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Before the Public Service Commission

of the State of Missouri

Rebuttal Testimony

of

Blake A. Mertens

June 2017



**Empire District™**  
A Liberty Utilities Company

Empire Exhibit No. 104  
Date 8-24-17 Reporter AS  
File No. EO-2017-0065

REBUTTAL TESTIMONY  
OF  
BLAKE A. MERTENS  
THE EMPIRE DISTRICT ELECTRIC COMPANY  
BEFORE THE  
MISSOURI PUBLIC SERVICE COMMISSION  
CASE NO. EO-2017-0065

1 **INTRODUCTION**

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

3 A. Blake A. Mertens. I am the Vice President Operations – Electric for The Empire  
4 District Electric Company (“Empire”). My business address is 602 South Joplin  
5 Avenue, Joplin, Missouri.

6 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**  
7 **BACKGROUND.**

8 A. I graduated from Kansas State University in 2000 with a Bachelor of Science Degree in  
9 Chemical Engineering and a minor in Business. I received a Masters Degree in  
10 Business Administration from Missouri State University in December 2007. I am also  
11 a professionally licensed engineer in the state of Kansas. I was employed by Black &  
12 Veatch Corp. immediately following my graduation from Kansas State University in  
13 May of 2000. From June of 2000 through November of 2001, I held roles as a  
14 technical analyst and energy consultant for the Strategic Planning Group of Black &  
15 Veatch’s Power Sector Advisory Services in the Energy Services Division. Duties  
16 included assisting in power plant siting studies, economic analysis of potential power  
17 plants using production cost modeling, independent engineering evaluations of plant  
18 assets, and market analysis of the California energy crisis of 2000 – 2001. I went to  
19 work for Empire in November of 2001 as a Staff Engineer in Energy Supply where my

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1 duties included tracking of plant capital and operating & maintenance ("O&M")  
2 expenses, involvement in energy supply regulatory issues, evaluation of new generating  
3 resource options, assisting in the construction of new plant, and assisting in the  
4 modeling and tracking of fuel and purchased power costs. In 2003, my title was  
5 changed to Planning Engineer with similar duties but more responsibilities in the area  
6 of generation planning. In the fall of 2004 I took a position as Combustion Turbine  
7 Construction Project Manager. In this position I was responsible for the construction  
8 and commissioning of a 150 megawatt ("MW") combustion turbine at Empire's  
9 Riverton Power Plant known as Riverton Unit 12. Riverton Unit 12 went into  
10 commercial operation in April of 2007. In the fall of 2006 I took on the position of  
11 Manager of Strategic Projects. In this role I was responsible for the management of  
12 new generation and major projects for Energy Supply facilities. This included  
13 representing Empire's interests at the Iatan, Plum Point and other off-system generation  
14 facilities. In January of 2010 my duties were expanded to oversee Empire's  
15 environmental and safety departments and my title was likewise changed to Director of  
16 Strategic Projects, Safety, and Environmental Services. In April of 2011 I was  
17 promoted to Vice President, Energy Supply where I am responsible for power plant  
18 operations, fuel supplies, energy procurement and marketing, and energy supply  
19 services. In my current role as Vice President Operations - Electric, I have added  
20 responsibility for engineering and commercial operations to my previous role. In this  
21 role, I am accountable for the proper budgeting and accounting of capital, operating,  
22 and maintenance expenses for Empire's generation, transmission and distribution  
23 assets, both individually- and jointly-owned.

1 Q. HAVE YOU PREVIOUSLY PRESENTED TESTIMONY BEFORE THE  
2 MISSOURI PUBLIC SERVICE COMMISSION ("COMMISSION")?

3 A. Yes. I have presented testimony in several Empire rate cases in various jurisdictions,  
4 including Missouri.

5 Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS  
6 CASE?

7 A. To respond to portions of the Direct Testimonies provided by Office of Public  
8 Council ("OPC") witnesses John S. Riley and Charles R. Hyneman alleging  
9 imprudence by Empire. In particular, I will address Mr. Riley and Mr. Hyneman's  
10 failure to fairly evaluate Empire's hedging decisions prospectively.

11 Q. WHAT OTHER REBUTTAL TESTIMONIES WILL BE PROVIDED BY  
12 EMPIRE?

13 A. Empire witness Aaron Doll will address discrepancies in OPC direct testimonies  
14 related to the implementation of Empire's hedging practices, and Robert Sager will  
15 discuss the structure and policy of risk management for Empire as it relates to  
16 hedging activities.

17 Q. IN RELATION TO THE AUDIT PERIOD, WHEN WERE HEDGES  
18 EXECUTED?

19 A. For the audit period of this prudency review, March 2015 through August 2016,  
20 hedges were placed at various times between 2010 and 2015 as is defined in the Risk  
21 Management Policy ("RMP") discussed in Empire witness Sager's rebuttal testimony.

22 Q. ARE EMPIRE'S ACTIONS REGARDING THE HEDGING OF NATURAL  
23 GAS PRUDENT?

1 A. Yes. Empire's fuel costs, including natural gas hedging costs, have been through five  
2 fuel prudence reviews<sup>1</sup> prior to this case, and no imprudence has ever been found.  
3 Empire has been measured and consistent with regards to its natural gas hedging  
4 practice.

5 Q. ON PAGES 3-7 OF HIS DIRECT TESTIMONY, MR. HYNEMAN DISCUSSES  
6 THE "PRUDENCE STANDARD." DO YOU AGREE WITH MR.  
7 HYNEMAN'S DEFINITION AND STATEMENTS REGARDING  
8 APPLICABILITY TO THIS CASE?

9 A. No. Based on my understanding and experience, Mr. Hyneman's definition is  
10 incomplete and possibly misleading. I also disagree with his statements regarding the  
11 applicability of his standard to this case.

12 Q. PLEASE EXPLAIN

13 A. Empire agrees with the Staff of the Commission that the appropriate prudence  
14 standard to be applied in this case is set forth in the 1997 opinion of the Missouri  
15 Court of Appeals in a Associated Natural Gas case (954 S.W.2d 520). This Western  
16 District opinion fully defines and discusses the standards to be applied in this FAC  
17 prudence review.

18 Q. DO YOU BELIEVE OPC HAS DEMONSTRATED IMPRUDENCE ON THE  
19 PART OF EMPIRE UNDER THE STANDARD AS DEFINED BY MR.  
20 HYNEMAN?

21 A. No. OPC has failed to demonstrate any imprudence on the part of Empire. Instead,  
22 Empire has demonstrated that its hedging actions were "reasonable at the time, under

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<sup>1</sup> Commission File Nos. EO-2010-0084, EO-2011-0285, EO-2013-0114, EO-2014-0057, and EO-2015-0214.

1 all the circumstances, considering that the company had to solve its problem  
2 prospectively rather than in reliance on hindsight." See Hyneman Direct, pp. 6-7.

3 **Q. DO YOU BELIEVE OPC HAS DEMONSTRATED IMPRUDENCE ON THE**  
4 **PART OF EMPIRE UNDER THE PRUDENCE STANDARD APPLIED BY**  
5 **STAFF IN THIS CASE - AND IN ALL PRIOR EMPIRE FAC PRUDENCE**  
6 **REVIEWS?**

7 A. No. First, OPC has failed to present testimony to create serious doubt as to the  
8 prudence of any hedging costs incurred by Empire during the review period. Second,  
9 Empire has demonstrated that its FAC costs were just and reasonable and, as stated  
10 above, that its hedging actions were "reasonable at the time, under all the  
11 circumstances, considering that the company had to solve its problem prospectively  
12 rather than in reliance on hindsight."

13 **Q. IS THIS THE FIRST TIME OPC HAS ALLEGED HEDGING IMPRUDENCE**  
14 **ON THE PART OF MISSOURI'S REGULATED ELECTRIC UTILITIES?**

15 A. No. The OPC alleged imprudence on the part of Kansas City Power & Light  
16 ("KCPL") in File No. ER-2016-0285, on the part of Kansas City Power & Light  
17 Greater Missouri Operations Company ("GMO") in File No. ER-2016-0156, and on  
18 the part of Empire in Empire's last rate case (File No. ER-2016-0023). In each of  
19 those three prior cases, as well as in the instant case, it appears OPC is alleging  
20 imprudence solely on the grounds that hedging losses have been incurred during one  
21 of the lowest natural gas spot markets we have seen in the past 15 years.

22 **Q. DID THE COMMISSION DENY RECOVERY OF ANY HEDGING COSTS AS**  
23 **A RESULT OF THE IMPRUDENCE ALLEGED BY OPC IN ANY OF THE**  
24 **THREE CASES REFERENCED ABOVE?**

1 A. No. To Empire's knowledge, the Commission did not deny recovery of any hedging  
2 costs, including hedging losses, as a result of OPC's allegations of imprudence.

3 **Q. DOES OPC EVALUATE HEDGING DECISIONS USING HINDSIGHT?**

4 A. Both Mr. Riley and Mr. Hyneman allege to evaluate Empire's hedging practices  
5 prospectively to avoid hindsight bias, however, they make no attempt to account for  
6 the "perfect information" they have about the natural gas market.

7 **Q. WHAT IS HINDSIGHT BIAS?**

8 A. Hindsight bias is the cognitive bias occurring when there is an overestimation of the  
9 ability to predict or forecast a future event after having knowledge of the event's  
10 outcome. In today's layman terms, this could be referred to as "Monday morning  
11 quarterbacking."

12 **Q. WHY DO YOU BELIEVE THAT MR. RILEY AND MR. HYNEMAN FAILED**  
13 **TO EVALUATE EMPIRE'S HEDGING PRACTICES "WITHOUT**  
14 **HINDSIGHT BIAS" OR "PROSPECTIVELY" AS STATED IN THEIR**  
15 **TESTIMONY?**

16 A. Never once do they provide evidence of the natural gas forward curves at the times  
17 the hedges were executed. Rather, Mr. Riley and Mr. Hyneman rely on macro storage  
18 volumes, a current table of NYMEX prices which provide "perfect information" of  
19 how the natural gas market settled, and misidentification of current spot prices as a  
20 reasonable indicator of future prices. Furthermore, their testimonies are littered with  
21 misrepresentations of: Empire's hedging positions, policy intent, cited publications  
22 conclusions, etc. which serve to conflate the issue at hand and will be addressed in  
23 Mr. Sager and Mr. Doll's Rebuttal Testimonies.

1 Q. WHY IS IT IMPORTANT TO PROVIDE EVIDENCE OF WHAT THE  
2 FORWARD CURVES WERE AT THE TIMES HEDGES WERE EXECUTED?

3 A. To avoid hindsight bias and fairly evaluate the hedging activity prospectively, you  
4 must provide the applicable forward curves to determine what the natural gas forecast  
5 was at the time rather than where the future prices eventually settled. Appendix  
6 BAM-1 is the Public Fortnightly article cited by Mr. Hyneman on page 12 of his  
7 Direct Testimony. The article states that, in part, as follows:

8 ...Intervenors have tended to take a retrospective view when  
9 evaluating the efficacy of hedging programs. While it's tempting to  
10 look at historical hedging based on current information and perfect  
11 hindsight, the regulatory standard for what is reasonable and prudent  
12 must consider the availability of information and what was known at  
13 the time hedging decisions were made. This is the standard  
14 commissions have adopted when reviewing historical hedging costs.  
15

16 This "retrospective view" and "perfect hindsight" are precisely the activities that both  
17 Mr. Riley and Mr. Hyneman engage in with their Direct Testimonies in this case.  
18 Neither Mr. Riley nor Mr. Hyneman provide the forward curves at the time the  
19 hedges were executed, and, as a result, are unable to determine what would be  
20 considered reasonable at the time. Furthermore, Mr. Riley alleges on page 4 of his  
21 Direct Testimony that the Energy Information Administration ("EIA") and Empire's  
22 own consultants were providing low cost natural gas forecasts but that Empire was  
23 either unable or unwilling to respond to this information. This allegation has  
24 absolutely no data to support it and is deconstructed in Empire witness Doll's  
25 Rebuttal Testimony.

26 Q. WHAT WOULD BE AN IMPARTIAL METHOD TO EVALUATE THE  
27 REASONABLENESS OF EMPIRE'S HEDGES USING INFORMATION  
28 THAT WAS KNOWN AT THE TIME?



1 A. Examine the forward curves at the general time frame the hedges were secured.

2 Q. WHAT WOULD BE A REASONABLE SOURCE TO DETERMINE THE  
3 FORWARD CURVES AT THE TIMES THE HEDGES WERE SECURED?

4 A. The forward curves could be provided by using the NYMEX prices in the general  
5 time frame that the hedges were executed. The reason you would want to use the  
6 general time frame that the hedges were secured would be to provide context as to the  
7 information that was present leading up to *and* at the time the hedges were secured -  
8 rather than just the information present at the time the hedges were secured.

9 Q. ARE NYMEX FUTURES A REASONABLE METHOD OF FORECASTING  
10 NATURAL GAS PRICES?

11 A. Yes. In File No. ER-2004-0570, the Commission indicated that NYMEX futures are  
12 an appropriate method of forecasting prices. Furthermore, in Mr. Hyneman's Direct  
13 Testimony, he cites to a chart sponsored by Dana Eaves of the Commission Staff  
14 ("Staff") in Staff's Report in File No. ER-2016-0156 (GMO). This chart, which  
15 references NYMEX futures, is used by Mr. Hyneman to make the point that Staff  
16 shares in Mr. Hyneman's assessment that natural gas prices are expected to remain  
17 stable in the future. From these statements, it appears Mr. Hyneman takes no issue  
18 with using NYMEX futures as a reasonable indicator of future natural gas prices.

19 Q. YOU MENTION MR. RILEY'S RELIANCE ON STORAGE VOLUME AS AN  
20 UNACCEPTABLE METHOD OF FORECASTING FUTURE PRICES.  
21 EXPLAIN THE CONCERN WITH USING MACRO STORAGE VOLUMES.

22 A. On page 7 of his Direct Testimony, John Riley cites EIA storage volumes and  
23 indicates that the weekly natural gas storage report is strongly correlated with natural  
24 gas prices. Presumably, Mr. Riley believes this is further evidence that hedging while

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1 macro storage volumes are at high levels is imprudent and thus Empire's hedging  
2 program is imprudent. This conclusion is flawed in many ways. Although Mr. Riley  
3 acknowledges that macro storage volumes cannot perfectly predict prices, he makes  
4 the illogical leap that so long as natural gas storage gas levels are above 5 year  
5 averages, price spikes are suppressed. Mr. Riley fails to acknowledge that significant  
6 natural gas storage volumes only prevent adverse price movements as it relates to a  
7 shortage on storage nationwide. A disruption in supply, for example, would  
8 adversely impact natural gas prices regardless of macro storage levels. The  
9 Fortnightly article, relied on by Mr. Hyneman, pondered potential supply side  
10 disruptions including "...environmental regulation that slows shale gas production,  
11 additional compliance requirements that increase shale gas production costs..."  
12 would have an adverse impact on natural gas prices. Furthermore, on a micro level,  
13 local disruptions in supply such as pipeline constraints can also greatly affect the  
14 price of natural gas. Finally, Mr. Riley fails to recognize that even if macro storage  
15 volumes and price stability were perfect predictors and the sole supply side concerns,  
16 they do not predict natural gas prices in the future. The EIA does not produce a  
17 natural gas storage forecast for the next five years to assist in determining the price of  
18 natural gas. Once again, Mr. Riley's inability to fairly evaluate decisions made from  
19 a prospective basis is evident in the fact that his analysis only seeks to explain natural  
20 gas price movements after they occur, rather than assess the predictors of natural gas  
21 prices for the future.

22 Q. HOW DOES MR. HYNEMAN'S USE OF THE HISTORICAL NYMEX  
23 FUTURES SETTLEMENTS IN HIS DIRECT TESTIMONY PREVENT A

FAIR AND PROSPECTIVE ASSESSMENT OF EMPIRE'S HEDGING  
ACTIVITY?

A. On page 12 of Mr. Hyneman's Direct Testimony, he includes the EIA publication (Table BAM-1) of NYMEX Henry Hub spot prices from January 1997 – April 2017 to support his supposition that changes in the natural gas market have created an environment in which hedging is imprudent, and, since Empire has continued to hedge the natural gas needs of natural gas generating units, it has engaged in imprudent and unreasonable behavior.

Table BAM-1

Henry Hub Natural Gas Spot Price (Dollars per Million Btu)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1997	3.45	2.15	1.89	2.03	2.25	2.20	2.19	2.49	2.88	3.07	3.01	2.35
1998	2.09	2.23	2.24	2.43	2.14	2.17	2.17	1.85	2.02	1.91	2.12	1.72
1999	1.85	1.77	1.79	2.15	2.26	2.30	2.31	2.80	2.55	2.73	2.37	2.36
2000	2.42	2.66	2.79	3.04	3.59	4.29	3.99	4.43	5.06	5.02	5.52	8.90
2001	8.17	5.61	5.23	5.19	4.19	3.72	3.11	2.97	2.19	2.46	2.34	2.30
2002	2.32	2.32	3.03	3.43	3.50	3.26	2.99	3.09	3.55	4.13	4.04	4.74
2003	5.43	7.71	5.93	5.26	5.81	5.82	5.03	4.99	4.62	4.63	4.47	6.13
2004	6.14	5.37	5.39	5.71	6.33	6.27	5.93	5.41	5.15	6.35	6.17	6.58
2005	6.15	6.14	6.96	7.16	6.47	7.18	7.63	9.53	11.75	13.42	10.30	13.05
2006	8.69	7.54	6.89	7.16	6.25	6.21	6.17	7.14	4.90	5.85	7.41	6.73
2007	6.55	8.00	7.11	7.69	7.64	7.35	6.22	6.22	6.08	6.74	7.10	7.11
2008	7.99	8.54	9.41	10.18	11.27	12.69	11.09	8.26	7.67	6.74	6.68	5.82
2009	5.24	4.52	3.96	3.50	3.83	3.80	3.38	3.14	2.99	4.01	3.66	5.35
2010	5.83	5.32	4.29	4.03	4.14	4.80	4.63	4.32	3.89	3.43	3.71	4.25
2011	4.49	4.09	3.97	4.24	4.31	4.54	4.42	4.06	3.90	3.57	3.24	3.17
2012	2.67	2.51	2.17	1.95	2.43	2.46	2.95	2.84	2.85	3.32	3.54	3.34
2013	3.33	3.33	3.81	4.17	4.04	3.83	3.62	3.43	3.62	3.63	3.64	4.24
2014	4.71	6.00	4.90	4.66	4.58	4.59	4.05	3.91	3.92	3.78	4.12	3.48
2015	2.99	2.87	2.83	2.61	2.85	2.78	2.84	2.77	2.66	2.34	2.09	1.93
2016	2.28	1.99	1.73	1.92	1.92	2.59	2.82	2.82	2.99	2.93	2.55	3.59
2017	3.30	2.85	2.88	3.10								

Source: <https://www.eia.gov/dnav/ng/hist/rngwhhdm.htm>

Mr. Hyneman once again fails to acknowledge the “perfect information” he has when making the determination that natural gas prices were going to continue to decline and remain stable. For example, below is Table BAM-2 which is depicting the NYMEX Henry Hub futures price near the end of each calendar month for 2010 and 2011, which is the timeframe when the higher priced hedges during the audit period were executed.

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Table BAM-2

2015 NYMEX Henry Hub Futures as of												
Futures Months	1/29/2010	2/26/2010	3/31/2010	4/30/2010	5/28/2010	6/30/2010	7/30/2010	8/27/2010	9/30/2010	10/29/2010	11/26/2010	12/31/2010
1/1/2015	7.405	7.200	7.050	7.094	6.972	6.739	6.284	6.376	5.929	5.933	6.122	5.983
2/1/2015	7.385	7.175	7.025	7.054	6.927	6.694	6.209	6.331	5.884	5.888	6.082	5.938
3/1/2015	7.170	6.955	6.825	6.854	6.727	6.494	6.029	6.156	5.709	5.713	5.912	5.760
4/1/2015	6.570	6.365	6.345	6.384	6.247	6.049	5.594	5.821	5.344	5.348	5.562	5.402
5/1/2015	6.525	6.320	6.305	6.349	6.212	6.019	5.569	5.806	5.334	5.333	5.549	5.390
6/1/2015	6.590	6.380	6.365	6.407	6.270	6.077	5.604	5.836	5.362	5.355	5.573	5.410
7/1/2015	6.665	6.455	6.440	6.479	6.340	6.147	5.656	5.881	5.404	5.390	5.613	5.452
8/1/2015	6.730	6.520	6.505	6.544	6.403	6.210	5.704	5.929	5.452	5.430	5.653	5.492
9/1/2015	6.785	6.555	6.540	6.577	6.436	6.243	5.729	5.954	5.477	5.450	5.673	5.512
10/1/2015	6.870	6.660	6.645	6.679	6.538	6.345	5.814	6.034	5.557	5.528	5.748	5.587
11/1/2015	7.125	6.910	6.895	6.929	6.776	6.580	6.014	6.224	5.742	5.708	5.926	5.757
12/1/2015	7.400	7.185	7.175	7.209	7.038	6.840	6.234	6.434	5.947	5.910	6.141	5.972

2015 NYMEX Henry Hub Futures as of												
Futures Months	1/28/2011	2/25/2011	3/31/2011	4/29/2011	5/27/2011	6/30/2011	7/29/2011	8/26/2011	9/30/2011	10/28/2011	11/25/2011	12/31/2011
1/1/2015	5.871	5.968	6.244	6.167	6.137	5.689	5.797	5.688	5.587	5.484	5.118	4.733
2/1/2015	5.838	5.936	6.224	6.142	6.117	5.655	5.765	5.653	5.532	5.450	5.083	4.705
3/1/2015	5.706	5.828	6.134	6.057	6.042	5.771	5.683	5.570	5.447	5.364	4.968	4.622
4/1/2015	5.431	5.576	5.884	5.757	5.757	5.488	5.423	5.311	5.217	5.154	4.775	4.444
5/1/2015	5.421	5.566	5.879	5.777	5.775	5.501	5.436	5.321	5.227	5.164	4.783	4.454
6/1/2015	5.441	5.586	5.909	5.807	5.815	5.538	5.469	5.349	5.255	5.192	4.811	4.481
7/1/2015	5.481	5.626	5.954	5.850	5.860	5.576	5.505	5.384	5.290	5.227	4.848	4.518
8/1/2015	5.514	5.661	5.994	5.882	5.897	5.609	5.535	5.408	5.312	5.249	4.870	4.538
9/1/2015	5.531	5.676	6.009	5.892	5.912	5.624	5.548	5.415	5.319	5.256	4.875	4.541
10/1/2015	5.601	5.746	6.069	5.944	5.962	5.672	5.588	5.445	5.349	5.286	4.905	4.576
11/1/2015	5.743	5.881	6.224	6.089	6.114	5.810	5.723	5.575	5.472	5.408	5.017	4.671
12/1/2015	5.948	6.091	6.464	6.329	6.364	6.042	5.957	5.798	5.697	5.635	5.244	4.891

The top row provides the last business day of each month for 2010 and 2011, with the applicable 2015 monthly forward curves below each date. These tables capture the natural gas market projections for 2015 based on information that would have been known at the time some of the longer term hedges from the audit period were executed. It is clear from this table that the \$1.93 - \$2.99 monthly spot gas provided in Mr. Hyneman's table (Table BAM-1) for 2015 would not have been predicted based on the forward curves. Furthermore, what information we could gather from Mr. Hyneman's historical NYMEX spot prices (Table BAM-1) is that the last period in which NYMEX spot prices were in the low \$2.00 to high \$1.00 range was in 1998 & 1999, which was followed by a period of approximately 9 years in which prices increased. As stated on page 2 of the Public Utilities Fortnightly article relied on by Mr. Hyneman:

1 ...history repeatedly has shown that commodity market conditions are  
2 never stagnant, and that markets often correct as supply and demand  
3 factors re-balance. The recent 24 months of price declines have lulled  
4 many stakeholders into believing that low gas prices are now the norm,  
5 but market conditions will change at some point. The question is  
6 when, how quickly, and to what degree? If we have learned anything  
7 from the past, it is that we cannot predict the future with certainty. In  
8 the future, changing supply-demand factors might turn market prices  
9 in the other direction.

10  
11 Q. ASIDE FROM LOOKING AT THE FORWARD CURVES AT THE TIME  
12 HEDGES ARE PUT INTO PLACE, ARE THERE OTHER FAIR METHODS  
13 TO PROSPECTIVELY EVALUATE THE REASONABLENESS OF  
14 DECISIONS TO HEDGE NATURAL GAS?

15 A. Yes. The Public Utilities Fortnightly article specifically mentions an analytical  
16 exercise called avoided cost analysis to evaluate a hedging program without  
17 succumbing to the pitfalls of retrospection. Specifically, the article states that  
18 “(m)any stakeholders have focused on costs associated with hedging, but there has  
19 been less focus by all parties on avoided cost analysis. In several instances, success—  
20 or lack thereof—has been measured by comparing the hedged prices to spot market  
21 prices.”

22 Q. WHAT IS AVOIDED COST ANALYSIS AND HOW IS IT PERFORMED?

23 A. Avoided cost analysis is a form of scenario analysis where alternate outcomes are  
24 considered in order to determine the potential costs avoided as a result of a decision.  
25 In particular, at page 1, the authors of the Public Utilities Fortnightly article elaborate  
26 as follows:

27 “Further, what’s missing is more analysis of the potential avoided cost.  
28 Additional scenario analysis would demonstrate the risk of what could  
29 have occurred as well as estimate the potential price exposures avoided  
30 as a result of hedging.”

1       What is simply be suggested here is to evaluate the efficacy of the hedging program  
2       by using potential price exposures and comparing the costs that would be avoided by  
3       hedging. This is an important concept in evaluating a hedging program as it removes  
4       the perfect information bias and critiques the efficacy on a fair and prospective basis.

5       **Q.   DID MR. HYNEMAN PERFORM AN AVOIDED COST ANALYSIS WHEN**  
6       **EVALUATING EMPIRE'S HEDGING PROGRAM AS THE AUTHORS OF**  
7       **THE PUBLIC UTILITIES FORTNIGHTLY ARTICLE RECOMMENDED?**

8       A.   Not to my knowledge.

9       **Q.   MR. RILEY AND MR. HYNEMAN REFER TO VARIOUS ARTICLES IN**  
10       **THEIR DIRECT TESTIMONIES. DO THESE ARTICLES SUPPORT OPC'S**  
11       **POSITIONS IN THIS CASE?**

12       A.   For the most part, no. Mr. Riley and Mr. Hyneman conflate nearly every article cited  
13       in their testimonies to fit the narrative that natural gas hedging by a utility in the  
14       current natural gas market is imprudent and a wave of unwindings are occurring  
15       across the nation. As detailed above, the conclusions reached in the Public Utilities  
16       Fortnightly article referenced by Mr. Hyneman throughout his Direct Testimony and  
17       the EnerKnol article referenced by Mr. Riley on page 4 of his Direct Testimony are  
18       directly contrary to the positions being taken by Mr. Hyneman and Mr. Riley in this  
19       case. Both articles state that the gas markets will continue to be dynamic and exhibit  
20       historically low prices as a result of the proliferation of shale gas development. The  
21       articles also state that the current environment provides a tremendous opportunity for  
22       utilities to lock in low natural gas costs for their customers into the future.

1 Q. DOES MR. HYNEMAN AGREE WITH THE CONCLUSIONS AND  
2 RECOMMENDATIONS SET FORTH IN THE PUBLIC UTILITIES  
3 FORTNIGHTLY ARTICLE?

4 A. It appears that he does not. The penultimate conclusion of the article is as follows:

5 It is somewhat ironic that in today's market, as the price of hedging  
6 has declined, stakeholder support for hedging has waned. The low-  
7 price and low market-volatility environment introduces opportunities  
8 to execute hedges at historically attractive price levels. If utilities  
9 were to abstain from hedging until volatility increased and market  
10 prices rose, the cost of hedging would increase to the point where  
11 hedging could be deemed by regulators to be too costly for  
12 ratepayers.  
13

14 The article ultimately concludes by providing two recommendations: 1) improve  
15 stakeholders understanding of supply and demand fundamentals and explain events  
16 that could cause adverse price movements; and 2) work collaboratively with various  
17 stakeholders to understand all the perspectives and work to address all of the concerns  
18 so that utilities and customers may benefit from the current supply side conditions  
19 before the market shifts and the window of opportunity closes. These conclusions and  
20 recommendations are directly contrary to OPC's positions in this case that Empire  
21 should cease all hedging activities and that Empire acted imprudently when hedging  
22 during a period of low natural gas spot markets.

23 Q. WHAT IS EMPIRE'S POSITION REGARDING THE FUTURE OF  
24 NATURAL GAS HEDGING?

25 A. Empire believes that natural gas hedging in the current historic low market is the  
26 prudent course of action. Not once in Mr. Riley's or Mr. Hyneman's Direct  
27 Testimonies do they address an increase in natural gas demand as a result of low

1 prices. As stated on page 8 of the EnerKnol article referenced in Mr. Riley's Direct  
2 Testimony:

3 ...natural gas prices are projected to stay low, lower prices will  
4 increase demand for electricity generation, petrochemical production,  
5 and LNG exports, placing some upward pressure on prices. The  
6 Environmental Protection Agency's (EPA) regulations on carbon  
7 emissions could result in retirement of older coal-fired electric  
8 generation facilities, potentially requiring combined cycle natural gas  
9 generation to fill the generation gap. Cheniere Energy's Sabine Pass  
10 facility, with a total liquefaction capacity of three billion cubic feet of  
11 natural gas per day (bcf/d), is expected to be the first to liquefy natural  
12 gas produced in the Lower 48 states for export and is scheduled to  
13 come online in late 2015. Export facilities will greatly increase natural  
14 gas demand when they come on line. Demand is also influenced by  
15 weather and pipeline constraints. For these reasons, hedging could  
16 reach a point where the current costs to consumers turn into substantial  
17 benefits.

18  
19 Simply stated, when prices are at historical lows, upward price risk is much greater  
20 than downward. The entirety of the sources cited by Mr. Riley and Mr. Hyneman  
21 themselves provides a clear picture that the natural gas market remains dynamic, as  
22 has been the case through the commodities' history, and upward pressure on prices  
23 will be exhibited through either increased demand or supply side constraints.  
24 Empire's current hedging plan is poised to mitigate those conditions and provide  
25 price certainty to our customers.

26 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

27 **A.** Yes it does.



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**Energy Risk & Markets****Hedging Under Scrutiny**

Planning ahead in a low-cost gas market.

By JULIE RYAN AND JULIE LIEBERMAN

**T**he new world of gas supply, brought about by shale development, the economic downturn, and expanded gas infrastructure, has caused regulatory stakeholders to challenge utility gas supply hedging programs.

Hedging, a common feature of utility risk management practices, serves as a tool to stabilize prices, protect customers from market volatility, and insure against unexpected price spikes. However, regulatory commissions and intervenors are challenging the merits of their utilities' hedging programs with increasing frequency, questioning whether the risk mitigation benefits of hedging have justified the associated costs, and whether customers are paying for insurance to manage a risk that might no longer exist.

Concerns raised by commission staff or other stakeholders relating to the cost of utility hedging programs has led to an emerging trend of greater commission and stakeholder involvement in assessing such programs' efficacy. Regulatory commissions are asking utilities to provide written justification of their hedging practices, applying pressure on utilities to work with stakeholders to resolve hedging differences through collaborative processes and to find common ground on the risk-reward spectrum. In some cases, risk management hedging programs have been suspended until there are visible increases in volatility and market prices.

Utilities that engage stakeholders in a dialogue now about their risk-management practices can ensure hedging remains a viable tool for limiting exposure to future price volatility.

**Costs Incurred and Avoided**

This shift toward re-assessing hedging practices is relatively recent. In 2008, a survey conducted by the National Regulatory Research Institute (NRRRI) indicated that most commissions in the U.S. either supported or were neutral to hedging.<sup>1</sup> This was reinforced

**Care must be exercised when applying the least-cost principle to hedging, which presents trade-offs in risk, reward, and costs.**

in a follow-up survey the AGA conducted in 2009.<sup>2</sup> Among more than 100 respondents, over 90 percent said their commissions allowed financial hedging of commodity price risk. However, only a very small number of commissions required utilities to engage in financial hedging.

Push-back on utility hedging typically begins with intervenors. Ultimately, however, most administrative law judges and commissions generally support hedging. While intervenors often recommend disallowance of hedging costs, commissions generally accept that the goal of hedging is price stability and not "to beat the market." As a result, cost disallowance decisions by commissions

have been rare.<sup>3</sup> But, in an environment where utility customers are experiencing across-the-board rate increases, it isn't surprising that commissions would encourage utilities to evaluate changes to their hedging programs.

Intervenors have tended to take a retrospective view when evaluating the efficacy of hedging programs. While it's tempting to look at historical hedging based on current information and perfect hindsight, the regulatory standard for what is reasonable and prudent must consider the availability of information and what was known at the time hedging decisions were made. This is the standard commissions have adopted when reviewing historical hedging costs.

Many stakeholders have focused on costs associated with hedging, but there has been less focus by all parties on avoided cost analysis. In several instances, success—or lack thereof—has been measured by comparing the hedged prices to spot market prices. The costs have included net premiums paid for call options, as well as the difference between the fixed price or option strike price and the spot market price. There is often a failure to see the cost of options as an insurance premium, as well as to consider a fixed price as a rate stabilization tool. Further, what's missing is more analysis of the potential avoided cost. Additional scenario analysis would demonstrate the risk of what could have occurred as well as estimate the potential price exposures avoided as a result of hedging.

Additionally, some stakeholders raise the concept of "lean cost" in hedging program critiques. Care must be exercised when applying the lean-cost »

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principle to hedging, which presents trade-offs in risk, reward, and costs, depending upon the hedging instrument. Using the analogy of insurance, it is possible to buy an inexpensive policy with a low premium, but this is usually accomplished by increasing the deductible, placing a cap on the total payout, or carving out conditions under which benefits aren't paid. Additionally, different hedging strategies yield different benefits, depending on market price direction. For example, if a utility is purchasing energy in a rising price market, a fixed price purchase might be optimal as there is no option payment incurred and the coverage starts immediately. In a range-bound market, a costless collar might be the lowest cost of insurance, and in a declining market, a cap at a relatively high strike might be the most attractive form of hedge protection.

#### The Shale Gas Factor

A review of comments filed by commission staff and other stakeholders shows that shale gas development is repeatedly referred to as a "game changing" technology. Shale gas producers access prolific geological deposits of reserves for production at relatively low costs, which has led to significantly dampened price volatility and lower market prices.

While the emergence of shale gas production is generally well-known by interveners and regulators, the broader market dynamics are less well understood. Equally important is the fact that new pipeline infrastructure has served to deliver shale gas supplies into what historically have been transportation-constrained end markets, thereby changing traditional basis pricing relationships and further easing price volatility. Additionally, new LNG import facilities and expansions in natural gas storage capacity in recent years have contributed to expanded supply capacity. These supply and capacity additions have occurred at the same time that

demand has declined. On the demand side, increasing energy efficiency measures and declining demand resulting from weak economic conditions have dampened consumption.

However, history repeatedly has shown that commodity market conditions are never stagnant, and that markets often correct as supply and demand factors re-balance. The recent 24 months of price declines have fueled many stakeholders into believing that low gas prices are now the norm, but market conditions will change at some point. The question is when, how quickly, and to what degree? If we have learned anything from the past, it is that we cannot predict the future with certainty. In the future, changing supply-demand factors might turn market prices in the other direction.

**There are unique opportunities today for utilities to hedge more for the same cost, or to continue similar coverage at lower cost.**

Utilities will want to be prepared before a market shift occurs. On the supply front, there might be environmental regulation that slows shale gas production, additional compliance requirements that increase shale gas production costs, or technical factors that reduce the projected size of economical reserves. Natural gas demand might increase due to stylized nuclear plant development, rising coal plant operating costs, or closures of coal plants as a result of environmental compliance. New demand could result from economic recovery, LNG exports, or new natural gas and electric vehicle use. A combination of these factors could cause the North American gas supply-

demand balance to materially shift, bringing about increases in market prices and volatility.

As market prices have dropped, many stakeholders are encouraging utilities to adapt their hedging practices to the current market supply and pricing paradigm. Some have suggested utility hedging be reduced until such time as gas market prices show some sign of rallying. Others are taking a more proactive stance, encouraging longer-dated hedging and new hedging program design.

Two commissions that recently have suspended hedging activities are the Public Utilities Commission of Nevada (December 2010), with respect to Nevada Power, and the British Columbia Utilities Commission (July 2011), in regard to FortisBC. The commissions didn't disallow previously executed hedge transactions, and they left existing hedges in place; the decisions applied to future hedging activity.

In its Dec. 16, 2010 order (Docket No. 10-09003), the Nevada PUC approved a stipulation that included the requirement that Nevada Power not proceed with any additional financial gas hedges. However, the utility was told it should continue reviewing natural gas hedging in light of prevailing market fundamentals and conditions.<sup>14</sup> More recently, on July 22, 2011, the British Columbia Utilities Commission rejected FortisBC's "Price Risk Management Plan." In the order, the Commission Panel wrote: "In light of the recent exploitation of shale gas, the likelihood for more stable natural gas prices is significantly greater and the risk of dramatically higher natural gas prices, excepting short periods of price disconnects, is significantly lower than it has been in many years."<sup>15</sup> Further, the panel suggested that hedging was not the best way to deal with the potential for price increases, but commented that if there were a change in market conditions, they would be willing to consider proposals to

<sup>14</sup> Public Utilities Forum, 3 (winter 2012)

<sup>15</sup> *Price Risk Management*

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mitigate price risks for customers. They concluded by saying that the performance of the utility's "Price Risk Management Plan" over the last 10 years did not convince them that continuation of the program was in the ratepayers' interest.

#### Measuring Prudence

Hedging programs are undergoing a greater degree of regulatory scrutiny. In some instances, hedging programs have been scrutinized and continued without modification, while in other cases, hedging programs have been targeted for additional review.

In spring 2009, the Colorado Public Utilities Commission commented on testimony filed by commission staff, which criticized gas hedging by Xcel's subsidiary, Public Service Company of Colorado. The staff had conducted a quantitative analysis to determine that during the period following Hurricane Katrina (2005-2006), the utility's hedges were close to breaking even, *i.e.*, the premium paid for hedging nearly equaled the benefits it provided over spot market prices. But a break-even analysis of the hedging costs compared to spot market prices for the period 2005 to 2008 illustrated that the utility only regained approximately one third of every dollar spent on hedging. Ultimately, in its order, the commission supported the administrative law judge's position that the utility's hedging program should not be suspended. In his recommended decision, the judge wrote, "Preapproved elements of the [hedging] plan avoid hindsight evaluation of each program. Simply stated, [the plan] is to be evaluated based upon information available at the time, not in terms of whether the plan 'beat the market.' To the extent Public Service implements such a plan, as approved, the associated hedging costs should not be subject to disallowance in any subsequent gas cost prudence review proceedings."<sup>6</sup>

In another example, a commission

decided to open a utility's hedging program to further review. In May 2011, in response to PacifiCorp's rate filing for Rocky Mountain Power, the Utah Industrial Energy Consumers filed direct testimony asking the Utah Public Service Commission to disallow \$19.7 million in revenue requirements related to what the group called "imprudent hedging practices" by the utility. Rocky Mountain Power's hedging program layered in hedges 48 months into the future, hedging nearly 100 percent of its open commodity price risk. In the industrial group's testimony, it commented that the utility's hedging program wasn't adjusted to account for changes in market conditions and the expanding supply of natural gas through shale gas production.<sup>7</sup> Hence, the industrial group suggested the utility was imprudent to hedge such a large percentage of its open positions and should have reduced its fixed-price hedges, to leave open one-third of its portfolio to spot market pricing.

**Gas market conditions will change at some point. The question is when, how quickly, and to what degree?**

In July 2011, a stipulation was filed with the Utah PSC where the parties agreed to a collaborative process to review possible changes to the company's hedging practices. As part of the stipulation, it was agreed that the utility's past hedges wouldn't be disallowed, but that the utility would implement any changes that result from the collaborative process or commission order. Issues addressed in the collaborative process included: a new maximum hedge volume percentage limit or range;

risk tolerance bands based on time-to-expiry value-at-risk (TVAR) or value-at-risk (VaR) limiting position limits; a process for review of hedging transactions outside of accepted guidelines, including natural gas reserves or storage; liquidity, transparency, and other risks of different hedging tools such as financial swaps, fixed price physical forward contracts, and options; a semi-annual confidential report on hedging strategy and coordination and implementation issues relating to the inclusion of financial swap transactions in Rocky Mountain Power's energy balancing account.<sup>8</sup> The stipulation was approved in a commission order on Sept. 13, 2011, and PacifiCorp and the other stakeholders were expected to complete discussions by January 2012.

In February 2011, the South Carolina Office of Regulatory Staff (ORS) requested suspension of the hedging programs of South Carolina Electric and Gas (SCE&G) and Piedmont Natural Gas. The ORS commented that the hedging costs incurred by the utilities might be appropriate for markets where there is significant price volatility, but were not appropriate for more stable natural gas market conditions. According to the ORS, SCE&G's hedging program cost customers more than \$50 million since 2006, and Piedmont's program cost over \$37 million since 2002.<sup>9</sup> This request for suspension was later withdrawn in July 2011, and it was determined that the utilities and the ORS would address the prudence of the hedging activities in each of the companies' respective annual purchased gas adjustment (PGA) proceedings.<sup>10</sup>

In SCE&G's PGA proceeding, the ORS evaluated the company's hedging program and affirmed its previous recommendation that the hedging program should be suspended. SCE&G agreed to immediately suspend all hedging until the commission directs it to recommence. The agreement anticipates that

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changing market conditions—e.g., environmental restrictions on shale gas production—could warrant a resumption of hedging.<sup>11</sup> Conversely, Piedmont's hedging program was approved in its PGA proceeding with the removal of its previously established minimum hedging requirement of 22.5 percent. Although Piedmont's gas purchasing and hedging activities were deemed to be prudent, there was disagreement on whether gas purchasing and hedging activities, pursuant to a commission-approved hedging program, should be subject to an after-the-fact prudence determination. The commission requested an *ex post* briefing on the issue of how to measure prudence in hedging programs.<sup>12</sup>

**Strategic Adaptation**

In some jurisdictions, regulators are modifying the hedging program horizon and limiting discretionary actions. In Delaware, Delmarva Power has a programmatic hedging program with periodic hedging at pre-determined intervals. In 2009, the utility reduced the tenor and the total volume of hedging. More recently, in response to Delmarva Power's "Gas Cost Rate" filing, a consultant for the commission staff proposed two alternative hedging strategies to enhance flexibility in the hedging framework and to provide a greater smoothing effect on gas price spikes. The consultant recommended either lengthening the "hedging interval" beyond 18 months to take advantage of lower volatility in outer months; or implementing dollar cost averaging,<sup>13</sup> with fixed dollars allocated for hedges rather than fixed volumes, so that hedging volumes would increase in low-priced market environments and would decrease in higher-priced market environments. The consultant stated that dollar cost averaging results in lower gas costs when compared to a less-flexible, programmatic hedging strategy.<sup>14</sup> Although no changes were made to Del-

marva Power's gas hedging program, the company agreed to review and discuss the staff consultant's recommendations for modification.<sup>15</sup>

In Michigan, intervenors in the Consumers Energy rate case proposed a range of changes to reduce the volume and tenor of hedging under the utility's fixed-price hedging program to address concerns that the utility was over hedging with fixed-price purchases. In that proceeding, intervenors urged the commission to eliminate the "tiered" strategy, which provided for programmatic purchases of fixed price supply in accordance with monthly hedge targets, and suggested modifications to the company's "quantile" strategy, which it had employed in tandem with the tiered strategy, using historical pricing to determine the amount of forward market hedging. All parties proposed a reduction in annual hedging caps. The AJ decision supported the company's proposed plan, but indicated that certain

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accelerated purchases under the tiered strategy would require justification by market conditions to be deemed prudent.<sup>16</sup> At this writing, a final decision in this proceeding was pending.

In California, parties to the electric utilities' procurement plan filings are discussing moving from fixed caps on hedging, as determined by the consumer rate tolerance (CRT) of 1 cent per kilowatt hour, to a restructured CRT that represents a percentage of the individual utility's system average rate. By moving to a percentage of the system average rate, the percent hedged under the CRT would remain constant and wouldn't fluctuate with rate changes.<sup>17</sup>

#### Locking-In for the Long-Term

The Public Utility Commission of Oregon approved a \$250 million investment in reserves by its gas utility, Northwest Natural. The utility entered an agreement with Entera Oil & Gas (USA) to develop physical gas reserves expected to supply a portion of the utility customers' requirements over a period of about 30 years, with 8 to 10 percent of Northwest Natural's average annual requirements supplied through the arrangement. The Commission approved the utility's plan in April 2011, allowing the utility to recover the costs of gas produced and delivered, plus a rate-base return on investment through its annual PGA mechanism.<sup>18</sup>

In Colorado, the *Clean Air - Clean Jobs Act of 2010* (HB 10-1365), included a legislative provision to facilitate fuel-switching from coal to natural gas, while protecting ratepayers from volatility in prices. The provision provides regulatory certainty that utilities will be allowed full cost recovery, without risk of future disallowance, for commission-approved, long-term gas contracts—of between three and 20 years in duration—entered into pursuant to the act.<sup>19</sup> To that end, Public Service Company of Colorado and

Anadarko entered a 10-year, fixed-price gas supply agreement, subject to annual price escalations, that is projected to result in savings to ratepayers of approximately \$97 million, when compared to forecast gas costs without the contract.<sup>20</sup>

Black Hills Energy of Colorado has incorporated a long-term hedging strategy into its "Gas Mitigation Plan." The plan provides for hedging between 50 and 70 percent of its gas requirements under normal conditions, with the

#### Successful design and implementation of a hedge plan hinges on stakeholder collaboration and support.

remaining gas requirements purchased in the monthly or daily spot market. Of the hedged volumes, half are comprised of fixed-price swaps phased in over three separate terms: three years, five years, and seven years. The long-term hedges, once fully phased in, will represent approximately half of the company's normal annual volume requirements. Another 20 percent of the gas supply requirements are hedged using call options in a short-term hedging strategy for the upcoming year.<sup>21</sup>

Commissions will continue to review their utilities' hedging plans in a critical light, and it will be necessary for utilities to work in collaboration with stakeholders to consider adaptations to hedging plans that respond to new market conditions and that protect customers in the event of rising gas and power prices.

#### Window of Opportunity

Hedging objectives are an important part of the dialogue between commissions and utilities, and avoided costs need to be considered in developing a hedging

program. "Hedging" can mean different things to different parties. Therefore, an important first step is to obtain broad consensus about the objectives of the utility's hedging program. By way of simple example, one objective could be that hedging is intended to protect customers against price spikes during certain high usage seasons, while another objective might be to protect customers against rising price trends that could occur over an extended period of time.

One benefit arising from the increased focus on utility hedging is that regulators and stakeholders have grown increasingly sophisticated about commodity markets and hedging, and some might support more complex programs in the future. However, the more discretionary a program design, the more critical decisional documentation and transparent processes become. Further, there must be rigor and consistency in how hedging is adjusted in different market price environments. It will be important in the design and approval stage that the hedging program has clear triggers for when hedging decisions will be executed. During the implementation stage, it will be important for utilities to document information that was known to them at the time hedges were transacted to demonstrate that reasonable actions were taken, consistent with the program design.

It is somewhat ironic that in today's market, as the price of hedging has declined, stakeholder support for hedging has waned. The low-price and low market-volatility environment introduces opportunities to execute hedges at historically attractive price levels. If utilities were to abstain from hedging until volatility increased and market prices rose, the cost of hedging would increase to the point where hedging could be deemed by regulators to be too costly for ratepayers.

In jurisdictions where intervenors and perhaps regulators might be reduc-

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ent to support an expansive hedging program at current lower market prices, utilities should use a collaborative process to garner support. The first objectives would be to improve stakeholders' understanding of the supply-demand market fundamentals that have contributed to current lower prices, and to explain future trends and events that could move market prices upward. A better understanding of market drivers and how prices could potentially change will help stakeholders appreciate the utility's need to be ready with hedging strategies to protect customers from rising wholesale market prices.

The second objective would be to engage stakeholders in a dialogue about how the utility's current hedging program was developed, and to listen to stakeholders' concerns. Working collaboratively, it is possible for all the parties to bring a fresh perspective to the hedging program and consider how it might be adapted under varied market conditions. Such efforts will yield the greatest benefit for utilities and their customers if they happen before supply-demand conditions materially change market prices, and the current window of opportunity closes.  $\square$

#### Endnotes:

1. National Regulatory Review Institute, *NRRI Service Review on State Commission and Utility Gas Order/Utility Company Action in Addressing High Natural Gas Prices* (July 3, 2008).
2. Bruce McQuinn, *AGA Rate Inquiry: Regulatory Hedging Policies, American Gas Association*, (Feb. 2009).
3. In a recent commission order (Docket No. 08-078), the Public Utility Commission of Oregon permitted Portland General Electric (PGE) the future (in 2007) to document the reasons for reversing 2012 gas hedges. In its decision, the Commission noted its 2012 order (in Docket No. UT 130) in which the commission disallowed costs associated with reversal of PGE's forward power purchase contracts because the company's failure to provide evidence regarding price needs or overall company market outlook that might have supported the transaction of the company's decision. In its decision in A.E. 224, the commission reduced the utility's 2012 net variable power cost forecast by \$2.6 million "to ensure compliance with its obligations" with a similar cost reduction. The penalty was calculated as the monetary equivalent of a one-year, 10-basis-point reduction in PGE's authorized return on equity. Public Utility Commission of Oregon, Docket No. UT 224, *MGT Annual Power Cost Update Staff* (Nov. 2, 2010).
4. Public Utility Commission of Nevada, Docket No. 10-07003, *Application of NV Power Co. to the NV Energy for Approval of its Energy Supply Plan Update for 2011-2012*, Order (Dec. 16, 2010) and Supplement (Nov. 9, 2010). Note, in September 2011, Nevada Power submitted a proposal to engage in new hedging, using terms of the existing call options on its filing to the Public Utility Commission of Nevada, *Application of Nevada Power Company to the NV Energy for Approval of its Energy Supply Plan Update for 2012*, Docket No. 11-09003 (Sept. 1, 2011). However, in its draft order in the case Docket No. 11-09003 (Oct. 14, 2011), the commission rejected NV Energy's hedging proposal and ordered NV Energy to continue the existing commission approved hedging strategy described in the stipulation that the commission approved in Docket No. 10-09003 on Nov. 9, 2010, without exception.
5. British Columbia Utilities Commission, Order Number 6-120-11, *Application by Fortis Gas Inc. and Fortis Gas (Alouette Island) Inc. (collectively Fortis Gas) for Approval of its Energy Plan and Fortis Gas (Alouette Island) Inc. for Approval of the Price Risk Management Plan Effective April 2011*, October 2011 (July 12, 2011).
6. Public Utility Commission of the State of Colorado, Docket No. 08A-0784, *In the Matter of the Application of Public Service Company of Colorado for Authorization to Continue in Effect, On a Pro Forma Basis, its Monthly Gas Cost Adjustment Tariffs, With Modifications to provide for Speculative Interest on Deferred Payment of Gas, and Under-Recovered Gas Cost, and a Revised Form Additional Pass-Through Period the Current Procedures for Hedging and Offsetting Derivatives in its Expense Account Gas Price Volatility Mitigation Plan for its Gas Sales Customers*, March 2, 2009.
7. Public Service Commission of Utah, Docket No. 10-035-124, *Utah Division of J. Robert Wilson, Utah Industrial Energy Consumers, In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedule and Electric Service Regulations*, May 26, 2011.
8. Public Service Commission of Utah, *Rocky Mountain Power Settlements*, September 18, 2011 and report and order, *Rocky Mountain Power 2011 General Rate Case*, Docket No. 10-035-124, 99-015-13, 10-035-14, 11-035-15 and 11-015-13, (Sept. 13, 2011).
9. Public Service Commission of South Carolina, *Commission Decision*, Docket No. 2011-82 G, Order 2011-492, (July 13, 2011).
10. Public Service Commission of South Carolina, *Settlement Agreement, IV 825 Annual Review of Purchased Gas Adjustments and Gas Purchasing Policies of South Carolina Electric & Gas Company*, Docket No. 2011-5-G, (Nov. 2, 2011).
11. Public Service Commission of South Carolina, *Order Rolling On Purchased Gas Adjustments And Gas Purchasing Policies, IV 825 Annual Review of Purchased Gas Adjustments and Gas Purchasing Policies of Piedmont Natural Gas*, Docket No. 2011-4-G, Order No. 2011-589, (Aug. 17, 2011).
12. Dollar cost averaging is the technique of buying a fixed dollar amount of a particular commodity on a regular schedule, regardless of the current price. More contracts are purchased when prices are low, and fewer contracts are purchased when prices are high.
13. Public Service Commission of Delaware, PSC, Docket No. 010-2955, *Order Testimony of Richard W. Lohach on behalf of the Staff of the Delaware Public Service Commission, In the Matter of the Application of Delaware Power & Light Company for Approval of Modifications to its Gas Cost Rates*, (Feb. 10, 2011).
14. Public Service Commission of Delaware, Order No. 0661, *In the Matter of the Application of Delaware Power & Light Company for Approval of Modifications to its Gas Cost Rates*, (Feb. 10, 2010), PSC, Docket No. 010-2955, (Feb. 10, 2011).
15. Michigan Public Service Commission, Case No. 11-04485, *Review of Request for Decision, All Shown 1, Petitioner, In the Matter of the Application of Consumers Energy Company for Approval of a Gas Cost Recovery Plan and Authorization of Gas Cost Recovery Factors for the 12 Month Period April 2011 - March 2012*, (Sept. 12, 2011).
16. California Public Utility Commission, Rule making 10-05 096, *Proposed Decision Approving Modified Passthrough Procedures for Proposed Revision of All Power Allowance*, (Nov. 10, 2010).
17. North West Natural, Securities and Exchange Commission, 10 Q filing third quarter 2010.
18. See Colorado General Assembly H.B. 13-185, Section 40-5-2-206 Part 1 (Signed into law April 19, 2010).
19. *Statement of Evidence of Public Service Company of Colorado*, in Docket No. 10M 1455, at 71, (Nov. 29, 2010).
20. Order Testimony of Tim Conrad, Docket No. 11A-589, *In the Matter of the Colorado Public Utility Commission (PUC) Gas Margins Task*, (pp. 3-7)

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COUNTY OF JASPER )

On the 21st day of June, 2017, before me appeared Blake A. Mertens, to me personally known, who, being by me first duly sworn, states that he is Vice President -- Electric Operations of The Empire District Electric Company and acknowledges that he has read the above and foregoing document and believes that the statements therein are true and correct to the best of his information, knowledge and belief.

  
Blake A. Mertens

Subscribed and sworn to before me this 21st day of June, 2017.

  
Notary Public

My commission expires: Nov. 16, 2018

