

Before the Public Utilities Commission
of the State of South Dakota

In the Matter of the Application of
Black Hills Power, Inc. d/b/a/ Black Hills Energy for
Approval to Implement a Renewable Ready Service Tariff

Docket No. EL18-_____

December 17, 2018

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ATTACHMENTS

Confidential Attachment JSK-1	Revenue Requirement Model
Attachment JSK-2	Potential Impacts Tables

1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Jason S. Keil. My business address is 7001 Mount Rushmore Road, Rapid
4 City, SD 57702.

5 **Q. PLEASE DESCRIBE YOUR EMPLOYMENT.**

6 A. I am employed by Black Hills Utility Holdings, Inc. (“BHUH”), a wholly-owned
7 subsidiary of Black Hills Corporation (“BHC”), as a Manager of Regulatory for Black
8 Hills Power, Inc. d/b/a Black Hills Energy (“Black Hills Power”).

9 **Q. PLEASE DESCRIBE YOUR EDUCATION AND BUSINESS BACKGROUND.**

10 A. I attended Bellevue University, where I received a Bachelor of Science degree in
11 Accounting and a Master of Business Administration with an emphasis in Finance. I
12 joined BHUH in 2013 as a Regulatory Analyst and accepted my current position as
13 Manager of Regulatory in January of 2016. Prior to joining BHUH, I provided credit risk
14 management leadership for ConAgra Energy Services (as Manager - Credit Risk),
15 Minnesota Power, Inc. (as Credit Manager), IDACORP, Inc. (as Manager - Credit Risk),
16 Black Hills Corporation (as Sr. Finance Manager / Credit Manager), and NRG Energy,
17 Inc. (as Manager - Credit Risk). In these roles, I managed credit and market risk in
18 relation to long-term strategic goals to ensure each respective company was taking proper
19 precautions to mitigate credit and market risk, and to ensure each met regulatory and
20 compliance requirements. My regulated and non-regulated utility experience spans a
21 total of twenty-one years.

1 **Q. BRIEFLY DESCRIBE YOUR DUTIES AND RESPONSIBILITIES.**

2 A. I am responsible for supporting Black Hills Power by providing analytical assistance
3 specific to regulatory matters for its electric generation, transmission, and distribution
4 assets in the jurisdictions of South Dakota, Wyoming, and Montana.

5 **II. PURPOSE OF TESTIMONY**

6 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

7 A. The purpose of my testimony is to provide background on the intent and structure of the
8 Renewable Ready Service Tariff, provide an explanation of potential customer impact,
9 and explain the necessary changes to Black Hills Power's Energy Cost Adjustment (the
10 "ECA") consisting of a Fuel and Purchased Power Adjustment (the "FPPA") and a
11 Transmission Cost Adjustment.

12 **III. ATTACHMENTS**

13 **Q. ARE YOU SPONSORING ANY ATTACHMENTS AS PART OF YOUR DIRECT**
14 **TESTIMONY?**

15 A. Yes. I am sponsoring the revenue requirement model used to develop the pricing options
16 contained in the Renewable Ready Service Tariff, which is Confidential Attachment JSK-
17 1. I am also sponsoring Attachment JSK-2, which contains tables illustrating potential
18 impacts of the Renewable Ready Service Tariff on the ECA calculation, specifically
19 impacts to the FPPA.

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1 **IV. THE DESIGN OF THE RENEWABLE READY SERVICE TARIFF**

2 **Q. WHAT WAS BLACK HILLS POWER’S GOAL IN DESIGNING THE**
3 **RENEWABLE READY SERVICE TARIFF?**

4 A. Black Hills Power's Renewable Ready Service Tariff was deliberately designed to
5 provide a renewable energy option for customers with sustainability interests and
6 proactively address threats of behind-the-meter generation, all while producing minimal
7 impact to non-subscribers. The testimony of Nick Gardner (Exhibit 3), Kyle White
8 (Exhibit 4) and Bret Jones (Exhibit 5) discuss in detail the motivations leading to the
9 design of this tariff.

10 **Q. AFTER THE GOAL WAS IDENTIFIED, HOW DID BLACK HILLS POWER**
11 **INITIATE THE TARIFF DESIGN PROCESS?**

12 A. In order to provide a renewable energy alternative for customers, Black Hills Power first
13 identified the appropriate source of renewable energy. Black Hills Power and Cheyenne
14 Light developed the proposed wind energy project called “Corriedale” or the “Corriedale
15 Project.” This 40 MW facility, located near Cheyenne, Wyoming, will be owned 50/50
16 by Black Hills Power and Cheyenne Light, and will provide 20 MW of renewable energy
17 to Black Hills Power to serve the proposed Renewable Ready Service Tariff. The
18 testimony of Jason Hartman (Exhibit 7) provides additional detail on the Corriedale
19 Project. Exhibit 8 to the Application is a copy of the joint Wyoming application of Black
20 Hills Power and Cheyenne Light for a certificate of public convenience and necessity for
21 the construction, ownership and operation of the Corriedale Project.

1 After the renewable energy resource was identified, the revenue requirement for
 2 the Corriedale Project was developed in order to determine the appropriate Renewable
 3 Ready Service Tariff rate schedules. *See* Confidential Attachment JSK-1.

4 **Q. PLEASE DESCRIBE THE CORRIEDALE PROJECT REVENUE**
 5 **REQUIREMENT.**

6 A. The total construction cost for the Corriedale Project is estimated to be \$57 million. The
 7 Corriedale Project costs will be split equally between Black Hills Power and Cheyenne
 8 Light, consistent with their ownership share of the project.

9 The total estimated or approximate project costs are:

Category	Approximate/Estimated	Support
Annual depreciation	\$2.3 million	Based on a 25 year useful life for the Corriedale Project
Yearly turbine operation and maintenance expense ("O&M")	\$720,000	Based on an estimate of \$45,000 per year per turbine, 16 turbines
Annual lease expense	\$133,000	Based on a 25 year land lease with the ability to extend the term for an additional period of up to 25 years
Yearly general O&M expense	\$143,000	O&M expenses unrelated to turbines, based on similar wind projects developed by Black Hills Corporation for its electric utility subsidiary in Colorado
Yearly property tax expense	\$101,000 ¹	Based on the 2018 0.353% levy
Yearly Wyoming wind generation tax	\$1/MWh	Based on Wyoming's current tax rate on all wind generated electricity
Yearly corporate allocated costs	\$375,000	Based on Black Hills Corporation's latest Cost Allocation Manual ("CAM")

¹ This cost is unique to each utility as Black Hills Power and Cheyenne Light each pay their own unique rate.

1 Black Hills Power's revenue requirement is 50% of the total costs as outlined,
2 with the exception of the property tax which is unique to each owner of Corriedale.

3 **Q. IS BLACK HILLS POWER FORECASTING ANY CHANGES IN PROJECT**
4 **COSTS?**

5 A. Yes. Turbine O&M, and general non-turbine O&M are expected to escalate at a rate of
6 2% per year. Annual lease expenses are 3.5% of gross operating revenue in years one
7 through 10. These expenses will increase to 5% in years 11 through 20 and to 6.5% in
8 years 21 through 25 pursuant to the lease agreement. In addition, the Wyoming wind
9 generation tax is based off of generation. Generation is assumed to have 0.10% yearly
10 degradation factor.

11 **Q. ONCE OPERATIONAL, WILL THE CORRIEDALE PROJECT REQUIRE ANY**
12 **CAPITAL ADDITIONS?**

13 A. Yes. Based on similar wind projects developed by Black Hills Corporation for its electric
14 utility subsidiary in Colorado, Black Hills Power estimates \$100,000 per year in capital
15 additions to maintain the Corriedale Project in good working order. After year five, the
16 estimated \$100,000 per year in capital additions are escalated at a rate of 2% per year.

17 **Q. WERE ANY COST OF CAPITAL ASSUMPTIONS MADE THAT DEVIATED**
18 **FROM BLACK HILLS POWER'S LAST RATE REVIEW?**

19 A. No. The assumptions that were agreed to and stipulated by the South Dakota Public
20 Utilities Commission Staff and Black Hills Power in the last rate review were used in the
21 revenue requirement calculation.

1 **Q. EXPLAIN HOW PRODUCTION TAX CREDITS WERE MODELED FOR**
2 **PURPOSES OF THIS PROGRAM.**

3 A. Current construction estimates have the Corriedale Project in operation by October 2020.
4 Therefore, the revenue requirement model incorporates full Federal Renewable
5 Electricity Production Tax Credits (“PTCs” or “Production Tax Credits”)² beginning in
6 October 2020 and continuing through September 2031. The revenue requirement model
7 (Confidential Attachment JSK-1) calculates each year’s PTC by taking the Corriedale
8 Project’s expected generation for each year multiplied by the forecasted PTC rate for the
9 first 10 years of the project. The combined value of the Black Hills Power and Cheyenne
10 Light PTCs is approximately \$43 million. The annual revenue requirement is reduced by
11 the PTCs, grossed up for taxes, generated in that year.

12 **Q. UTILIZING THE CORRIEDALE REVENUE REQUIREMENT, HOW DID**
13 **BLACK HILLS POWER DETERMINE THE APPROPRIATE RENEWABLE**
14 **READY SERVICE TARIFF RATE SCHEDULE?**

15 A. It was important to determine a rate under the Renewable Ready Service Tariff that took
16 into account the cost of the Corriedale Project but also remained economic for interested
17 customers. Therefore, Black Hills Power developed the rate schedule to include a
18 Renewable Ready Charge and a Renewable Ready Credit for subscribers, both of which
19 are discussed in greater detail in my testimony below.

¹ The Internal Revenue Code provides that a wind facility will generate PTCs equal to an inflation-adjusted 1.5 cents per kilowatt hour of electricity that is produced and sold to a third-party for a period of 10 years beginning on the date the facility is placed in service for income tax purposes. The current inflation-adjusted PTC rate for electricity generated in 2018 is 2.4 cents per kilowatt hour. In order to capture the full benefit of the PTCs, wind facilities must commence operation prior to January 1, 2021.

1 The Renewable Ready Charge is comparable to the expected 25 year levelized
2 cost of the Corriedale Project revenue requirement. The Renewable Ready Credit is
3 based on the impact of the subscribed renewable energy on purchased power and is the
4 sum of the Base Fuel and Purchased Power Costs (“Base FPP Costs”) and the current
5 FPPA rate.

6 **Q. WHAT IS THE PURPOSE OF THE RENEWABLE READY CHARGE?**

7 A. The Renewable Ready Charge is a subscriber’s payment for their portion of the
8 renewable energy generated by the Corriedale Project.

9 **Q. WHY WAS THE 25 YEAR LEVELIZED COST USED TO DETERMINE THE**
10 **RENEWABLE READY CHARGE?**

11 A. Unlike standard utility investments with revenue requirements that decline annually as
12 the associated rate base declines, the revenue requirement of the Corriedale Project is the
13 lowest during the first 10 years of operation due to the Production Tax Credits. The PTCs
14 decrease Black Hills Power’s revenue requirement by an average of \$2.5 million per year
15 over the first 10 years of operation. In year 11, the PTCs and the associated reduction in
16 the annual revenue requirement end. Therefore, levelizing the cost over 25 years
17 provides the most protection to non-subscribers.

18 **Q. PLEASE EXPLAIN THE RENEWABLE READY CHARGE.**

19 A. The Renewable Ready Charge is calculated by multiplying a subscriber’s delivered
20 renewable energy (“Renewable Ready Energy”) by the Renewable Ready Charge Rate
21 set forth in the proposed tariff. The tariff contains three pricing levels based upon
22 subscriber agreement term:

Subscriber Agreement Term	Renewable Ready Charge Rate
5-9 years	\$0.028 per kWh
10-14 years	\$0.026 per kWh
15- 25 years	\$0.024 per kWh

1 **Q. WHY IS BLACK HILLS POWER CHARGING A HIGHER RATE FOR**
2 **SHORTER TERM AGREEMENTS?**

3 A. The tiered pricing structure encourages subscribers to enter into longer term agreements.
4 The Corriedale Project will have a 25 year book life, which is the time period over which
5 Black Hills Power will recover its investment. Longer term agreements decrease the risk
6 that investment recovery for the Corriedale Project will be shifted from subscribers to
7 non-subscribers.

8 **Q. WHAT IS THE PURPOSE OF THE RENEWABLE READY CREDIT?**

9 A. Subscribers to the Renewable Ready Service Tariff will continue to pay their standard
10 tariff rate and any applicable cost adjustments for all delivered kWh, including the
11 delivered renewable energy from the Corriedale Project. This includes the payment of
12 Base FFP Costs and the FPPA. However, the portion of the subscriber's load served by
13 the renewable energy from Corriedale does not result in a purchased power expense.
14 Therefore, subscribers will receive a Renewable Ready Credit equal to the Base FPP
15 Costs and the FPPA that is applied to their Renewable Ready Energy.

16 **Q. PLEASE EXPLAIN THE RENEWABLE READY CREDIT.**

17 A. The Renewable Ready Credit is calculated by multiplying a subscriber's Renewable
18 Ready Energy by the Renewable Ready Credit Rate. The Renewable Ready Credit Rate
19 will be adjusted annually through Black Hills Power's ECA filing. The Renewable Ready

1 Credit Rate utilizing the current Base FPP Costs rate (\$0.01460/kWh) plus the current
2 FPPA rate (\$0.00757) would be \$.02217 per kWh.

3 **Q. ARE THERE NECESSARY CHANGES TO THE ANNUAL ECA CALCULATION**
4 **AND TARIFF RELATED TO THE RENEWABLE READY CREDIT?**

5 A. Yes. The Renewable Ready Credit amounts will be added to the annual system FPP costs
6 within the FPPA calculation which requires amendment to the FPPA tariff language in
7 Section No. 3C of Black Hills Power's tariff. *See* Exhibit 2 to the Application.

8 **Q. WILL THE ADDITION OF THE RENEWABLE READY CREDIT INCREASE**
9 **THE ECA RATE PAID BY ALL CUSTOMERS?**

10 A. The impact of the Renewable Ready Credit on the ECA rate paid by all customers will
11 depend on future fuel and purchased power costs. If these costs remain level or increase
12 with inflation or other factors, there will be no increase to the ECA calculation. If fuel
13 and purchased power costs decrease in the future, however, there would be an increase to
14 the ECA calculation.

15 **Q. PLEASE EXPLAIN.**

16 A. The kilowatt hours used to serve Renewable Ready subscribers will be purchased by the
17 subscriber through the Renewable Ready Charge resulting in a natural reduction to the
18 Annual System FPP Costs. Attachment JSK-2 Tables 1 through 3 show hypothetical
19 examples illustrating the impact on the ECA rate when Annual System FPP Costs are
20 reduced at different rates. Each example utilizes what would be the current Renewable
21 Ready Credit Rate - \$.02217 per kWh. For illustrative purposes, two columns were added
22 to the tables showing the increase or decrease in Annual System FPP Costs and the
23 Renewable Ready Credit amount.

1 Q. **DOES THIS CONCLUDE YOUR TESTIMONY?**

2 A. Yes, it does.

