simply reflected in the total avoided energy cost. However, as demonstrated in Confidential Exhibits 6 and 7, the addition of a 100kW QF, either solar or wind, does not eliminate or reduce a seasonal firm energy purchase, as seasonal firm energy purchases are transacted in 25 MW blocks.

## **V. COMPANY REPRESENTATIVES**

Copies of all notices, other correspondence and all inquiries concerning this Application should be sent to:

**Jason Keil**

Manager – Regulatory & Finance  
7001 Mount Rushmore Rd.  
P.O. Box 1400  
Rapid City, SD 57709  
Phone: (605) 721-1502  
[Jason.keil@blackhillscorp.com](mailto:Jason.keil@blackhillscorp.com)

**Jerrad Hammer**

Director – Regulatory & Finance  
7001 Mount Rushmore Rd.  
P.O. Box 1400  
Rapid City, SD 57709  
Phone: (605) 399-5136  
Jerrad.hammer@blackhillscorp.com

**Todd Brink**

Associate General Counsel  
7001 Mount Rushmore Rd.  
P.O. Box 1400  
Rapid City, SD 57709  
Phone: (605) 721-2516  
[Todd.brink@blackhillscorp.com](mailto:Todd.brink@blackhillscorp.com)

**Cathy Sabers**

Associate General Counsel  
7001 Mount Rushmore Rd.  
P.O. Box 1400  
Rapid City, SD 57709  
Phone: (605) 721-1914  
[Cathy.sabers@blackhillscorp.com](mailto:Cathy.sabers@blackhillscorp.com)

**VI. VERIFICATION**

Attached is the Verification signed by Jason S. Keil, who is authorized to act on behalf of Black Hills Power Inc. d/b/a Black Hills Energy, affirming that the contents of the Application are true, accurate and correct to the best of his understanding, knowledge and belief.

**VII. CONCLUSION**

Based on this Application and exhibits, Black Hills respectfully requests that the Commission issue an order approving the proposed Cogeneration and Small Power Production Service Simultaneous Net Billing Generation Credit Rate and the Company’s proposed tariff sheets with an effective date of June 1, 2019.

Dated: May 1, 2019

**Black Hills Power, Inc. d/b/a Black Hills Energy**

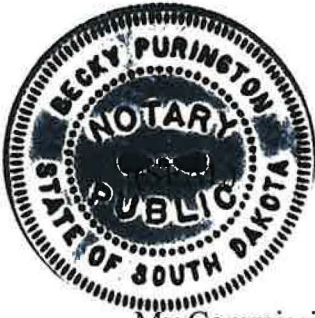
BEFORE THE PUBLIC UTILITY COMMISSION OF SOUTH DAKOTA

STATE OF SOUTH DAKOTA        )  
  ) SS:  
COUNTY OF PENNINGTON        )

I, Jason S. Keil, being duly sworn, do hereby depose and say that I am Manager – Regulatory & Finance for Black Hills Power, Inc. d/b/a Black Hills Energy, that I have read such Application, and that the facts set forth therein are true and correct to the best of my knowledge, information and belief.

\_\_\_\_\_  
Jason S. Keil  
Manager – Regulatory & Finance

Subscribed and sworn to before me this 1<sup>st</sup> day of May, 2019.

  
\_\_\_\_\_  
Notary Public

My Commission Expires June 22, 2023

My Commission Expires: \_\_\_\_\_