20150930133759 Filed Date: 09/30/2015 State Corporation Commission of Kansas

### CONFIDENTIAL

### BEFORE THE STATE CORPORATION COMMISSION OF THE STATE OF KANSAS

In the Matter of the Application of Black Hills/Kansas	)		
Gas Utility Company, LLC, d/b/a Black Hills Energy,	)	Docket No. 16-BHCG	CON
for Approval of its Long Term Physical Gas Hedge	)		
Contract With Black Hills Utility Holdings, Inc.	)		

# DIRECT TESTIMONY OF RICHARD C. LOOMIS

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### **EXHIBITS**

Exhibit RCL-1 (Chart of Historical Gas Prices) Exhibit RCL-2 (Price Forecast)

- 1 I. Introduction and Qualifications
- 2 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
- A. My name is Richard C. ("Chuck") Loomis. My business address is 2828 Plant St., Suite B,
   Rapid City, South Dakota 57702.
- 5 Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?
- A. I am employed by Black Hills Utility Holdings ("BHUH") as Vice President, Energy Asset
   Optimization. I am responsible for the BHUH's Gas Supply Services, Generation Dispatch
   and Power Marketing, and Resource Planning functions.
- 9 O. FOR WHOM ARE YOU TESTIFYING?
- 10 A. I am testifying on behalf of Black Hills/Kansas Gas Utility Company, LLC (the "Company").
- 11 Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND BUSINESS BACKGROUND.
- I received a Master of Business Administration degree from Bowling Green State University 12 A. 13 in Bowling Green, Ohio, and a Bachelor of Business Administration degree with a major in 14 Accounting from the University of Toledo, Toledo, Ohio. I joined Michigan Gas Utilities 15 ("MGU") in 1985 as a general accountant. From 1987 through 1994, I worked in positions with increasing responsibility in MGU's Rates and Regulatory Affairs function, becoming 16 17 Manager in 1992. In 1989, Aquila, Inc. (then UtiliCorp United) ("Aquila") acquired MGU 18 from Michigan Energy Resources Company and continued to operate MGU as a separate 19 division. From 1994-1997, I served as State Administrator in Michigan, and in July 1997, 20 relocated to Omaha, Nebraska to become Aquila's Asset Manager for Iowa and Nebraska. In 21 this position, I was responsible for the operational and financial performance of Aquila's gas 22 distribution assets serving nearly 325,000 customers in these two states. I became Manager

of Aquila's Nebraska Business Operations as part of a corporate restructuring in 2002. I was named Aquila's Vice President, Kansas and Colorado Gas Operations in February 2004. On July 14, 2008, Black Hills Corporation ("BHC") acquired certain natural gas and electric utility assets from Aquila, including the Kansas and Colorado natural gas utility assets for which I was responsible. On July 14, 2008, I joined Black Hills Power as Vice President, Operations. I was appointed to my current position effective July 9, 2013.

#### 7 Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

- 8 A. Colorado Yes, Iowa No, Kansas Yes, Nebraska Yes, Wyoming No.
- 9 II. PURPOSE OF TESTIMONY

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- 10 Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?
- 11 A. BHUH currently procures all gas supply for the Company. The purpose of my testimony is 12 to explain BHUH's current diversified portfolio approach to managing gas supply for the 13 Company. Throughout my testimony, when I refer to the Company's gas supply purchases. 14 please understand that to include purchases by BHUH, acting on behalf of the Company. 15 Witnesses Ivan Vancas and Julia Ryan further explain why the Company believes Cost of 16 Service Gas, produced by an affiliate of BHUH referred to as "COSGCO," will enhance the 17 historical portfolio approach, and Ms. Ryan provides a recommended future portfolio. I will 18 also discuss the Company's long-term natural gas price forecast utilized by witness Julia Ryan.
  - III. THE COMPANY'S CURRENT GAS PROCUREMENT STRATEGY
- Q. WHAT HAS BEEN THE STRATEGY FOR MEETING THE COMPANY'S NATURAL
  GAS NEEDS?
- A. In general terms, BHUH acts as the purchaser or purchasing agent for various BHC utilities,

including the Company. On behalf of the Company, BHUH's gas supply department has, for many years, pursued a diversified portfolio approach to meeting its gas needs. This diversified portfolio approach has been reviewed and discussed, over the years, both formally and informally, with each of the state regulatory commissions or boards, staffs and consumer advocates where utilities affiliated with BHC operate. The stated goals of the portfolio strategy include: 1) providing natural gas supplies at reasonable prices; 2) providing a high level of reliability; and 3) providing protection against gas price volatility. The Company has met these goals through its diversified portfolio approach, and BHUH's and its predecessor's purchasing plans and activities have been accepted in each jurisdiction for many years. Witness Julia Ryan provides further detail regarding the Company's annual gas purchase plans and current hedge portfolio in her direct testimony. In addition to the commodity supply and hedging strategy discussed in this application, it should be noted that the total cost of gas delivered to customers includes the cost of interstate pipeline charges, storage, and the applicable local distribution charge approved in the Company's tariffs.

### Q. WHAT ARE THE KEY ELEMENTS OF THE COMPANY'S DIVERSIFIED SUPPLY PORTFOLIO?

A. BHUH's Gas Supply Services has typically purchased gas for or on behalf of the Company from producers and marketers through a diversified portfolio of spot market purchases, short-term fixed price contracts and seasonal storage, and short-term financial hedges.<sup>1</sup> A general breakdown of the Company's annual gas supply purchased through these methods is

<sup>&</sup>lt;sup>1</sup>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.

identified in Exhibit IV-2 to Ivan Vancas' direct testimony.

#### Q. WHAT ARE SPOT MARKET GAS PURCHASES?

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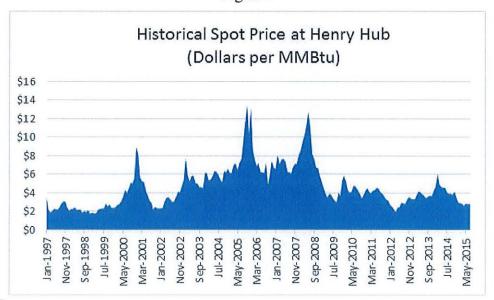
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A.

Spot market gas purchases are short-term purchases made at the then-current (or roughly current) market prices on a monthly, weekly, or daily basis. Because spot market prices are constantly changing and are influenced by supply and demand and other market constraints and factors, they can be subject to significant fluctuations. Attached as Exhibit RCL-1 to my testimony is a historical natural gas 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.<sup>2</sup>

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 the Company has relied on a diversified approach to its gas portfolio. Even though the relative price levels are lower for the time being since the

<sup>&</sup>lt;sup>2</sup>www.eia.gov/dnav/ng/hist/rngwhhdd.htm.

1	shale revolution, the chart shows there is still significant variability and lack of stability in spot
2	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, on behalf of the Company, also has relied on short-term fixed price contracts. These contracts provide gas at fixed prices for a limited term (two years or less).

### 9 Q. DOES THE COMPANY UTILIZE NATURAL GAS STORAGE AS AN ELEMENT OF 10 ITS GAS SUPPLY PORTFOLIO?

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

#### Q. WHAT ARE FINANCIAL HEDGES AND HOW DO THEY FACTOR INTO THE

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#### **CURRENT GAS PORTFOLIO?**

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A. Financial hedging in the gas market generally involves the use of a financial instrument or security to establish a gas price position that is intended to offset the exposure a company has in the physical gas market. BHUH, on behalf of the Company, engages in financial hedging to stabilize gas prices and compensate for market volatility. This approach has worked, but it is focused on short-term and seasonal protection against price increases.

### Q. ARE THERE OTHER LIMITATIONS OR DRAWBACKS TO THE COMPANY'S CURRENT APPROACH TO HEDGING?

- The Company's approach, while successful, is focused on a relatively short-time period of one to two years. Thus, while some short-term or seasonal protection is provided to customers against increasing natural gas market prices, and the hedging cost charged by the counterparty paid by customers, the current approach does not provide protection against long-term increases in natural gas prices. In fact, customers are exposed to increases in the market price of natural gas typically in the next heating season/year as the short-term hedges expire. That is, the current portfolio approach does not provide long-term rate stability for customers. Witness Julia Ryan provides a fundamental assessment of the natural gas supply market and prices, and a comprehensive review of industry and market factors that explain the importance of incorporating long-term hedging into the Company's gas portfolio.
- Q. DOES BHUH CURRENTLY INCORPORATE LONG-TERM AND MEDIUM-TERM FIXED-PRICE CONTRACTS AND FINANCIAL HEDGES IN THE GAS PORTFOLIO?
- 22 A No, with the exception of certain medium-term financial hedges used for Colorado electric

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the program.

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

- A. Yes. For a number of reasons, further discussed by Witnesses Ivan Vancas and Julia Ryan, BHUH believes that incorporating a Cost of Service Gas program (the "COSG Program") will enhance the historical diversified portfolio approach; provide greater long-term protection against price volatility for the Company and its customers; reduce the risk of increasing natural gas market prices; and provide reasonably anticipated savings for customers over the life of
- Q. ARE THERE RISKS AND LIMITATIONS TO MEDIUM- LONG-TERM FIXED
  PRICE CONTRACTS OR FINANCIAL HEDGES?
  - A. Yes. Medium- and long-term fixed-price contracts and financial hedges involve an extended relationship with a counterparty. As such, these hedging mechanisms expose the purchaser to a number of new risks, including credit costs and the risk of default by or loss of the counterparty. For instance, in a normal gas contract, if the counterparty defaults or becomes bankrupt, there is a risk of the loss of the benefit of the deal.
  - Q. HAS THE COMPANY EXPLORED LONG-TERM FIXED-PRICE OR FINANCIAL HEDGE OPTIONS?
- 19 A. Yes. The Company, through BHUH, has investigated the availability and costs of long-term
  20 fixed-price natural gas contracts and financial hedges. Specifically, BHUH requested
  21 proposals for ten-year and 20-year fixed-price gas supplies and financial hedges. \*

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

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

Yes. The COSG Program provides a number of advantages over other long-term hedging options. Fixed-price contracts and market hedges come with credit costs and counterparty risks that are not within the control of the gas purchaser. In addition, as explained in more detail in the testimony of John Benton, production costs are generally stable and predictable over the 20-30 year lives of the producing wells while historically, gas prices have fluctuated widely. Because current gas prices are low and there is excess gas capacity in the market, drilling has slowed. Therefore, it is expected that gas reserves could be acquired at low prices

relative to historical prices. Further, COSGCO would directly own the gas reserves so it would not be at risk from the default or bankruptcy of a counterparty. Finally, the COSG Program provides flexibility as compared to other long-term hedging alternatives, as COSGCO will be directly involved in establishing a drilling program, through interaction with the Commission, the Company, and BHUH, that will allow it to adjust production based on market conditions. Since natural gas production declines over time, adjustments can be made to the drilling program to better match the volumes produced to the utilities' hedging needs. In other words, drilling can be scaled back if prices stay low, or ramped up when prices increase.

### Q. HAS THE COMPANY RETAINED A CONSULTANT TO PERFORM A REVIEW OF ITS GAS PORTFOLIO?

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

#### Q. WHAT WAS THE RECOMMENDATION OF MS. RYAN?

A. To meet the Company's objective to provide greater long-term rate stability for customers, Ms.

Ryan recommends that the Company expand the time horizon of its hedging program to include long-term hedging, and confirmed that BHC's utilities' strategy to invest in gas reserves to serve regulated utility customers through a cost of service gas program is consistent with that recommendation.

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

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

#### Q. WHAT IS THE COMPANY'S RECOMMENDATION?

A. The Company has considered the recommendation of its professional consultant, and consistent with the range provided in the Aether Report, it is the Company's recommendation that 50% of the Company's gas supply portfolio consist of a long-term physical hedge through the COSG Program. The balance of the Company's gas supply portfolio will layer in short-term and medium term financial hedges, seasonal storage and spot market purchases.

The Company's recommendation is consistent with the Company's goals to 1) provide reasonably priced natural gas; 2) provide a high level of reliability; and 3) mitigate price volatility. The Company believes that incorporating a 50% long-term physical hedge through the COSG Program will enhance the long-term price stability for customers and is also likely to provide long-term savings relative to market purchases. As noted by Julia Ryan in her direct testimony, BHUH's current hedging plans span one to two winters for the gas utilities, limiting the Company's ability to manage commodity costs for customers across rate years or over the long term. The 50% recommendation does not materially alter the total percentage of the Company's gas supply portfolio that has been hedged for many years. The Company's current portfolio consists of approximately one-third spot market purchases and two-thirds hedging agreements, including fixed price contracts, storage and call options. Figure 11 from the Aether Report sets forth the current percentages of each state's gas supply. Instead of changing the total percentage of supply that is hedged, the Company's recommendation re-allocates a percentage of the hedged portion of the gas supply to include a long-term

1 hedging plan for 50% of supply.

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

- A. Yes. The Company's recommendation to provide 50% of annual gas demand through owned reserves and production is consistent with other utility cost of service gas programs. Questar Corporation has produced gas from owned reserves through its affiliate, Wexpro, since the early 1980s. Currently, Questar includes cost of service gas as 65% of its annual forecasted demand.<sup>3</sup> In addition, NorthWestern Energy has included owned reserves and production in its gas utility and gas-fired generation fuel supply since 2010. Northwestern established a target of 50% of its portfolio to be provided through cost of service gas.<sup>4</sup>
- Q. HOW QUICKLY WOULD THE COMPANY BE ABLE TO INCREASE PRODUCTION UNDER THE COSG PROGRAM TO 50% OF ITS PORTFOLIO?
- A. The timeframe under which production could increase to 50% of the portfolio is dependent upon the pace of property acquisition, whether the acquired properties have existing

#### **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.

<sup>&</sup>lt;sup>3</sup>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).

<sup>&</sup>lt;sup>4</sup>NorthWestern 2014 Annual Shareholders Report, page 27:

1		production, and the pace of drilling development wells. Generally, BHUH would direct its
2		affiliate COSGCO to reach the 50% level as soon as practicable. COSG Program production
3		would need to ramp up to allow existing fixed price contracts and financial hedges to expire
4	IV.	LONG TERM NATURAL GAS DEMAND AND PRICE FORECASTS
5	Q.	HAS BHUH DEVELOPED A LONG-TERM FORECAST OF NATURAL GAS
6		DEMAND FOR BHC'S GAS AND ELECTRIC UTILITIES?
7	A.	Yes. For BHC's gas utilities, the long-term demand forecast was developed by applying a
8		long-term growth rate to 2014 weather normalized firm sales. For BHC's electric utilities, the
9		growth rate applied to historical gas-fired generation volumes was consistent with the
10		long-term growth rate from the most recent Integrated Resource Plans (IRP) or Electric
11		Resource Plans (ERP).
12	Q.	HAS THE COMPANY ATTEMPTED TO CONDUCT A LONG-TERM FORECAST
13		OF THE MARKET PRICE OF GAS?
14	A.	The Company has not performed its own market forecast. However, to assess its long-term
15		natural gas strategy and to understand the potential benefits of the COSG Program, the
16		Company, through BHUH, reviewed other 20-year gas price forecasts for the years 2016 to
17		2035 and created an average forecast price based on those forecasts.
18	Q.	WHAT INFORMATION DID THE COMPANY REVIEW TO GENERATE ITS
19		AVERAGE PRICE FORECAST?
20	A.	The Company used the current long-term gas price forecast published by *
21		,* as well as the current long-term gas price forecast published by *
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1	Q.	WHY DID THE COMPANY USE THESE TWO LONG-TERM GAS PRICE		
2	FORECASTS?			
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18	Q.	DESCRIBE HOW THE COMPANY BLENDED DATA FROM THESE TWO		
19		SOURCES TO ARRIVE AT ITS FORECAST.		
20	A.	The Company identified the annual market price reflected in the * * forecasts		
21		for each of the years from 2016 to 2035. Then the Company averaged those annual prices to		
22		arrive at an annual "Average Forecasted Price" gas for each year during the period. A copy		

of the price forecast is attached as Exhibit RCL-2.

### Q. WHAT DOES THE COMPANY'S FORECAST SHOW?

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

#### 8 V. <u>Conclusion</u>

- 9 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?
- 10 A. Yes.

### **VERIFICATION**

STATE OF SOUTH DAKOTA	)
COUNTY OF PENNINGTON	)ss )

I, Richard C. Loomis, being first duly sworn on oath, depose and state that I am the witness identified in the foregoing Direct Testimony of Richard C. Loomis; that I have read the testimony and am familiar with its contents; and that the facts set forth therein are true and correct.

Richard C. Loomis

SUBSCRIBED AND SWORN to before me this 28TH day of SEPTEMBER.

2015.

Notary Public

Commission/Appointment Expires: 11/10/15

#### **Workbook Contents**

### Henry Hub Natural Gas Spot Price (Dollars per Million Btu)

Click worksheet name or tab at bottom for data

Worksheet Name Description

Data 1 Henry Hub Natural Gas Spot Price (Dollars per Million Btu)

Release Date: 8/26/2015
Next Release Date: 9/2/2015
Excel File Name: rngwhhdm.xls

Available from Web Page: <a href="http://tonto.eia.gov/dnav/ng/hist/rngwhhdm.htm">http://tonto.eia.gov/dnav/ng/hist/rngwhhdm.htm</a>

Source: THOMSON REUTERS

For Help, Contact: <a href="mailto:infoctr@eia.doe.gov">infoctr@eia.doe.gov</a>

(202) 586-8800

# Of Series Frequency Latest Data for
1 Monthly 7/2015

### **Back to Contents Data 1: Henry Hub Natural Gas Spot Price (Dollars per Million Btu)**

Sourcekey RNGWHHD Henry Hub Natural Gas Spot Price

(Dollars per Million

	(Dollars per Million	
Date	Btu)	
Jan-1997	\$3.45	
Feb-1997	\$2.15	
Mar-1997	\$1.89	
Apr-1997	\$2.03	
May-1997	\$2.25	
Jun-1997	\$2.20	
Jul-1997	\$2.19	
Aug-1997	\$2.49	
Sep-1997	\$2.88	
Oct-1997	\$3.07	
Nov-1997	\$3.01	
Dec-1997	\$2.35	
Jan-1998	\$2.09	
Feb-1998	\$2.23	
Mar-1998	\$2.24	
Apr-1998	\$2.43	
May-1998	\$2.14	
Jun-1998	\$2.17	
Jul-1998	\$2.17	
Aug-1998	\$1.85	
Sep-1998	\$2.02	
Oct-1998	\$1.91	
Nov-1998	\$2.12	
Dec-1998	\$1.72	
Jan-1999	\$1.85	
Feb-1999	\$1.77	
Mar-1999	\$1.79	
Apr-1999	\$2.15	
May-1999	\$2.26	
Jun-1999	\$2.30	
Jul-1999	\$2.31	
Aug-1999	\$2.80	
Sep-1999	\$2.55	
Oct-1999	\$2.73	
Nov-1999	\$2.37	
Dec-1999	\$2.36	
Jan-2000	\$2.42	
Feb-2000	\$2.66	
Mar-2000	\$2.79	
Apr-2000	\$3.04	
May-2000	\$3.59	
Jun-2000	\$4.29	
Jul-2000	\$3.99	
Aug-2000	\$4.43	
Sep-2000	\$5.06	
Oct-2000	\$5.02	

Nov-2000	\$5.52
Dec-2000	\$8.90
Jan-2001	\$8.17
Feb-2001	\$5.61
Mar-2001	\$5.23
Apr-2001	\$5.19
May-2001	\$4.19
Jun-2001	\$3.72
Jul-2001	\$3.11
Aug-2001	\$2.97
Sep-2001	\$2.19
Oct-2001	\$2.46
Nov-2001	\$2.34
Dec-2001	\$2.30
Jan-2002	\$2.32
Feb-2002	\$2.32
Mar-2002	\$3.03
Apr-2002	\$3.43
May-2002	\$3.50
Jun-2002	\$3.26
Jul-2002	\$2.99
Aug-2002	\$3.09
Sep-2002	\$3.55
Oct-2002	\$4.13
Nov-2002	\$4.04
Dec-2002	\$4.74
Jan-2003	\$5.43
Feb-2003	\$7.71
Mar-2003	\$5.93
Apr-2003	\$5.26
May-2003	\$5.81
Jun-2003	\$5.82
Jul-2003	\$5.03
Aug-2003	\$4.99
Sep-2003	\$4.62
Oct-2003	\$4.63
Nov-2003	\$4.47
Dec-2003	\$6.13
Jan-2004	\$6.14
Feb-2004	\$5.37
Mar-2004	\$5.39
Apr-2004	\$5.71
May-2004	\$6.33
Jun-2004	\$6.27
Jul-2004	\$5.93
Aug-2004	\$5.41
Sep-2004	\$5.15
Oct-2004	\$6.35
Nov-2004	\$6.17
Dec-2004	\$6.58
Jan-2005	\$6.15
Feb-2005	\$6.14

Mar 2005	\$6.06
Mar-2005	\$6.96 \$7.16
Apr-2005 May-2005	\$6.47
Jun-2005	\$7.18
Jul-2005	\$7.18 \$7.63
Aug-2005	\$9.53
Sep-2005	\$11.75
Oct-2005	\$13.42
Nov-2005	\$10.30
Dec-2005	\$13.05
Jan-2006	\$8.69
Feb-2006	\$7.54
Mar-2006	\$6.89
Apr-2006	\$ <b>7.16</b>
May-2006	\$6.25
Jun-2006	\$6.21
Jul-2006	\$6.17
Aug-2006	\$7.14
Sep-2006	\$4.90
Oct-2006	\$5.85
Nov-2006	\$7.41
Dec-2006	\$6.73
Jan-2007	\$6.55
Feb-2007	\$8.00
Mar-2007	\$7.11
Apr-2007	\$7.60
May-2007	\$7.64
Jun-2007	\$7.35
Jul-2007	\$6.22
Aug-2007	\$6.22
Sep-2007 Oct-2007	\$6.08 \$6.74
Nov-2007	\$7.10
Dec-2007	\$7.10 \$7.11
Jan-2008	\$7.99
Feb-2008	\$8.54
Mar-2008	\$9.41
Apr-2008	\$10.18
May-2008	\$11.27
Jun-2008	\$12.69
Jul-2008	\$11.09
Aug-2008	\$8.26
Sep-2008	\$7.67
Oct-2008	\$6.74
Nov-2008	\$6.68
Dec-2008	\$5.82
Jan-2009	\$5.24
Feb-2009	\$4.52
Mar-2009	\$3.96
Apr-2009	\$3.50
May-2009	\$3.83
Jun-2009	\$3.80

Jul-2009	\$3.38
Aug-2009	\$3.14
=	
Sep-2009	\$2.99
Oct-2009	\$4.01
Nov-2009	\$3.66
Dec-2009	\$5.35
Jan-2010	\$5.83
Feb-2010	\$5.32
Mar-2010	\$4.29
Apr-2010	\$4.03
May-2010	\$4.14
Jun-2010	\$4.80
Jul-2010	\$4.63
Aug-2010	\$4.32
Sep-2010	\$3.89
•	\$3.43
Oct-2010	
Nov-2010	\$3.71
Dec-2010	\$4.25
Jan-2011	\$4.49
Feb-2011	\$4.09
Mar-2011	\$3.97
Apr-2011	\$4.24
May-2011	\$4.31
Jun-2011	\$4.54
Jul-2011	\$4.42
Aug-2011	\$4.06
Sep-2011	\$3.90
Oct-2011	\$3.57
Nov-2011	\$3.24
Dec-2011	\$3.17
Jan-2012	\$2.67
Feb-2012	\$2.51
Mar-2012	\$2.17
Apr-2012	\$1.95
May-2012	\$2.43
Jun-2012	\$2.46
Jul-2012	\$2.95
Aug-2012	\$2.84
Sep-2012	\$2.85
Oct-2012	\$3.32
Nov-2012	\$3.54
Dec-2012	\$3.34
Jan-2013	\$3.33
Feb-2013	\$3.33
Mar-2013	\$3.81
Apr-2013	\$4.17
May-2013	\$4.04
Jun-2013	\$3.83
Jul-2013	\$3.62
Aug-2013	\$3.43
Sep-2013	\$3.62
Oct-2013	\$3.68
	•

Nov-2013	\$3.64
Dec-2013	\$4.24
Jan-2014	\$4.71
Feb-2014	\$6.00
Mar-2014	\$4.90
Apr-2014	\$4.66
May-2014	\$4.58
Jun-2014	\$4.59
Jul-2014	\$4.05
Aug-2014	\$3.91
Sep-2014	\$3.92
Oct-2014	\$3.78
Nov-2014	\$4.12
Dec-2014	\$3.48
Jan-2015	\$2.99
Feb-2015	\$2.87
Mar-2015	\$2.83
Apr-2015	\$2.61
May-2015	\$2.85
Jun-2015	\$2.78
Jul-2015	\$2.84

## CONFIDENTIAL