

**BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION**

IN THE MATTER OF THE APPLICATION OF)
OKLAHOMA GAS AND ELECTRIC COMPANY)
FOR APPROVAL OF A GENERAL CHANGE IN)
RATES AND TARIFFS)

DOCKET NO. 10-067-U

Direct Testimony

of

Donald A. Murry, Ph.D.

on behalf of

Oklahoma Gas and Electric Company

September 28, 2010

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I. INTRODUCTION

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Q. Please state your name and business address.

A. My name is Donald A. Murry. My business address is 5555 North Grand Blvd., Oklahoma City, Oklahoma 73112.

Q. By whom are you employed and in what position?

A. I am an Economist with C. H. Guernsey & Company, working primarily out of the offices in Oklahoma City. I am also a Professor Emeritus of Economics on the faculty of the University of Oklahoma.

Q. What is your educational background?

A. I have a B. S. in Business Administration and an M.A. and a Ph.D. in Economics from the University of Missouri - Columbia.

Q. Please describe your professional background.

A. From 1964 to 1974, I was an Assistant and Associate Professor and Director of Research on the faculty of the University of Missouri - St. Louis. For the period 1974-98, I was a Professor of Economics at the University of Oklahoma, and since 1998, I have been Professor Emeritus at the University of Oklahoma. Until 1978, I also served as Director of the Center for Economic and Management Research. In each of these positions, I directed and performed academic and applied research projects related to energy and regulatory policy. During this time, I also served on several state and national committees associated with energy policy and regulatory matters and published and presented a number of papers in the field of regulatory economics in the energy industries.

Q. Please describe your regulatory experience.

A. Since 1964, I have consulted for a number of private and public utilities, state and federal agencies, and other industrial clients regarding energy and regulatory matters in the United States, Canada and other countries. In 1971-72, I served as Chief of the Economic Studies Division, Office of Economics of the Federal Power Commission. From 1978 to early 1981, I was Vice President and Corporate Economist for Stone & Webster

1 Management Consultants, Inc. I am now an economist with C. H. Guernsey & Company.
2 In all of these positions I have directed and performed a wide variety of applied research
3 projects and conducted other projects related to regulatory matters. Recently, I have
4 assisted both private and public companies and government officials in areas related to
5 the regulatory, financial and competitive issues associated with the restructuring of the
6 utility industry in the United States and other countries.

7
8 **Q. Have you previously testified before or been an expert witness in proceedings before**
9 **regulatory bodies?**

10 **A.** Yes, I have appeared before the U.S. District Court-Western District of Louisiana, U.S.
11 District Court-Western District of Oklahoma, District Court-Fourth Judicial District of
12 Texas, U.S. Senate Select Committee on Small Business, Federal Power Commission,
13 Federal Energy Regulatory Commission, Interstate Commerce Commission, Alabama
14 Public Service Commission, Regulatory Commission of Alaska, Arkansas Public Service
15 Commission, Colorado Public Utilities Commission, Florida Public Service Commission,
16 Georgia Public Service Commission, Illinois Commerce Commission, Iowa Commerce
17 Commission, Kansas Corporation Commission, Kentucky Public Service Commission,
18 Louisiana Public Service Commission, Maryland Public Service Commission,
19 Mississippi Public Service Commission, Missouri Public Service Commission, Nebraska
20 Public Service Commission, New Mexico Public Service Commission, New York Public
21 Service Commission, Power Authority of the State of New York, Nevada Public Service
22 Commission, North Carolina Utilities Commission, Oklahoma Corporation Commission,
23 South Carolina Public Service Commission, Tennessee Public Service Commission,
24 Tennessee Regulatory Authority, the Public Utility Commission of Texas, the Railroad
25 Commission of Texas, the State Corporation Commission of Virginia and the Public
26 Service Commission of Wyoming.

27
28 **Q. What is the nature of your testimony in this case?**

29 **A.** I was retained by Oklahoma Gas & Electric, which I have also referred to as “OG&E”
30 and the “Company”, to analyze its current cost of capital and to recommend a rate of
31 return on common equity in this proceeding. OG&E is an affiliate of OGE Energy.

1 II. SUMMARY OF FINDINGS AND RECOMMENDATIONS

2 Q. **Please summarize your findings and recommendations.**

3 A. I am recommending an allowed return on common equity for OG&E in this proceeding in
4 the overall range of 11.00 percent to 11.50 percent, and a return on total capital of 6.51
5 percent to 6.71 percent. To reach this recommendation, I studied the current and recent
6 economic circumstances and the volatile credit and equities markets. I reviewed a number
7 of current financial statistics, current electric utilities' earnings, and market-based
8 measures of capital costs.

9 For my analysis of the total cost of capital of OG&E for ratemaking, I considered
10 the appropriate capital structure for ratemaking in this proceeding to be the capital
11 structure proposed by the Company of 34.45 percent long-term debt, 38.9 percent
12 common equity, 18.35 percent Accumulated Deferred Income Taxes, 7.08 percent
13 Current, Accrued and Other Liabilities stock and 1.3 percent ADITCs and Customer
14 Deposits. For calculating the total cost of capital, I accepted that the proposed weighted
15 average cost of long-term debt was 6.32 percent. For the purposes, of evaluating OG&E's
16 external capital structure, I considered 53.1 percent common stock equity and 46.9
17 percent long-term debt to be appropriate.

18 The volatile financial markets, including global instability, economic recession
19 and the monetary and fiscal policy responses to these conditions are currently the major
20 determinants of the cost of equities. Perhaps the most significant emerging influence on
21 the cost of longer-term investments is the growing investor concerns for rising long-term
22 interest rates, perhaps partially brought on by expectations of inflationary pressures.

23 Significantly, the data generated by current market circumstances affected the
24 performance and the reliability of the traditional methodologies for measuring the cost of
25 common equity, namely the Discounted Cash Flow (DCF) method and the Capital Asset
26 Pricing Model (CAPM). The financial data from recent markets used in these methods
27 have been and are influenced primarily by federal monetary and fiscal policy. These
28 policy influences, resulting in administered rather than freely expressed investor
29 determinants, complicates the interpretation of market-measured cost of capital.

30 Because of unreliable and hard to interpret financial data, the results of the
31 common CAPM analysis were flawed, and virtually impossible to interpret as a realistic

1 benchmark market measure the cost of capital. Another CAPM analysis was marginally
2 useful because it removed some, but not all of the administered-market bias, but it also
3 remained difficult to interpret because of its inherent biases. The analysis combining both
4 historical and forecasted earnings growth and current prices that produced DCF results
5 between 11.53 percent and 11.62 percent for the comparable electric utilities is in the
6 center of a market-volatile driven, widely ranging set of DCF calculations. Although
7 undoubtedly conservative, this calculation is relevant when determining the current
8 market costs of capital.

9 Currently, investors are undoubtedly most concerned about the future earnings
10 prospects because of the extraordinary market uncertainties. However, I believe that the
11 average DCF result of 14.16 percent, in which I used a forecasted earnings per share
12 growth rate, is a higher return than is necessary to attract and maintain capital. The low
13 end of the range for this DCF calculation of 11.10 percent is relevant for ratemaking, but
14 this could indicate a minimal measure of the necessary return to attract and maintain
15 capital. Further benchmark measures of market returns is the currently expected future
16 average returns of 12.70 percent for the group of comparable electric utilities.

17 I verified that my recommended allowed return was, on the one hand, adequate
18 and, on the other hand, not excessive by comparing the After-Tax Interest Coverage
19 (ATIC) at my recommended range to the coverages for the comparable utilities.

20 21 III. ALLOWED RETURN STANDARD

22 **Q. Would you explain the standard that you used to determine the appropriate allowed**
23 **return that you recommended for OG&E in this proceeding?**

24 **A.** Although the financial markets have been in turmoil, the allowed return standard that I
25 used is consistent with my understanding of the concept of a "fair rate of return" on
26 invested capital. In this context, I use the term "fair rate of return" as a return meeting the
27 standards set by the United States Supreme Court decision in *Bluefield Water Works and*
28 *Improvement Company vs. Public Service Commission*, 262 U.S. 679 (1923)
29 (*"Bluefield"*), as further modified in *Federal Power Commission vs. Hope Natural Gas*
30 *Company*, 320 U.S. 591 (1944) (*"Hope"*). As an economist, I believe that a rate of return
31 is "fair" if it provides earnings to investors similar to returns on alternative investments in

1 companies of equivalent risk. In addition, that return would be sufficient to compensate
2 investors for assumed risk and to attract capital and to operate successfully.

3
4 **Q. As an economist, how do you interpret this standard?**

5 A. As an economist, I believe that this standard is based, at least in part, on the recognition
6 that an economic rationale for regulation is the utility market structure. In other words, it
7 is consistent with the common economic principle of “opportunity cost”. A single
8 supplier is likely to exist in the retail market because of economies of scale, and this is at
9 least an important factor underlying this standard for regulating and setting an allowed
10 return for utilities.

11 12 IV. COST OF CAPITAL METHODOLOGY

13 **Q. How did you proceed with your analysis and your development of return
14 recommendation for OG&E?**

15 A. Although analysts often review economic and financial conditions as a backdrop for a
16 utility cost of common stock study for a rate proceeding, in this instance, the economic
17 and financial analysis has the potential of taking central stage. The current economic
18 conditions and the recent financial market turmoil are the dominant factors influencing
19 the cost of debt and common equity capital. The uncertainty of the near-term economic
20 situation and the recent financial volatility are integral, if not the major, determinants of
21 the current cost of common equity of an electric utility. In this context, I reviewed the
22 current economic and financial market circumstances. I studied the financial and business
23 risks influencing the cost of capital and paid special attention to the uncertainties that are
24 likely influences on investors in long-term debt securities and utility common equities. I
25 reviewed also how the financial circumstances have affected the financial information
26 generated by the recent volatile markets and how this affects the typical methods for
27 estimating the cost of common equity. Next, I reviewed the capital structure proposed by
28 OG&E, and I considered the financial risks associated with this capital structure and
29 industry statistics. I also considered the business risks reflected in several financial
30 statistics.

1 To be more specific I studied the recent and current forecasted financial
2 characteristics for OG&E and a group of comparable electric utilities. These statistics are
3 available to potential investors for comparison and descriptive of alternative investments.
4 I studied the commonly accepted market-based DCF and CAPM methods for OG&E
5 Energy and the comparable companies. The results required special interpretation under
6 the current economic and financial market circumstances. Presently, the market data used
7 when applying these methodologies are largely influenced by the federal monetary and
8 fiscal policies and investors' reactions to them and the market uncertainties. Because of
9 these influences, I necessarily interpreted the results of these market-based measures that
10 applied data generated by these markets and considered how to apply them in
11 recommending an allowed return. As a result, I noted the broad range of reasonable
12 return expectations of investors in these volatile markets.

13 Finally, I evaluated the recommended allowed return on common equity for
14 OG&E by studying the After-Tax Interest Coverage of OG&E at alternative allowed
15 returns and comparing them with the ATICs of the comparable electric utilities.
16

17 **Q. When selecting the comparable electric utilities for your analysis, what criteria did**
18 **you use?**

19 **A.** First, in order to select publicly traded companies recognized as electric utilities by
20 investors, I selected a group from the companies identified as electric utilities by *Value*
21 *Line*. From this group, I excluded all companies actively involved in a merger. The
22 common stock of a company involved in a merger will be impacted by the investors'
23 evaluation of how the merger will affect their investment rather than the earnings of its
24 utility operations. It is the latter effect that we are attempting to evaluate in this analysis.
25 This means that companies involved in a merger are not a good standard for determining
26 utility costs of capital in current markets. I selected firms that have not reduced or
27 eliminated their dividend in the past five years. Companies that have failed to maintain
28 dividends are likely to be under some financial stress. They would not be a good standard
29 for determining the cost of capital of a financially healthy utility in current markets. I
30 removed those utilities for which *Value Line* is forecasting zero or negative earnings
31 growth. Again, this criterion will help assure that my analysis focuses on healthy utilities.

1 I further narrowed the group by focusing on companies that have a market capitalization
2 greater than \$2 billion and less than \$8 billion. The size of a company may affect its cost
3 of operations and the market cost of capital, and this criterion identifies companies with
4 similar characteristics to OG&E. Finally, companies may have investments in non-
5 electric utility enterprises. In order to assure that the companies identified as electric
6 utilities are principally in the electric utility business, I excluded any company that earned
7 less than 65 percent of its operating revenues from electric utility operations according to
8 AUS Utility Reports. Using these criteria, I selected a group of electric utilities that
9 provided a sample that was similar to OG&E in key respects.

10
11 **Q. Did you have any special considerations regarding the criteria that you used when
12 selecting comparable electric utilities for your analysis?**

13 A. Yes. I used the percentage of electric revenues as a selection criterion to assure that the
14 comparable companies were primarily electric utilities. Because some electric utilities
15 have trading affiliates, this statistic may provide misleading comparisons among electric
16 utilities. Therefore, I also reviewed the level of operating income of the selected electric
17 utilities to verify that this criterion would not bias my analysis.

18
19 **Q. Why did you use *Value Line* as the source for the group of electric utilities that you
20 selected for your analysis?**

21 A. *Value Line* is a well-recognized, readily available source of information for investors,
22 and, therefore, it is likely to affect investment decisions. Moreover, as an independent
23 business selling financial information, it is not subject to the possibility of conflicts of
24 interest that might occur in organizations that also underwrite securities.

25
26 **Q. What utilities did you choose as comparable to OG&E for your analysis?**

27 A. The selected utilities that I selected for my analysis are Alliant Energy, DPL, Hawaiian
28 Electric Industries, Northeast Utilities, NSTAR, Pinnacle West, TECO Energy, Westar
29 Energy and Wisconsin Energy.

30
31 **Q. Are you sponsoring any exhibits with your testimony?**

1 A. Yes. I am sponsoring EXHIBIT DAM-1, which consists of Schedules DAM-1 through
2 DAM-26.

3

4 Q. **Did either you or someone under your direct supervision prepare this exhibit?**

5 A. Yes.

6

7 V. ECONOMIC ENVIRONMENT

8 Q. **How did the economic and financial circumstances influence your analysis of the
9 cost of capital of OG&E in this proceeding?**

10 A. As I stated previously, the economic and financial circumstances provided the
11 background for my analysis, but because of its dominant impact on the data generated
12 recently and the subsequent forecasts available to investors, it also affected my analysis
13 in very direct ways.

14

15 Q. **Please explain how the economic and financial circumstances provided the
16 background for your analysis?**

17 A. The uncertainties of the recent and predicted economic and financial circumstances
18 determine the prevailing cost of investment capital. The U. S. economy slid into recession
19 in December 2007 and is showing limited signs of recovery, but, at this time, there are
20 real threats of a prolonged secondary decline. This economic uncertainty is a risk to
21 investors. The associated financial crisis and extraordinarily volatile financial markets
22 provide a continuing environment of extraordinary investor uncertainty. More
23 specifically, the uncertain outlook for economic recovery, present and future Federal
24 Reserve policies, and prospective federal deficits and the level of the national debt,
25 uncertain costs associated with some evolving programs, and even international events
26 are among the risks to investors. The near-term investor concerns, as shown by the recent
27 market volatility, are the economic recovery and the immediate impacts of policy
28 responses to the economic situation. However, longer-term considerations underlie the
29 economic recovery and policy responses. These may be even more important cost
30 considerations when determining the permanent cost of corporate capital for OG&E in
31 this proceeding.

1 Q. **What did you mean when you said that uncertainty of the economic recovery was a**
2 **source of risk for investors?**

3 A. Several months of slight, positive growth indicate signs of economic recovery, but the
4 persisting high unemployment levels and large trade deficits demonstrate how tentative it
5 is. The prospect of a secondary dip in the recession is a risk to investors. As measure of
6 the information available to investors, Schedule DAM-1 shows, *Value Line Investor's*
7 *Service* predicts that the unemployment level will have declined from the present level of
8 9.5 percent to under 7.2 percent by the 2013-15 period. Even so, this unemployment level
9 is still significantly above commonly accepted levels of full employment.¹

10

11 Q. **You said that "...even international events are among the risks to investors." How**
12 **do the international events affect utility investors in the U.S.?**

13 A. Some of the recent sharp movements in the U. S. common equities markets have been
14 associated with international events, i.e., the threat of Greece's potential default of
15 sovereign debt and an announced lowering of China's economic growth estimates.

16

17 Q. **How was the threat of the debt default by Greece important to the cost of U. S.**
18 **utility common stock?**

19 A. The wild movements of the various world stock markets, including the U.S. markets, at
20 the time of Greece's debt crisis demonstrate investors' sensitivity to the threat of
21 international events. Although the crisis subsided with a "bail-out" by the European
22 Union, the possibility of other sovereign debt defaults is still an investment risk to world
23 markets. Cautious investors are watching developments in larger countries such as
24 Ireland, Italy, Portugal and Spain. For example, the BBC News reported, "The
25 International Monetary Fund (IMF) has raised 'fresh concerns' about Spain's economy,
26 saying 'far-reaching' reforms are needed to ensure recovery."² Some analysts believe that
27 the European Union's \$1 trillion plan to avert Greece's debt crisis may only lead to other,
28 later crises. "Investors' apparent short-term relief was tempered by some economists'

¹ For example, the Congressional Budget Office (CBO) noted, "In CBO's most recent forecast, the natural rate was estimated at 5.0 percent, both currently and for the 10-year projection period through 2017. Brauer, David, "The Natural Rate of Unemployment," Working Paper Series 2007-06, Congressional Budget Office, Washington DC, April 2007, p.2.

² BBC News, "IMF Raises Fresh Concerns about the Spanish Economy," May 26, 2010.

1 worries that in the longer term, the agreement's pledge to bail out troubled members
2 saddle the Euro zone with gargantuan debts."³

3
4 **Q. You explained that the financial markets have been volatile. Why is volatility**
5 **important?**

6 A. Market volatility is a measure of investors' changing perceptions of market risk. It
7 reflects investors' uncertainty regarding the prospects of earning anticipated returns.

8
9 **Q. Is there a measure demonstrating the recent level of market volatility as a risk**
10 **measure?**

11 A. Yes. The Volatility Index (VIX), which is often called the "fear index", shows the high
12 level of market volatility and investor anxiety in recent markets.⁴ Because it is a measure
13 of the cost of market hedges, one can view it as similar to the cost of market insurance. I
14 have illustrated the recent increase in the VIX in Schedule DAM-2. One may note how it
15 increased with the financial crisis.

16
17 **Q. You mentioned that Federal Reserve policies possess a risk for investors. What did**
18 **you mean by that statement?**

19 A. The Federal Reserve policies now support very low, stimulative money market rates that
20 control the cost of shorter-term securities and U. S. Treasuries. These policies have
21 included the Federal Reserve's purchasing of U. S. Treasury securities and mortgages, for
22 example, to provide liquidity. Prospective changes in Federal Reserve policies are an
23 inherent risk for investors. For example, in addition to announcing that it will respond to
24 stimulate the economy as it deems necessary, the Federal Reserve announced earlier that
25 it was prepared to respond to market shifts by raising interest rates when merited. For
26 example, Ben Bernanke of the Federal Reserve testified in March 2010:

³ *Wall Street Journal*, May 11, 2010.

⁴ Robert Whaley, the developer of the VIX described the index as follows:

"The VIX is a forward-looking index of the expected return volatility of the S&P 500 Index over the next 30 days and is implied from the prices of the S&P 500 index options, which are predominantly used by the market as a means of insuring the value of stock options. High levels of VIX reflect investor anxiety regarding a potential drop in the stock market, just as flood insurance premiums reflect homeowner anxiety about possible inclement weather." See, "Understanding VIX," *Journal of Portfolio Management*, Spring 2009, pp. 98-105.

1 By increasing the interest rate on banks' reserves, the Federal Reserve will be able
2 to put significant upward pressure on all short-term interest rates, as banks will
3 not supply short-term funds to the money markets at rates significantly below
4 what they can earn by holding reserves at the Federal Reserve Banks. Actual and
5 prospective increases in short-term interest rates will be reflected in turn in higher
6 longer-term interest rates and in tighter financial conditions more generally.⁵
7

8 **Q. You previously stated that longer-term considerations underlie economic recovery,**
9 **and policy responses may be important when determining the cost of corporate**
10 **capital. Would you explain that statement?**

11 A. Yes. A policy response to the slow economic growth has resulted in expanding budget
12 deficits and a growing level of national debt. The rising debt levels, plus the effects of a
13 recovering economy, are the seeds of potential inflation in the longer term, despite the
14 prospects of stable prices in the near-term. As Warren Buffet wrote, "An increase in
15 federal debt can be financed in three ways: borrowing from foreigners, borrowing from
16 our own citizens or, through a roundabout process, printing money."⁶ After identifying a
17 probable maximum absorption of \$400 billion in Treasury debt internationally and
18 perhaps as much as \$500 billion domestically, Mr. Buffet stated, "Even with these heroic
19 assumptions, the Treasury will be obliged to find another \$900 billion to finance the
20 remainder of the \$1.8 trillion of debt it is issuing. The Washington printing presses will
21 need to work overtime."⁷
22

23 **Q. With the very slow economic growth and recent stable prices, is it realistic for**
24 **investors to anticipate increasing rates of inflation?**

25 A. There is evidence that investors are currently responding to the expectations of
26 inflationary pressures despite current rates. For example, as Schedule DAM-3 illustrates,
27 *Value Line* expects the inflation rate to reach over two percent by 2011 and continue to
28 increase beyond that level. If this rate materializes, it could trigger an abrupt shift in
29 Federal Reserve policy. As Vice Chairman Kohn of the Federal Reserve recently stated,

⁵ Chairman Ben S. Bernanke, Board of Governors of the Federal Reserve System, *Testimony Before the Committee on Financial Services*, U. S. House of Representatives, March 25, 2010.

⁶ Buffet, Warren, "The Greenback Effect", *The New York Times*
<http://www.nytimes.com/2009/08/19/opinion/19buffet.html?>

⁷ *Ibid.*

1 “Central banks have widely chosen to target inflation rates near 2 percent.”⁸ Although the
2 Federal Reserve continues a stimulative policy, the President of the Kansas City Federal
3 Reserve, Thomas M. Hoenig, who is a member of the Open Market Committee, has been
4 a recent dissenter.⁹ The *Wall Street Journal*, in referencing a speech by Mr. Hoenig,
5 reported, “The U. S. economy is recovering and the Federal Reserve needs to raise
6 interest rates, lest it leave in place a policy that will only fuel future financial
7 imbalances.” Another measure of investors’ inflationary expectations is the market price
8 of gold, which is a very common inflation hedge. Gold recently hit an all time high as
9 shown in Schedule DAM-4. As another indicator of investor response, consistent with his
10 earlier comments about the prospects of financing the national debt by printing money,
11 Warren Buffet has been adjusting Berkshire Hathaway’s portfolio for higher inflation.¹⁰
12

13 **Q. With the prospect of inflationary pressures in the longer-term, is there evidence that**
14 **investors may actually be expecting longer-term rates to increase?**

15 A. Yes. Despite the recent low U. S. Treasury rates, as Schedule DAM-5 shows, at this time,
16 *Value Line* is forecasting the AAA corporate bond rates to increase by over a full
17 percentage point between now and the 2013-15 period. Of course, this expected growth
18 in long-term interest rates is consistent with the potential increase in inflation.
19

20 **Q. How have market conditions affected investors’ valuation of utility common**
21 **equities?**

22 A. Over the past year, investors have not valued utility common equities as favorably as
23 industrial common equities. As I have illustrated in Schedule DAM-6, the S&P 500 index
24 has increased nearly 12 percent over the past year. However, the Dow-Jones Utilities
25 Index is up just over five percent over the same period.
26

27 **Q. How do these market conditions affect the risks of electric utilities and your**
28 **analysis?**

⁸ Vice Chairman Donald L. Kohn, Board of Governors of the Federal Reserve System, Cornelson Distinguished Lecture, Davidson College, North Carolina, March 24, 2010.

⁹ Federal Reserve Press Release, August 10, 2010, page 1 of 2.

¹⁰ “Buffet Preps His Portfolio for Inflation”, <http://finance.yahoo.com/news/Buffer-Preps-His-Portfolio-fool-9186>.

1 A. Utilities are challenged with raising capital for infrastructure expansion in these markets.
2 In particular, electric utility common equities are not a good inflation hedge. That is,
3 despite the low short-term rates, the threat of increasing interest rates in the longer term
4 heightens the risk that holders of common equity in capital intensive companies will not
5 achieve their anticipated returns.

6 7 VI. CAPITAL STRUCTURE

8 Q. **What capital structure did you determine is appropriate for ratemaking for OG&E
9 in this proceeding?**

10 A. OG&E is proposing a capital structure for ratemaking as of December 31, 2009, that
11 consists of \$1,789,585,401 common equity, or 34.4 percent, and \$2,024,389,844 long-
12 term debt, or 38.9 percent. As Schedule DAM-7.1 shows, this capital structure proposed
13 for ratemaking by OG&E includes Accumulated Deferred Income Taxes of \$951,764,533
14 or 18.3 percent, Current, Accrued and Other Liabilities of \$364,451,988, or 7.0 percent,
15 and Customer Deposits and ADITCs of an additional 1.3 percent. OG&E's proposed total
16 capital for ratemaking in this proceeding is \$5,199,653,556.

17
18 Q. **Did you consider the External Capital structure of OG&E?**

19 A. Yes. I have set out the External Capital structure for OG&E in Schedule DAM-7.2. This
20 External Capital structure shows a Common Equity ratio for the Company of 53.1
21 percent. It also consists of 46.9 percent of Long-term Debt.

22
23 Q. **Did you compare the capital structure of OG&E with capital structures of other
24 electric utilities?**

25 A. As I show in Schedule DAM-8, according to *Value Line*, the estimated average common
26 equity ratio of the comparable electric utilities for 2010 is 47.9 percent, which is slightly
27 lower than the External Capital common equity of OG&E. This schedule also shows that
28 the common equity ratio average of the comparable companies is very similar to the
29 common equity ratio of OGE Energy of 48.5 percent.

1 VII. COST OF DEBT

2 Q. **What is the cost of long-term debt that is appropriate for OG&E ratemaking in this**
3 **proceeding?**

4 A. The embedded cost of long-term debt that is appropriate for OG&E in this proceeding is
5 6.32 percent.
6

7 VIII. FINANCIAL RISK

8 Q. **What do you mean by the term “financial risk?”**

9 A. Because the payment of interest on debt takes precedence over returns to common stock,
10 ownership in common stock takes on the inherent risk of precedent claims that sufficient
11 funds may not be available to achieve expected returns from dividends and capital gains.
12 This uncertainty of achieving anticipated returns, because of prior claims on returns, is a
13 financial risk.
14

15 Q. **How can financial risk be measured?**

16 A. One direct measure of financial risk is the common stock equity ratio. It shows the
17 relative proportion of common stock equity to the other sources of permanent capital
18 such as long-term debt. For purposes of this analysis, the common equity ratio of OG&E
19 for ratemaking is much less than the common equity ratios of the comparable electric
20 utilities, but the common ratio of its external capital structure is somewhat higher.
21

22 Q. **What other measures of financial risk did you review?**

23 A. I reviewed published measures of bond ratings and *Value Line's* “Financial Strength”
24 rating. Both of these measures embody analysts’ recognition of financial risk.
25

26 Q. **What did those studies show?**

27 A. Standard & Poor’s, or S&P’s, “BBB+” bond rating for OGE Energy is very similar to the
28 bond ratings for the comparable electric utilities. Also *Value Line's* Financial Strength
29 measure of “A” for OGE Energy is at the top end of similar ratings for the comparable
30 electric utilities. I have illustrated these comparisons in Schedule DAM-9.

IX. BUSINESS RISK

1
2 Q. **You used the term business risk. What did you mean by “business risk?”**

3 A. In general, business risk is the exposure of investors’ anticipated returns to the
4 uncertainties of a company’s day-to-day business activities. In the current environment,
5 this includes the uncertainties of the economic recovery, and the impact of major policies,
6 including policies directly affecting electrical utilities that may impact the potential
7 earnings of electric utilities. In the past, important business risks for electric utilities have
8 included the risk of timely recovery of fuel cost increases, capital investment in
9 infrastructure, storm damage expenses, and increasing operating and maintenance
10 expenses. In recent years some special rate provisions of utilities have shortened the
11 delay--although they will not remove the uncertainty--of the recovery of some of these
12 costs.

13
14 Q. **What do you mean that these rate provisions do not remove the uncertainty?**

15 A. Specifically, recovery of the affected costs is often considered to be a “regulatory risk,”
16 but reducing the delay of recovery through rate provisions is not a true mitigation of this
17 risk. To complicate the assessment by investors of these provisions, they vary greatly
18 among utilities and by jurisdictions. The lack of uniformity of these rate provisions
19 among jurisdictions and among companies, including even the variety of titles for such
20 provisions, makes it very difficult for even knowledgeable investors to evaluate their risk
21 mitigation, if any, effectively.

22
23 Q. **In your opinion, do such provisions for special revenue collections as a part of rates
24 reduce the risks to investors?**

25 A. Informed investors will be aware that special provisions in rates that accelerate cost
26 recovery reduce the regulatory lag caused by the collections of revenues associated with
27 various programs. But until there is a history, investors will have difficulty determining
28 their effect upon earnings. For example, Consolidated Edison has 25 adders, or rate
29 provisions called “riders”, and an investor would be hard pressed to compare the risk
30 mitigation of these many provisions with those of other electric utilities.¹¹ If investors

¹¹ Consolidated Edison, Current Tariff, PSC No. 9 – Electric Tariff, Leaf Nos., 85-158Y.

1 cannot evaluate the risk mitigation effects, these provisions will not have any near-term
2 effect upon the marginal cost of capital.

3
4 **Q. Have you determined whether OG&E has such rate provisions as riders that may
5 influence investor risk?**

6 A. I have determined that OG&E's rate provisions of this type, such as a fuel provision, are
7 common in the industry.

8
9 **Q. What other measures of business risk did you review?**

10 A. To verify that investors would consider the business risk exposure of OG&E as similar to
11 those of other electric utilities, I reviewed published measures of business risk for the
12 comparable companies. For example, I reviewed two common measures, the *Value Line*
13 rankings of "Safety" and "Timeliness", that are readily available to investors. *Value Line*
14 defines its "Safety" ranking as a measurement of the potential risk associated with
15 individual common stocks, and it defines "Timeliness" as a measure of a stock's
16 "probable relative market performance" in the forthcoming year. Both of these measures
17 necessarily incorporate business risk factors.

18
19 **Q. What did these *Value Line* measures show?**

20 A. *Value Line*'s Safety ranking for OGE Energy is a "2" with "1" being the highest and "5"
21 being the lowest. *Value Line* ranks OGE Energy at "3" for Timeliness. I show these
22 rankings in Schedule DAM-10.

23
24 **X. FINANCIAL STATISTICS**

25 **Q. You stated that you reviewed financial statistics during your analysis. What other
26 financial statistics did you review?**

27 A. I reviewed statistics including recent and expected common stock earnings, Allowance
28 for Funds Used During Construction (AFUDC) as a percent of reported earnings,
29 dividend policies, and price to earnings (P/E) ratios. I reviewed these statistics for both
30 OGE Energy and the comparable electric utilities because these are statistics available to
31 and used by investors who are evaluating a potential investment.

1 Q. **What did your review of common stock earnings for these electric utilities show?**

2 A. *Value Line* showed an extremely wide dispersion of anticipated returns on common
3 equity for the comparable electric utilities during 2010 with an average of 11.6 percent.
4 OGE Energy Corporation's expected return on common stock equity for 2010 is 13.0
5 percent. I show this comparison of common equity returns in Schedule DAM-11.

6

7 Q. **What did your review of AFUDC as a percent of earnings show?**

8 A. Schedule DAM-12 shows AFUDC, which is a non-cash earnings item, as a percent of net
9 profits for OGE Energy is 9.0 percent. Investors are likely to perceive large non-cash
10 earnings as an investment risk. For the group of comparable electric utilities the estimated
11 average for the comparable electric utilities is 7.1 percent.

12

13 Q. **What did your review of dividend policies show?**

14 A. According to *Value Line*, the dividend growth rate for OGE Energy from a 2007-09 base
15 period to the 2013-15 period is 2.5 percent. This is very low when compared to the
16 average dividend growth for the same period for the other comparable electric utilities.
17 The projected average dividend for the comparable group is 5.2 percent. I show this
18 comparison in Schedule DAM-13.

19

20 Q. **What did your review of the dividend payout ratios of the companies show?**

21 A. *Value Line's* estimated dividend payout ratio for OGE Energy for 2010 is 50.0 percent.
22 This is a considerably lower dividend payout rate as compared to the average payout for
23 the comparable electric utilities. For example, the average estimated dividend payout for
24 the comparable companies for 2010 is 64.8 percent. I have illustrated this comparison in
25 Schedule DAM-14.

26

27 Q. **You mentioned that you studied the P/E ratios of the electric utilities in your study.
28 Why is the P/E ratio an important statistic?**

29 A. The P/E ratio is an easy to calculate measure of investors' valuation of a company's
30 common stock. The higher the P/E ratio, the higher the market valuation of a specific
31 company's earnings.

1 Q. **What did your review of the P/E ratios of the companies show?**

2 A. The P/E ratios have fluctuated in the past two years, but with the volatile financial
3 markets that is not surprising. Since the financial turmoil in 2007, only one of nine
4 electric utilities showed an increase in its P/E ratio. I show the changes and comparisons
5 of the P/E ratios in Schedule DAM-15. As this schedule also shows, OGE Energy has
6 experienced a P/E ratio that is lower than the average of the comparable group in each of
7 the five years studied.

8

9 XI. MARKET MEASURES OF THE COST OF COMMON EQUITY

10 Q. **You stated previously that you estimated the cost of common equity for OG&E
11 using the DCF and CAPM methods. Please explain what you did?**

12 A. I applied the DCF and the CAPM methods to estimate the cost of common stock in my
13 analysis. I applied each of these methods common to utility rate proceedings to estimate
14 the costs of common stock for OG&E by estimating the cost of common stock for OGE
15 Energy and the comparable electric utilities. For each of these two methods, I assessed
16 their analytical strengths and weaknesses, especially in light of the recent volatility in the
17 financial markets. In this way, I evaluated the results from these market-based analyses in
18 the context of current economic conditions and the financial crisis and weighed the
19 relevance of the various calculations using contemporaneous data.

20

21 Q. **Are these market-based methods for estimating the cost of capital affected by the
22 recent economic conditions and the financial crisis?**

23 A. Yes. Undoubtedly, the financial data related to the recent financial crisis and market
24 volatility are not consistent with data from more normal periods, and the affected results
25 of market-based measures are more difficult to interpret. Academics, for example, have
26 recently recognized that the current market limits the most careful financial analysis. In
27 describing this, one author of a paper on the subject, Roger Grabowski, summarized:

28 The current economic environment has created challenges in estimating the cost
29 of equity capital (“COEC”) and in estimating the appropriate overall cost of
30 capital (i.e., the weighted average cost of capital or “WACC”). Since late 2008,
31 new complications have arisen in estimating the cost of capital. Traditional

1 methods typically employed in estimating the COEC and the WACC are subject
2 to significant estimation and data input problems.¹²
3

4 After discussing several impacts of the financial markets upon the market-based
5 measures of the cost of capital, Grabowski suggested that an analyst should "...always
6 test the resulting cost of capital estimates for reasonableness and not simply apply data or
7 formulas by rote."¹³ Although this is undoubtedly good advice at any time, under the
8 circumstances of the many unusual influences on the market-generated data, this advice
9 is critically important at this time.

10 XII. DISCOUNTED CASH FLOW METHOD

11 **Q. Please define and explain the DCF methodology for measuring the cost of common**
12 **equity.**

13 **A.** The following formula expresses the DCF calculation of an investor's required rate of
14 return:
15

$$16 \quad K = \frac{D}{P} + g$$

17
18 Where: K = cost of common equity
19 D = dividend per share
20 P = price per share and
21 g = rate of growth of dividends, or alternatively,
22 common stock earnings.
23

24 In this expression, " K " is the capitalization rate required to convert the stream of
25 future returns into a current value. " D " is the current level of dividends paid to the
26 common stock holders. " P " is the valuation of the common stock by the investors
27 reflected by recent market prices. Consequently, the ratio " $\frac{D}{P}$ " is the current dividend
28 yield on an investment in the company's common stock. The " g " is the growth rate
29 anticipated by the investor. This version of the Dividend DCF model is the most general.

¹² Grabowski, Roger J., "Cost of Capital Estimation in the Current Distressed Environment," *The Journal of Applied Research in Accounting and Finance*, pp. 31-40.

¹³ *Ibid.*

1 XIII. ANALYTICAL CONSIDERATIONS OF THE DCF METHOD

2 Q. **What are some of the important conceptual concerns about use of the DCF**
3 **methodology for determining the cost of capital?**

4 A. Conceptually, for the purposes of setting rates for the future, one must recognize that the
5 DCF method calculates the marginal cost of common stock. This puts a limit on the
6 application and effectiveness of the DCF's results. As a marginal cost calculation, the
7 DCF produces an estimate of the minimal return necessary to attract or maintain
8 investment funds to a company's common stock and may not be realistic in a practical
9 setting.

10
11 Q. **Are you aware if regulatory commissions recognize these conceptual limitations of**
12 **the DCF?**

13 A. Yes. Regulatory commissions have recognized the difficulties of relying on the raw,
14 unadjusted, marginal-cost DCF calculations. In at least one instance, a regulatory
15 commission clearly recognized that the assumptions underlying the DCF model rarely, if
16 ever, hold true.¹⁴ For example, the Indiana Regulatory Commission stated that an
17 "...unadjusted DCF result is almost always well below what any informed financial
18 analyst would regard as defensible and therefore requires an upward adjustment based
19 largely on the expert witness' judgment."¹⁵

20
21 Q. **As you used the current market data in your DCF analysis, what factors did you**
22 **consider especially important?**

23 A. The most important strength of the DCF method is that it is theoretically sound. It is
24 consistent with the principle of setting a return equal to returns of equivalent risk at the
25 margin, but this cost of capital level is not necessarily sufficient to assure that a return at
26 this level will attract and maintain capital even in the near term. The recent volatility of
27 the financial markets is, among other things, indicative of investors' difficulty in
28 evaluating risk accurately.

¹⁴ Phillips, Charles F., Jr. and Robert G. Brown, *Chapter 9: The Rate of Return*, *The Regulation of Public Utilities: Theory and Practice*, (1993: Public Utility Reports, Arlington, VA) p. 423.

¹⁵ *Ibid*, *In re Indiana Michigan Power Company*, 116 PUR4th 1, 17 (Ind. 1990).

1 Any DCF analysis may have conceptual or data problems, but because of the
2 recent financial markets, the likelihood of producing misleading results is heightened.
3 For example, now investors will not be looking to the period prior to the financial crisis,
4 for guidance. Investors will be most concerned about the current risk exposure of their
5 investment and future returns.¹⁶

7 XIV. DCF CALCULATIONS AND ANALYSIS

8 Q. **In your DCF analysis, what did your review of the growth rates of common stock
9 earnings and dividends show?**

10 A. I have shown *Value Line* and *YAHOO! Finance* forecasts of dividend and earnings per
11 share growth rates in Schedule DAM-16. This schedule shows that, for the comparable
12 companies, the forecasted average *Value Line* dividend growth rate of 5.2 percent is
13 significantly lower than the comparative average forecasted earnings per share growth
14 rates, which is 7.6 percent for both *Value Line* and *YAHOO! Finance*.

16 Q. **Do you know why the comparable electric utilities' forecasted dividend growth rates
17 are significantly lower than the forecasted earnings per share growth rates?**

18 A. I cannot be certain of the boards of directors' rationales for the dividend policies of the
19 electric utilities. Nevertheless, the uncertainties surrounding economic recovery, the
20 instability of the financial markets, the increase in the dividend tax rate in 2011 and
21 unclear implications of emerging policies are the types of factors that could shape utility
22 dividends. In this environment, one could expect the companies to have relatively
23 conservative dividend policies. With dividend growth rates of the electric utilities being
24 restrained by companies conserving cash in the current markets, investors will look to the
25 potential returns from redeploying that cash. This also amplifies the importance of
26 analysts relying on the earnings per share forecasts in the DCF analysis; dividend growth
27 based DCF analysis will be less reliable estimates of the true cost of capital. Likewise,

¹⁶ For some time academic analysts have recognized the importance of using forecasted growth rates in DCF analyses. For example, see Vander Weide, James H. and Willard T. Carleton, "Investor Growth Expectations: Analysts vs. History," *The Journal of Portfolio Management*, Spring 1988, pp. 78-82. Also see Timme, Stephen G. and Peter C. Eisemann, "On the Use of Consensus Forecasts of Growth in the Constant Growth Model: The Case of Electric Utilities," *Financial Management*, Winter 1989, pp. 23-35. For a broader assessment, see Gordon, David A., Myron J. Gordon, and Lawrence I. Gould, "Choice among methods of estimating share yield," *Journal of Portfolio Management*; Spring 1989, Volume 15, Number 3, pages 50-55.

1 because of the uncertainty regarding current markets, investors will focus of the prospects
2 of the returns on their investment. In this environment, DCF analyses based on historical
3 growth rates are less reliable than they are in stable markets.
4

5 **Q. What source did you use for common stock price data in your DCF analysis?**

6 A. *YAHOO! Finance* was the source of market price information. *YAHOO! Finance* is a
7 widely-used internet portal that provides electronic financial information including daily
8 prices that represent current market valuations. I obtained current prices for a recent two-
9 week period and the high and low share prices for a 52-week period. The two-week
10 period represents current market values. The longer time period recognizes the changing
11 market conditions over time and provides a longer-term perspective to the market-
12 measured cost of common equity. In this way, I recognized the recent financial turmoil, a
13 tentative economic recovery and took a relatively longer-term perspective on the required
14 cost of common equity of OG&E.
15

16 **Q. How did you take this longer view in your DCF analysis?**

17 A. I concentrated on the current influences on common equity investors who are looking to
18 the future and avoided the extreme results calculated by using extreme financial statistics
19 from the volatile markets. I recognized investors' expectations of future earnings,
20 especially earnings per share growth. This is an important determinant of the cost of
21 capital as the U. S. economy stabilizes and emerges from the economic recession. Given
22 the recent market volatility and to mitigate the influence of the outlying data, I focused
23 my analysis on the most relevant calculations that relied primarily on the market results
24 for the group of comparable electric utilities. With the uncertainties regarding the
25 investors' evaluation of dividends, I concentrated my analysis on the earnings per share
26 growth rate in the DCF analysis.
27

28 **Q. What earnings per share growth rates did you use in your DCF analysis?**

29 A. I used the earnings per share forecasts of both *YAHOO! Finance* and *Value Line*. These
30 sources are respected and readily available to investors. I noted that these forecasts are
31 similar in many respects, and in this way they generally reinforced one another in my

1 analysis. As I stated previously, the academic literature shows that forecasts are superior
2 to historical data in a DCF analysis because of their influence on investors, who are
3 looking to their future returns.
4

5 **Q. What were the results of your DCF calculations?**

6 A. Given the financial market volatilities and the continuing uncertainties, not surprisingly,
7 this market-based measure produces very wide ranging results. Using combined historical
8 and forecasted earnings per share growth in a DCF analysis and current market prices
9 resulted in a low-end result of 11.53 percent and a high-end result of 11.62 percent for the
10 comparable electric utilities. This was in the center of a market-volatile driven, widely
11 ranging set of DCF calculations. Although undoubtedly conservative, this calculation is
12 relevant when determining the current market costs of capital. Using a longer price time
13 period and a combined estimated and forecasted earnings per share growth rate resulted
14 in a low-end DCF result of 11.09 and a high-end DCF result of 12.53 percent for the
15 comparable electric utilities. I have shown these calculations and results in Schedules
16 DAM-17 and DAM-18.
17

18 **Q. Can you explain in more detail why you combined an historical growth rate and
19 forecasted growth rates in this DCF calculation?**

20 A. Although both the academic research regarding the relevance of historical and forecasted
21 growth rates and investors who are wary due to the current, uncertain markets are more
22 concerned about future prospects rather than past earnings, this is an alternative, probably
23 conservative estimate of the DCF cost of common equity for electric utilities. It could
24 have some value for interpreting the overall DCF results, but the forecasted earnings are
25 surely more important to investors at this time.
26

27 **Q. What did your DCF analysis which used forecasted earnings per share reveal?**

28 A. Using just the forecasted earnings per share growth rate, and current market prices, the
29 average DCF result for the comparable electric utilities ranged between a low of 11.54
30 percent and 13.25 percent.

31 With a longer-term price perspective, which given the market uncertainties is

1 surely a relevant standard, the range of results is slightly greater. I think the longer
2 perspective is an important standard for determining cost of common equity for OG&E in
3 the current volatile market, even though it demonstrates a wider range of investor return
4 expectations. The low average DCF result for the comparable electric utilities was 11.10
5 percent. The high average DCF result for the comparable electric utilities was 14.16
6 percent. I have illustrated the DCF results using the forecasted earnings per share growth
7 rates at current and longer-term price levels in Schedules DAM-19 and DAM-20.

9 XV. THE CAPM METHODOLOGY

10 Q. **Can you briefly explain the Capital Asset Pricing Model?**

11 A. The Capital Asset Pricing Model, or CAPM, is a risk premium method, which means it is
12 a method for measuring the risk differential, or premium, between a given investment and
13 the market as a whole. It recognizes an investor's ability to diversify his portfolio by
14 combining securities of various risks into that portfolio, and through diversification of his
15 investments, reducing his total risk. However, some risk is non-diversifiable, e.g., market
16 risk, and investors remain exposed to that risk. The theoretical expression of the CAPM
17 model is:

$$18 \quad K = R_F + \beta (R_M - R_F)$$

19
20 Where: K = the required return.
21 R_F = the risk-free rate.
22 R_M = the required overall market return; and
23 β = beta, a measure of a given security's risk relative to that of the
24 overall market.

25
26 To elaborate on these definitions, the "risk free rate" is the known benchmark rate of a
27 particular security. Analysts may use a variety of rates, such as rates of Treasury
28 securities and corporate bonds, for this benchmark rate. The overall market return is the
29 return on all of the investment alternatives available to investors that they may combine
30 into a portfolio. The beta represents the relative volatility of the analyzed security to the
31 market return. In this above expression, the value of market risk is the differential
32 between the market return and the benchmark rate. By estimating the risk differential

1 between an individual security and the market as a whole, an analyst can measure the
2 relative cost of that security compared to the market as a whole.¹⁷

3
4 **Q. In your opinion, how is the CAPM method useful to an analyst estimating the cost of
5 common equity in a rate proceeding?**

6 A. Because it is a risk premium method, the CAPM provides a longer-term perspective, or
7 relatively stable estimate of the cost of common equity under normal market conditions.
8 It normally is less sensitive to the current market conditions than the DCF model, for
9 example. A current measure of debt costs is a basis for estimating the cost of a common
10 stock using a risk differential between the two. Although somewhat imprecise, the CAPM
11 links the incremental cost of capital of an individual company with the risk differential
12 between that company and the market as a whole.

13 14 XVI. CURRENT CAPM CONSIDERATIONS

15 **Q. What practical, analytical problems may affect the CAPM estimate of the cost of
16 common equity?**

17 A. Many analysts have concluded that the CAPM underestimates the cost of capital for
18 companies with betas less than one, and all of the electric utilities in this study have betas
19 less than one.¹⁸ Additionally, a number of academic studies have reported a size bias of
20 the CAPM methodology that results in lower estimated cost of capital than the true
21 market cost.¹⁹ Although analysts have recognized the presence of these measurement
22 biases for some time, with familiarity, analysts can adjust for these recognized
23 measurement biases. The larger problem with the CAPM presently is the effect of the
24 current, volatile financial market on the data used in the analysis.

25
26 **Q. What are the data problems produced by the current markets that affect any
27 CAPM analysis?**

¹⁷ Perold, Andre F., "The Capital Asset Pricing Model," *Journal of Economic Perspectives*, Volume 18, Number 3, Summer 2004, pp. 3-24.

¹⁸ Liztenberger, Robert, Krishna Ramaswamy, and Howard Sosin, "On the CAPM Approach to the Estimation of A Public Utility's Cost of Equity Capital," *Journal of Finance*, Volume XXXV, Number 2, May 1980, pp. 369-387.

¹⁹ Fama, Eugene F. and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence," *Journal of Economic Perspectives*, Volume 18, Number 3, Summer 2004, pp. 24-46.

1 A. In the current markets and with the resulting data generated by them, the
2 CAPM results require special interpretation. In particular, the typical application of the
3 CAPM methodology is irretrievably flawed as a measure of the cost of capital in a rate
4 proceeding. Unless an analyst recognizes the limits of the data generated by the recent
5 and current markets, the CAPM will produce low-biased results that cannot represent the
6 market cost of common equity. In short, the CAPM will under price market risk, and an
7 analyst is not likely to be able to determine the impact of this problem on the resulting
8 estimates.

9

10 Q. **Can you explain these analytical problems more fully?**

11 A. Yes. Under any CAPM method, the cost of capital calculations are very sensitive to the
12 beta used in the analysis. Analysts have recognized for some time that the estimated beta
13 is a single, market-volatility measure of risk; so, consequently, the CAPM may not
14 incorporate all investor risks. When this is a familiar bias of the CAPM results, analysts
15 can recognize and compensate for it more easily. Now with the market volatility and the
16 effects of the associated federal monetary policy, the common CAPM method has
17 become seriously flawed for the purposes of determining the rate of return in a rate
18 proceeding.

19

20 Q. **How has the federal monetary policy affected the common CAPM methodology?**

21 A. In the current markets, the Federal Reserve's policies of holding U. S. Treasury rates at
22 historically low levels makes the interpretation of the benchmark rate, usually called the
23 "risk free rate", problematical. For example, the Federal Reserve has purchased U.S.
24 Treasury securities during the financial crisis to finance the deficit and hold down interest
25 rates. Also, the Federal Reserve has maintained short-term rates at near zero levels to
26 provide liquidity to the banking system. When government policies dominate the cost of
27 these securities, they cannot represent the valuations placed on them by private willing
28 market participants. With the administered lower benchmark rate, the CAPM result is
29 artificially low.

30

31 Q. **Have other analysts noticed this methodological problem with the CAPM?**

1 A. Yes. For example, Roger Grabowski, who I cited previously, recognized how the low
2 rates of U. S. Treasury bonds would result in “unreasonably low” estimates of the cost of
3 equity capital when using the CAPM:

4 U.S. Treasury bond (“T-bond”) yields, the typical benchmark used in either the
5 Capital Asset Pricing Model (“CAPM”) or the Build-up methods of estimating
6 COEC, were temporarily low for several months, resulting in unreasonably low
7 estimates of COEC as of the important valuation date, December 31, 2008.²⁰

8
9 **Q. Are there any other problems that concern you about using the CAPM as a measure
10 of the cost of common equity in the current markets?**

11 A. A third data element needed for the CAPM calculation that the Federal Reserve’s interest
12 rate policies have altered, is the risk premium. As I explained, monetary policies set the
13 rates for the Treasury securities. This problem enters the common CAPM calculation also
14 through the estimate of the equity risk premium. The commonly measured equity risk
15 premium will understate the risk-reward differential contained in the equity risk
16 premium. Mr. Grabowski recognized this problem with the equity risk premium also. He
17 stated,

18 ...the expected equity risk premium (“ERP”), the rate of return expected on a
19 diversified portfolio of common stocks in excess of the rate of return on an
20 investment in T-bonds, has likely increased as the broad stock market level has
21 declined.²¹

22
23 **Q. Can you briefly summarize your conclusions regarding the use of the CAPM
24 methodology for measuring the cost of capital in the current markets?**

25 A. If the beta and equity risk premium are flawed measures of market risks and the selection
26 of a benchmark rate is problematical, the CAPM results are flawed, perhaps irretrievably.
27 At minimum, in light of the analytical problems of the beta, the benchmark rate and the
28 equity risk premium, one should interpret the CAPM results very carefully.

²⁰ Grabowski, *op. cit.*

²¹ *Ibid.*

1 XVII. CAPM CALCULATIONS AND ANALYSIS

2 Q. **Since there were analytical problems with the CAPM, how did you use it in your**
3 **analysis?**

4 A. I used two different CAPM analyses based on slightly different assumptions. One of
5 these, which approximates the more common approach, produced very misleading results
6 because of the stimulating policies of the Federal Reserve. This method relies on a
7 Treasury security as the benchmark rate for the risk premium analysis. This benchmark
8 rate, resulting from current Federal Reserve monetary policy, produced a low-biased
9 result. This calculation is illustrated in Schedule DAM-21; it is 9.61 percent.

10
11 Q. **What was the result of the other CAPM method that you used?**

12 A. In the second CAPM method, I used the corporate bond rate as a benchmark rate in the
13 CAPM risk premium estimate. This removes some, but not all, of the bias generated by
14 the Federal Reserve monetary policies. This method produced an average estimated cost
15 of capital for the comparable companies of 10.36 percent. Of course, this result is still
16 affected by a suspect, and undoubtedly negatively biased, measure of beta. I have
17 illustrated this result in Schedule DAM-22.

18
19 XVIII. CURRENT MARKETS AND THE UTILITY COST OF CAPITAL

20 Q. **You explained that the utility index has lagged the S&P 500 index since mid-year**
21 **2009. Do you know why the market has distinguished between common equities of**
22 **utilities and industrials during this period?**

23 A. Different investors will have different interpretations of market values, but generally, the
24 electric utilities have not shown attractive earnings prospects during this period. For
25 example, when reviewing the market's performance in 2009, *Value Line* stated on
26 February 26, 2010:

27 Taking a look back on 2009, it was a challenging year for stocks in the utility
28 industry. As a whole, the group underperformed the broader market averages
29 during the 12-month span. Poor economic conditions weighed considerably on the
30 demand for power, most notably among industrial customers, which led to
31 depressed top-line figures for several in the group. Unfortunately, most of these
32 equities have continued to lag thus far in 2010.²²

²² "Electric Utility (East) Industry," *Value Line Investment Survey*, February 26, 2010, p. 148.

1 In addition to the recession's impact on earnings, many industry observers have noted the
2 special risks facing the electric utility industry at this time, and these risks will influence
3 some investors.

4
5 **Q. What are the special risks faced by the electric utility industry that you think may**
6 **be influencing investors at this time?**

7 A. Many analysts have noted that changes in the electric utility industry embody some
8 uncertainties for common equity holders. However, treatments for policies that could
9 affect company earnings are still evolving. For example, the cost recovery for some new
10 initiatives may differ among jurisdictions, and this is apparently the case even within the
11 same company. Treatment for the recovery of costs of such evolving policies as
12 renewable energy projects, environmental standard compliance, transmission expansion
13 and smart grid investments are not uniform. To the individual investor, uncertainty of
14 cost recovery is a risk.

15
16 **Q. Can you determine what returns investors are likely to expect from electric utilities**
17 **in these changing markets?**

18 A. I reviewed the returns on common equity that *Value Line* is forecasting for the electric
19 utilities that I studied. I am reporting these expected returns on equity for the comparable
20 group of electric utilities in Schedule DAM-23. Not surprisingly, given the current
21 market uncertainties, the range of forecasted returns is wide. Yet, there is an obvious
22 central tendency in this return distribution within the group. As the schedule shows,
23 *Value Line* estimates that the average return on common equity for the comparable group
24 of electric utilities forecasted for the 2013-15 period is 12.7 percent. Similarly, *Value*
25 *Line* is forecasting a return on common equity for OGE Energy of 11.5 percent for the
26 2013-15 period. Investors are likely to be aware of these forecasts, and these are
27 reasonable investor expectations.

28
29 **Q. Are you aware of other market information that is indicative of the current market**
30 **cost of capital for electric utilities?**

1 A. Yes. I think that the allowed returns set by the Federal Energy Regulatory Commission
2 (FERC) for wholesale power sales provides some comparative information with the
3 allowed returns set for retail power sales. The FERC has set significantly higher returns
4 to attract investment capital to expand the interstate transmission system than have state
5 regulatory commissions for retail service; however, any significant risk differentials are
6 difficult to discern. As an example, *Value Line* says of ITC Holdings, the only publicly
7 traded transmission-only electric utility regulated by the FERC,

8 The company benefits from a forward-looking regulatory mechanism that
9 provides for annual revenue increases based on capital spending and
10 expected rises in operating expenses. *Allowed returns on equity* are very healthy
11 ranging from 12.16% to 13.88%. [Emphasis added.]²³

12 13 XIX. SUMMARY OF MARKET-BASED ANALYSIS

14 Q. **Can you summarize the results from your market-based analyses?**

15 A. I have a prepared a summary of the CAPM, DCF and *Value Line* ROE forecasts as
16 Schedule DAM-24. I explained the many problems with the CAPM analysis, and at this
17 time, I believe that because of the effect of federal monetary policies on the benchmark
18 rate, the risk premium and the market beta, we should disregard the results of the method
19 using U. S. Treasury rates as a benchmark. The other method using corporate bond rates
20 as a benchmark produced an estimated cost of common equity for the comparable electric
21 utilities of 10.36 percent. This result is of analytical value, but it still possesses significant
22 bias, and one must recognize this. Because of the methodological and data problems of
23 the DCF, I focused on the higher end results, relying principally on the forecasted
24 earnings per share growth rate because of the prevailing market uncertainties. Even so the
25 results are very wide ranging in this market. Likewise, in my opinion, the high end of the
26 DCF estimate of the comparable electric utilities, or 14.16 percent, results from some
27 market extremes. I think this is higher than necessary for ratemaking, even in the current
28 markets. The low end of this DCF calculation using earnings per share growth is 11.10
29 percent for the comparable electric utilities. Even the dampening effect of the historical
30 earnings per share growth rates produced a DCF result that was in the range of 11.09
31 percent to the 12.53 percent. The *Value Line* average expected returns are also in the

²³*Value Line Investment Survey*, June 25, 2010, page 914.

1 middle of the most relevant calculated market-based cost of capital estimates. The near-
2 term expected return for OGE Energy is 11.5 percent, and the average for the comparable
3 electric utilities is 12.7 percent.
4

5 XX. RECOMMENDED ALLOWED RETURN

6 **Q. Based on your analysis of current market conditions and the financial statistics,**
7 **what is your recommended allowed return on common equity for OG&E?**

8 A. I am recommending an allowed return for OG&E in the range of 11.0 percent to 11.50
9 percent. Based on the unpredictable nature of the current economic recovery and the
10 financial markets, I believe that selecting an allowed return at the low end of this range
11 possesses some risk as to whether OG&E can achieve this return. At the time of this
12 testimony, I am most comfortable with an allowed return in the center of this broader
13 range or higher. With current market and economic uncertainties, the likelihood that
14 OG&E will fail to achieve a return sufficient to attract and maintain capital increases at
15 the lower return levels.
16

17 **Q. What return on total capital are you recommending for OG&E in this proceeding?**

18 A. Using the proposed capital structure, recommended cost of debt and preferred stock, I am
19 calculating a cost of total capital for OG&E in the range of 6.51 percent to 6.71 percent.
20 Schedule DAM-25 shows the calculation of this return on total capital.
21

22 XXI. INTEREST COVERAGE RATIOS

23 **Q. You explained that you were concerned whether your allowed return**
24 **recommendation would provide adequate interest coverage for OG&E's debt. What**
25 **did you do to verify that the interest coverage was adequate?**

26 A. I calculated the After-Tax Interest Coverage (ATIC) ratios at the high and the low ends of
27 my recommended allowed return range. The higher the ratio, the more secure are the
28 interest payments. The lower the ratio, the greater the likelihood that a utility will fail to
29 have sufficient funds to meet its interest obligations and provide adequate returns to its
30 common stockholders.

31 After estimating the ATIC at my recommended allowed return, I then compared

1 these measures to the similar ratios of the comparable electric utilities. I have shown
2 these calculations in Schedule DAM-26.

3
4 **Q. What did you determine from this comparison?**

5 A. The ATIC ratio indicates the level of funds available to meet the interest payment
6 obligations of the comparable electric utilities' debt. My recommended allowed total
7 return for OG&E falls within the range of the ATICs calculated for the comparable
8 companies. As this schedule shows, the low end of my recommended range is above the
9 low end of the range of ATICs and appears adequate. The high end of my recommended
10 range is below the high end of the range of the ATICs and is, therefore, not excessive.

11
12 **Q. Does this conclude your direct testimony at this time?**


13 A. Yes, it does.

County of Oklahoma)
)
State of Oklahoma)

RE: APSC Docket No. 10-067-U

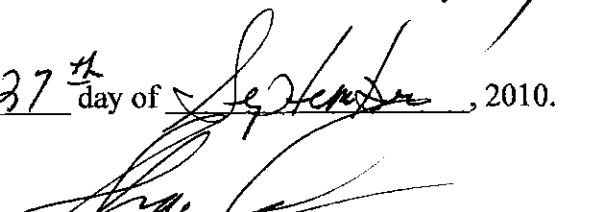
AFFIDAVIT OF DONALD A. MURRY

Donald A. Murry, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony, that said testimony was prepared by him and under his direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, he would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his knowledge, information, and belief.

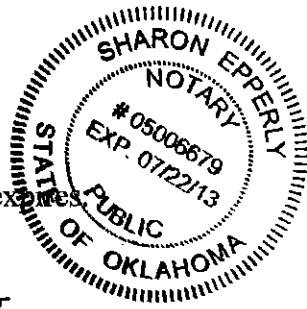


Donald A. Murry

Subscribed and sworn to before me this 27th day of September, 2010.



Notary Public # 05006679



My Commission expires

7-22-13