

EXHIBIT 6
Direct Testimony and Exhibits
RICHARD C. LOOMIS

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

In the Matter of the Application of Black Hills Power, Inc.

To Approve Tariff Revisions Related to Its Cost of Service
Gas Agreement With Black Hills Utility Holdings, Inc.

Docket No. EL 15 –__

September 30, 2015

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Exhibits

Exhibit 6.1	Chart of Historical Gas Prices
Exhibit 6.2	Price Forecast(CONFIDENTIAL)

1 **I. INTRODUCTION AND QUALIFICATIONS**

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

3 A. My name is Richard C. (“Chuck”) Loomis. My business address is 2828 Plant St.,
4 Suite B, Rapid City, South Dakota 57702.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am employed by Black Hills Utility Holdings (“BHUH”) as Vice President,
7 Energy Asset Optimization. I am responsible for the BHUH’s Gas Supply
8 Services, Generation Dispatch and Power Marketing, and Resource Planning
9 functions.

10 **Q. FOR WHOM ARE YOU TESTIFYING?**

11 A. I am testifying on behalf of Black Hills Power, Inc. (the “Company”).

12 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND BUSINESS**
13 **BACKGROUND.**

14 A. I received a Master of Business Administration degree from Bowling Green State
15 University in Bowling Green, Ohio, and a Bachelor of Business Administration
16 degree with a major in Accounting from the University of Toledo, Toledo, Ohio. I
17 joined Michigan Gas Utilities (“MGU”) in 1985 as a general accountant. From
18 1987 through 1994, I worked in positions with increasing responsibility in MGU’s
19 Rates and Regulatory Affairs function, becoming Manager in 1992. In 1989,
20 Aquila, Inc. (then UtiliCorp United) (“Aquila”) acquired MGU from Michigan
21 Energy Resources Company and continued to operate MGU as a separate division.

1 From 1994-1997, I served as State Administrator in Michigan, and in July 1997,
2 relocated to Omaha, Nebraska to become Aquila's Asset Manager for Iowa and
3 Nebraska. In this position, I was responsible for the operational and financial
4 performance of Aquila's gas distribution assets serving nearly 325,000 customers
5 in these two states. I became Manager of Aquila's Nebraska Business Operations
6 as part of a corporate restructuring in 2002. I was named Aquila's Vice President,
7 Kansas and Colorado Gas Operations in February 2004. On July 14, 2008, Black
8 Hills Corporation ("BHC") acquired certain natural gas and electric utility assets
9 from Aquila, including the Kansas and Colorado natural gas utility assets for
10 which I was responsible. On July 14, 2008, I joined Black Hills Power as Vice
11 President, Operations. I was appointed to my current position effective July 9,
12 2013.

13 **Q. HAVE YOU PREVIOUSLY FILED TESTIMONY WITH THIS**
14 **COMMISSION?**

15 A. Yes.

16 **II. PURPOSE OF TESTIMONY**

17 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

18 A. BHUH currently assists with the procurement of gas supply for the Company. The
19 purpose of my testimony is to explain BHUH's current diversified portfolio
20 approach to managing gas supply for the Company and other BHC utilities.
21 Throughout my testimony, when I refer to the Company's gas supply purchases,

1 please understand that to include purchases by or through BHUH, acting on behalf
2 of the Company. Witnesses Ivan Vancas and Julia Ryan further explain why the
3 Company believes Cost of Service Gas, produced by an affiliate of BHUH
4 referred to as “COSGCO,” will reduce the Company’s customers’ exposure to spot
5 market price volatility, provide more stable gas prices over the long term, and
6 result in anticipated savings over the term of the COSG Agreement. I will also
7 discuss the Company’s long-term natural gas price forecast utilized by witness
8 Julia Ryan.

9 **III. THE COMPANY’S CURRENT GAS**

10 **PROCUREMENT STRATEGY**

11 **Q. WHAT HAS BEEN THE STRATEGY FOR MEETING THE COMPANY’S**
12 **NATURAL GAS NEEDS?**

13 A. In general terms, BHUH acts as the purchaser or purchasing agent for various
14 BHC utilities, including the Company. On behalf of the Company, BHUH’s gas
15 supply department has, for many years, pursued a diversified portfolio approach to
16 meeting the differing gas needs of BHC’s utilities. This diversified portfolio
17 approach has been reviewed and discussed, over the years, both formally and
18 informally, with each of the state regulatory commissions or boards, staffs and
19 consumer advocates where utilities affiliated with BHC operate. The stated goals
20 of the portfolio strategy include: 1) providing natural gas supplies at reasonable
21 prices; 2) providing a high level of reliability; and 3) providing protection against

1 gas price volatility. BHUH has met these goals through a diversified portfolio
2 approach. Witness Julia Ryan provides further detail regarding the Company's
3 annual gas purchase plans in her direct testimony. It should be noted that the total
4 cost of gas delivered to customers includes the cost of interstate pipeline charges,
5 storage, and the applicable local distribution charge approved in the Company's
6 tariffs.

7 **Q. WHAT ARE THE KEY ELEMENTS OF BHUH's DIVERSIFIED SUPPLY**
8 **PORTFOLIO?**

9 A. BHUH's Gas Supply Services has typically purchased gas for or on behalf of the
10 certain other BHC utilities (hereinafter "Entities") from producers and marketers
11 through a diversified portfolio of spot market purchases, short-term fixed price
12 contracts and seasonal storage, and short-term financial hedges.¹ A general
13 breakdown of the Entities' annual gas supply purchased through these methods is
14 identified in Exhibit 3.2 to Ivan Vancas' direct testimony.

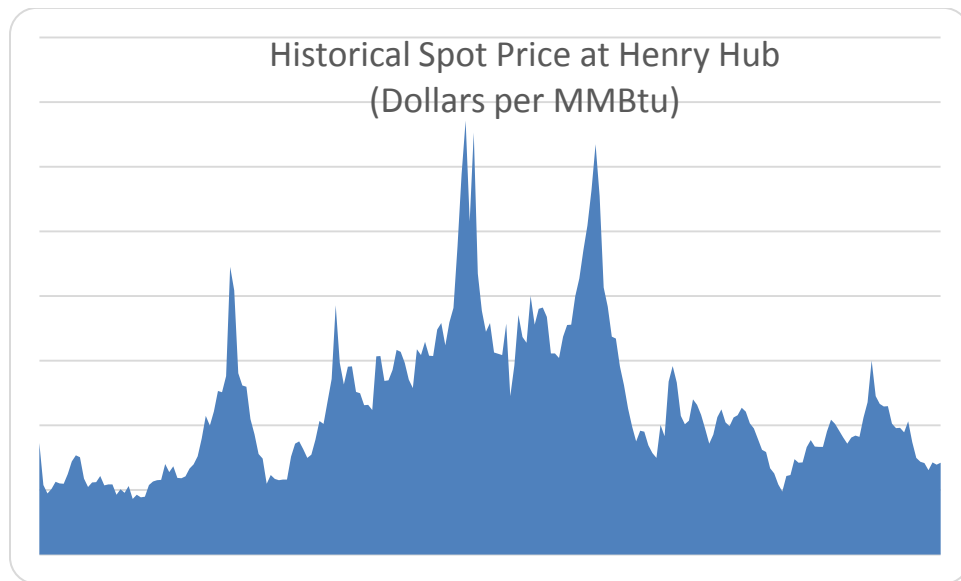
15 **Q. WHAT ARE SPOT MARKET GAS PURCHASES?**

16 A. Spot market gas purchases are short-term purchases made at the then-current (or
17 roughly current) market prices on a monthly, weekly, or daily basis. Because spot
18 market prices are constantly changing and are influenced by supply and demand
19 and other market constraints and factors, they can be subject to significant
20 fluctuations. Attached as Exhibit 6.1 to my testimony is a historical natural gas

¹ Short-term fixed-price contracts and hedges refer to hedging over a period of 1 to 2 gas years. Medium-term hedging refers to hedging over the 3 to 7 gas-year period. At times, BHUH has also incorporated medium-term financial hedges (i.e., 3 to 7 gas years) into its gas portfolio for its Colorado electric utility.

price summary at the Henry Hub trading point. Figure 1 below demonstrates the historical variability of spot market prices from 1997 to 2015 at the Henry Hub trading point.²

Figure 1



Reducing the negative effects of gas price volatility (i.e., potentially high and fluctuating bills for utility customers) is one of the reasons BHUH has relied on a diversified approach to its gas portfolio. Even though the relative price levels are lower for the time being since the shale revolution, the chart shows there is still significant variability and lack of stability in spot market prices.

Q. PLEASE EXPLAIN HOW SHORT-TERM FIXED PRICE GAS CONTRACTS ARE UTILIZED.

A. To enhance the price stability of its gas portfolio and appropriately reduce exposure to the volatility of spot market gas prices, BHUH also has relied on

² www.eia.gov/dnav/ng/hist/rngwhhdd.htm

1 short-term fixed price contracts. These contracts provide gas at fixed prices for a
2 limited term (two years or less).

3 **Q. DOES BHUH UTILIZE NATURAL GAS STORAGE AS AN ELEMENT OF**
4 **ITS GAS SUPPLY PORTFOLIO?**

5 A. Yes. While BHUH does not own natural gas storage facilities, it has made use of
6 storage through contracted storage services with interstate pipelines. Where
7 available, natural gas storage is a common element of utility portfolios, allowing a
8 company to purchase and store supplies (typically in the summer) and withdraw
9 supplies at another time (typically to meet winter demand). In this manner, a
10 portion of the demand on a peak day is met through withdrawals from storage at
11 known prices rather than market purchases at higher prices. Because gas storage is
12 generally refilled seasonally at the lowest spot prices available, use of storage is
13 similar, in effect, to a short-term (seasonal) fixed price gas contract. Instead of
14 paying a premium to a gas supplier to hold the price fixed for a term, lower price
15 spot purchases are made and the “premium” is paid in the form of service fees for
16 gas storage. As such, storage does not serve as a long-term hedge, but rather,
17 serves as a seasonal hedge.

18 **Q. WHAT ARE FINANCIAL HEDGES AND HOW DO THEY FACTOR INTO**
19 **THE CURRENT GAS PORTFOLIO?**

20 A. Financial hedging in the gas market generally involves the use of a financial
21 instrument or security to establish a gas price position that is intended to offset the

1 exposure a company has in the physical gas market. BHUH engages in financial
2 hedging to stabilize gas prices and compensate for market volatility. This
3 approach has worked, but it is focused on short-term and seasonal protection
4 against price increases.

5 **Q. ARE THERE OTHER LIMITATIONS OR DRAWBACKS TO THE**
6 **BHUH'S CURRENT APPROACH TO HEDGING?**

7 A. BHUH's approach, while successful, is focused on a relatively short-time period
8 of one to two years. Thus, while some short-term or seasonal protection is
9 provided to customers against increasing natural gas market prices, and the
10 hedging cost charged by the counterparty paid by customers, the current approach
11 does not provide protection against long-term increases in natural gas prices. In
12 fact, customers are exposed to increases in the market price of natural gas typically
13 in the next heating season/year as the short-term hedges expire. That is, the
14 current portfolio approach does not provide long-term rate stability for customers.
15 Witness Julia Ryan provides a fundamental assessment of the natural gas supply
16 market and prices, and a comprehensive review of industry and market factors that
17 explain the importance of incorporating long-term hedging into the Company's
18 gas portfolio.

1 **Q. DOES BHUH CURRENTLY INCORPORATE LONG-TERM AND**
2 **MEDIUM-TERM FIXED-PRICE CONTRACTS AND FINANCIAL**
3 **HEDGES IN THE GAS PORTFOLIO?**

4 A No, with the exception of certain medium-term financial hedges used for Colorado
5 electric utilities.

6 **Q. DOES BHUH BELIEVE IT SHOULD INCORPORATE MEDIUM- OR**
7 **LONG-TERM HEDGING INTO THE GAS PORTFOLIO?**

8 A. Yes. For a number of reasons, further discussed by Witnesses Ivan Vancas and
9 Julia Ryan, BHUH believes that incorporating a Cost of Service Gas program (the
10 “COSG Program”) will provide greater long-term protection against price
11 volatility for the Company and its customers; reduce the risk of increasing natural
12 gas market prices; and provide reasonably anticipated savings for customers over
13 the life of the program.

14 **Q. ARE THERE RISKS AND LIMITATIONS TO MEDIUM- LONG-TERM**
15 **FIXED PRICE CONTRACTS OR FINANCIAL HEDGES?**

16 A. Yes. Medium- and long-term fixed-price contracts and financial hedges involve
17 an extended relationship with a counterparty. As such, these hedging mechanisms
18 expose the purchaser to a number of new risks, including credit costs and the risk
19 of default by or loss of the counterparty. For instance, in a normal gas contract, if
20 the counterparty defaults or becomes bankrupt, there is a risk of the loss of the
21 benefit of the deal.

1 **Q. HAS BHUH EXPLORED LONG-TERM FIXED-PRICE OR FINANCIAL**
2 **HEDGE OPTIONS?**

3 A. Yes. BHUH, on behalf of the Company, has investigated the availability and costs
4 of long-term fixed-price natural gas contracts and financial hedges. Specifically,
5 BHUH requested proposals for ten-year and 20-year fixed-price gas supplies and
6 financial hedges. [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 Consistent with the recommendations of Aether Advisors, the Company may
17 incorporate medium-term contracts or hedges into the portfolio, but they would
18 not replace the COSG Program, which is a much longer-term program and
19 provides the greatest benefit for customers through more long-term rate stability.
20 As designed, the COSG Program is anticipated to deliver gas over a 20- to 30-year

1 period (the producing life of the wells) at prices that would be lower than the only
2 20-year price proposal received.

3 **Q. ARE THERE ADDITIONAL REASONS WHY THE COSG PROGRAM IS**
4 **PREFERABLE TO OTHER HEDGING OPTIONS?**

5 A. Yes. The COSG Program provides a number of advantages over other long-term
6 hedging options. Fixed-price contracts and market hedges come with credit costs
7 and counterparty risks that are not within the control of the gas purchaser. In
8 addition, as explained in more detail in the testimony of John Benton, production
9 costs are generally stable and predictable over the 20-30 year lives of the
10 producing wells while historically, gas prices have fluctuated widely. Because
11 current gas prices are low and there is excess gas capacity in the market, drilling
12 has slowed. Therefore, it is expected that gas reserves could be acquired at low
13 prices relative to historical prices. Further, COSGCO would directly own the gas
14 reserves so it would not be at risk from the default or bankruptcy of a
15 counterparty. Finally, the COSG Program provides flexibility as compared to
16 other long-term hedging alternatives, as COSGCO will be directly involved in
17 establishing a drilling program, through interaction with the Commission, the
18 Company, and BHUH, that will allow it to adjust production based on market
19 conditions. Since natural gas production declines over time, adjustments can be
20 made to the drilling program to better match the volumes produced to the utilities'

1 hedging needs. In other words, drilling can be scaled back if prices stay low, or
2 ramped up when prices increase.

3 **Q. HAS BHUH RETAINED A CONSULTANT TO PERFORM A REVIEW OF**
4 **ITS GAS PORTFOLIO?**

5 A. Yes. BHUH retained Julia Ryan of Aether Advisors, LLC to review BHUH's
6 current gas supply portfolio and provide a recommendation to assist the Company
7 in reducing long-term price volatility to customers.

8 **Q. WHAT WAS THE RECOMMENDATION OF MS. RYAN?**

9 A. To meet the Company's objective to provide greater long-term rate stability for
10 customers, Ms. Ryan recommends that the Company incorporate long-term
11 hedging into its gas procurement process, and confirmed that BHUH's strategy to
12 invest in gas reserves to serve regulated utility customers through a cost of service
13 gas program is consistent with that recommendation.

14 **Q. DID MS. RYAN PROVIDE A RECOMMENDED RANGE FOR GAS**
15 **RESERVES AS A PERCENTAGE OF THE COMPANY'S PORTFOLIO?**

16 A. Yes. Ms. Ryan recommends that the Company look to acquire reserves at a
17 minimum of 35% of the portfolio with an objective of acquiring up to 50% of the
18 portfolio.

19 **Q. WHAT IS THE COMPANY'S RECOMMENDATION?**

20 A. The Company has considered the recommendation of its professional consultant,
21 and consistent with the range provided in the Aether Report, it is the Company's

1 recommendation that 50% of the Company's gas supply portfolio consist of a
2 long-term physical hedge through the COSG Program. The balance of the
3 Company's gas supply portfolio will layer in short-term and medium term
4 financial hedges, seasonal storage and spot market purchases, as appropriate.

5 The Company's recommendation is consistent with the Company's goals to 1)
6 provide reasonably priced natural gas; 2) provide a high level of reliability; and 3)
7 mitigate price volatility. The Company believes that incorporating a 50% long-
8 term physical hedge through the COSG Program will enhance the long-term price
9 stability for customers and is also likely to provide long-term savings relative to
10 market purchases. As noted by Julia Ryan in her direct testimony, BHUH's
11 current hedging plans span one to two winters for the gas utilities, limiting the
12 ability to manage commodity costs for customers across rate years or over the long
13 term.

14 **Q. IS THE COMPANY'S RECOMMENDATION CONSISTENT WITH THE**
15 **PORTFOLIO OF OTHER UTILITIES WHO OWN RESERVES?**

16 A. Yes. The Company's recommendation to provide 50% of annual gas demand
17 through owned reserves and production is consistent with other utility cost of
18 service gas programs. Questar Corporation has produced gas from owned reserves
19 through its affiliate, Wexpro, since the early 1980s. Currently, Questar includes

1 cost of service gas as 65% of its annual forecasted demand.³ In addition,
2 NorthWestern Energy has included owned reserves and production in its gas
3 utility and gas-fired generation fuel supply since 2010. Northwestern established a
4 target of 50% of its portfolio to be provided through cost of service gas.⁴

5 **Q. HOW QUICKLY WOULD THE COMPANY BE ABLE TO INCREASE**
6 **PRODUCTION UNDER THE COSG PROGRAM TO 50% OF ITS**
7 **PORTFOLIO?**

8 A. The timeframe under which production could increase to 50% of the portfolio is
9 dependent upon the pace of property acquisition, whether the acquired properties
10 have existing production, and the pace of drilling development wells. Generally,
11 BHUH would direct its affiliate COSGCO to reach the 50% level as soon as
12 practicable. COSG Program production would need to ramp up to allow existing
13 fixed price contracts and financial hedges to expire.

³ Utah Public Service Commission Docket No. 13-057-13, Corrected Settlement Stipulation dated Jan. 15, 2014 (Section 12). The Parties agreed for purposes of settlement that:

a. The Company and Wexpro will manage the combined cost-of-service production from Wexpro I properties and Wexpro II Trail Unit Acquisition Properties to 65% of Questar Gas' annual forecasted demand identified in the Company's Integrated Resource Plan (IRP).

⁴ NorthWestern 2014 Annual Shareholders Report, page 27:

Natural Gas Production Assets

Since 2010, we have acquired gas production and gathering system assets as a part of an overall strategy to provide rate stability and customer value through the addition of regulated assets that are not subject to market forces. As of December 31, 2014, these owned reserves totaled approximately 70.4 Bcf and are estimated to provide approximately 5.8 Bcf each year, or about 29 percent of our current annual retail natural gas load in Montana. We continue to pursue opportunities to secure low cost gas reserves for our customers, with a target of owning 50% of our supply.

1 **IV. LONG TERM NATURAL GAS DEMAND AND**
2 **PRICE FORECASTS**

3 **Q. HAS BHUH DEVELOPED A LONG-TERM FORECAST OF NATURAL**
4 **GAS DEMAND FOR BHC’S GAS AND ELECTRIC UTILITIES?**

5 A. Yes. For BHC’s gas utilities, the long-term demand forecast was developed by
6 applying a long-term growth rate to 2014 weather normalized firm sales. For
7 BHC’s electric utilities, the growth rate applied to historical gas-fired generation
8 volumes was consistent with the long-term growth rate from the most recent
9 Integrated Resource Plans (IRP) or Electric Resource Plans (ERP).

10 **Q. HAS THE COMPANY ATTEMPTED TO CONDUCT A LONG-TERM**
11 **FORECAST OF THE MARKET PRICE OF GAS?**

12 A. The Company has not performed its own market forecast. However, to assess its
13 long-term natural gas strategy and to understand the potential benefits of the
14 COSG Program, the Company, through BHUH, reviewed other 20-year gas price
15 forecasts for the years 2016 to 2035 and created an average forecast price based on
16 those forecasts.

17 **Q. WHAT INFORMATION DID THE COMPANY REVIEW TO GENERATE**
18 **ITS AVERAGE PRICE FORECAST?**

19 A. The Company used the current long-term gas price forecast published by [REDACTED]
20 [REDACTED] as well as the current long-term gas price

forecast published by [REDACTED]

[REDACTED]

Q. WHY DID THE COMPANY USE THESE TWO LONG-TERM GAS PRICE FORECASTS?

A. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] e

[REDACTED]

[REDACTED]

[REDACTED],

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

1 **Q. DESCRIBE HOW THE COMPANY BLENDED DATA FROM THESE**
2 **TWO SOURCES TO ARRIVE AT ITS FORECAST.**

3 A. The Company identified the annual market price reflected in the [REDACTED]
4 forecasts for each of the years from 2016 to 2035. Then the Company averaged
5 those annual prices to arrive at an annual “Average Forecasted Price” gas for each
6 year during the period. A copy of the price forecast is attached as Exhibit 6.2.

7 **Q. WHAT DOES THE COMPANY’S FORECAST SHOW?**

8 A. As shown in Table 1 below, the nominal Average Forecasted Price for gas is
9 anticipated to rise from an estimated low of \$3.54/MMBtu in 2016 to a high of
10 approximately \$10.43/MMBtu in 2035. As COSGCO considers property
11 acquisitions, this price forecast will be used in modeling to compare COSG
12 Program prices to projected market prices.

Table 1

[illegible]

V. CONCLUSION

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.