

**BEFORE THE
CORPORATION COMMISSION OF THE STATE OF OKLAHOMA**

IN THE MATTER OF THE APPLICATION OF)
OKLAHOMA GAS AND ELECTRIC COMPANY)
FOR AN ORDER OF THE COMMISSION)
AUTHORIZING APPLICANT TO MODIFY ITS)
RATES, CHARGES AND TARIFFS FOR RETAIL)
ELECTRIC SERVICE IN OKLAHOMA)

Cause No. PUD 200800398

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CORPORATION COMMISSION
OF OKLAHOMA**

Direct Testimony

of

Donald A. Murry, Ph.D.

on behalf of

Oklahoma Gas and Electric Company

February 27, 2009

Donald A. Murry, Ph.D.
Direct Testimony

TABLE OF CONTENTS

I. INTRODUCTION	1
II. SUMMARY OF FINDINGS AND RECOMMENDATIONS	3
III. METHODOLOGY	4
IV. CURRENT MARKET CONDITIONS	7
V. ALLOWED RETURN OBJECTIVE.....	11
VI. CAPITAL STRUCTURE	12
VII. COST OF DEBT AND OTHER CAPITAL COMPONENTS	13
VIII. FINANCIAL RISK	13
IX. BUSINESS RISK	14
X. FINANCIAL STATISTICS.....	16
XI. MARKET MEASUREMENTS OF THE COST OF COMMON EQUITY	17
XII. DISCOUNTED CASH FLOW METHOD	18
XIII. STRENGTHS OF THE DCF	19
XIV. WEAKNESSES OF THE DCF	20
XV. DATA USED IN DCF ANALYSIS	24
XVI. DCF CALCULATIONS	26
XVII. THE CAPM METHODOLOGY	27
XVIII. CAPM CALCULATIONS.....	32
XIX. SUMMARY OF MARKET-BASED ANALYSES	34
XX. RECOMMENDED ALLOWED RETURN.....	35
XXI. FINANCIAL INTEGRITY TEST	35

I. INTRODUCTION

1 Q. **Please state your name and business address.**

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

4

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

6 A. I am a Vice President and Economist with C. H. Guernsey & Company, working
7 primarily out of the offices in Oklahoma City and Tallahassee. I am also a
8 Professor Emeritus of Economics on the faculty of the University of Oklahoma.

9

10 Q. **What is your educational background?**

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

13

14 Q. **Please describe your professional background.**

15 A. From 1964 to 1974, I was an Assistant and Associate Professor and Director of
16 Research on the faculty of the University of Missouri - St. Louis. For the period
17 1974-98, I was a Professor of Economics at the University of Oklahoma, and
18 since 1998, I have been Professor Emeritus at the University of Oklahoma. Until
19 1978, I also served as Director of the Center for Economic and Management
20 Research. In each of these positions, I directed and performed academic and
21 applied research projects related to energy and regulatory policy. During this
22 time, I also served on several state and national committees associated with
23 energy policy and regulatory matters and published and presented a number of
24 papers in the field of regulatory economics in the energy industries.

25

26 Q. **Please describe your regulatory experience.**

27 A. Since 1964, I have consulted for a number of private and public utilities, state and
28 federal agencies, and other industrial clients regarding energy and regulatory
29 matters in the United States, Canada and other countries. In 1971-72, I served as
30 Chief of the Economic Studies Division, Office of Economics of the Federal

1 Power Commission. From 1978 to early 1981, I was Vice President and Corporate
2 Economist for Stone & Webster Management Consultants, Inc. I am now a Vice
3 President with C. H. Guernsey & Company. In all of these positions I have
4 directed and performed a wide variety of applied research projects and conducted
5 other projects related to regulatory matters. Recently, I have assisted both private
6 and public companies and government officials in areas related to the regulatory,
7 financial and competitive issues associated with the restructuring of the utility
8 industry in the United States and other countries.

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

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

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

2 A. Oklahoma Gas and Electric Company, Inc. "OG&E," which is a wholly-owned
3 subsidiary of OGE Energy Corporation, retained me to analyze its current cost of
4 capital and to recommend a rate of return on common equity in this proceeding. I
5 also refer to OG&E as the "Company." In this testimony, I considered a number
6 of influences on OG&E's cost of capital and I reviewed relevant market
7 information.

8

9 II. SUMMARY OF FINDINGS AND RECOMMENDATIONS

10 Q. **Please summarize your findings and recommendations in this matter.**

11 A. To determine the cost of capital for OG&E, I combined analyses of current
12 market conditions and traditional methods for estimating the cost of common
13 equity of a regulated utility. Central to this analysis, I recognized the importance
14 of the financial market turmoil in recent months including the accessibility of
15 capital by private corporations. Based on these analyses, I concluded that an
16 allowed return on common equity in the range of 12.0 percent to 12.50 percent is
17 appropriate for OG&E in this proceeding. I am recommending the midpoint of
18 12.25 percent as the appropriate point estimate return on common equity for
19 OG&E at this time.

20 As part of my study, I reviewed the Company's proposed capital structure
21 for ratemaking. Significantly, OG&E's common equity ratio is 54.14 percent.
22 OG&E's long-term debt ratio is 45.86 percent with an embedded cost of long-
23 term debt of 6.56 percent. To verify that OG&E's capital structure is consistent
24 with the current standard for electric utilities, I compared it to the capital
25 structures and common equity ratios of a group of comparable electric utilities.

26 The unavoidable backdrop for determining the cost of common equity is
27 the approximately 40 percent decline in common stock values over the past year.
28 This signals the wariness of equity investors. A second significant measure of
29 investor concern about private securities in recent months is the cost of private
30 debt instruments. The cost of corporate debt has increased significantly even as
31 federal policy actions have depressed the yield on U. S. Treasury securities

1 following the very large funding proposals initiated by the Federal Reserve. In
2 fact, despite these efforts to make credit available, surveys of analysts reveal that
3 they expect long-term rates to increase.

4 In addition to an analysis of current market conditions and capital costs, I
5 applied Discounted Cash Flow and Capital Asset Pricing Model analyses to OGE
6 Energy and of a group of comparable electric utilities, to determine the market-
7 based cost of common stock. Although the results of both of these methods
8 required careful interpretation given the prevailing market turmoil and the myriad
9 of economic and policy influences on market prices, they provided insight into
10 current capital costs. The comparable companies, as healthy electric utilities,
11 provided standards for measuring the cost of common equity for an electric utility
12 in the current markets, as did the calculations of the cost of common equity of
13 OGE Energy. *Value Line* estimates that the comparable electric utilities will
14 produce average common equity returns of 11.9 percent in 2009.

15 However, the results of my analyses were wide ranging in the current
16 volatile markets. For OGE Energy, the most relevant DCF results are a relatively
17 high 13.31 percent and 14.20 percent. The most relevant DCF results for the
18 comparable companies are 12.45 percent and 15.25 percent. The more stable,
19 longer perspective relevant CAPM results for OGE Energy are 11.43 percent and
20 for the comparable companies 11.00 percent.

21 As a test of the financial integrity of my recommendation, I compared
22 OG&E's After-Tax Interest Coverage at my recommended allowed return of
23 12.25 percent return on common equity to the present, similar coverages of the
24 comparable companies. By this comparison, I confirmed that my recommended
25 allowed return is adequate and reasonable in current and expected markets.

26 27 III. METHODOLOGY

28 **Q. Can you explain the methodology that you followed in your analysis of the**
29 **cost of common equity in this proceeding?**

30 **A.** Yes. Recognizing the unprecedented, volatile capital markets, I determined how
31 this might affect the more traditional techniques for measuring the cost of

1 common equity in this case. The prevailing markets, and their influence on risk-
2 averse investors, were a critical, underlying determinant of common equity costs.
3 In this environment, I noted current and forecasted long-term corporate interest
4 rates. I also noted the recent and current returns on common equity earned by a
5 group of comparable electric utilities that are similar to OG&E. In this review, I
6 studied financial information for OG&E, OGE Energy Corporation, and the
7 comparable electric utilities. In this comparison, and in light of the recent and
8 anticipated volatility of the equities markets, I reviewed measures of the financial
9 and business risks faced by OG&E.

10 I used the commonly accepted DCF and CAPM methods, which I applied
11 to OGE Energy and each of the comparable electric utilities. In this way, the
12 comparable utilities serve as a proxy measure of the cost of common equity of an
13 electric utility in the current markets. Although the financial market turmoil
14 influenced the data and results of these market-based methods, they still are useful
15 and effective indicators of the cost of common equity of OG&E in this
16 proceeding. One must interpret these calculations in the context of other market
17 influences and indicators of the cost of capital.

18 Finally, as noted previously, after determining my recommended allowed
19 return for OG&E, I checked the results of my recommendation in the context of
20 the actual earnings of other electric utilities. I compared the After-Tax Interest
21 Coverage ratio at my recommended return to the coverages of each of the
22 comparable electric utilities in the current markets.

23
24 **Q. What criteria did you use to select the electric utilities that you used as**
25 **comparable companies in your analysis?**

26 **A.** Recognizing the changing market values and financial circumstances, I chose
27 criteria that I believe should be relatively stable yet still provide a mechanism for
28 selecting companies comparable to OG&E. I identified criteria that would provide
29 a good representative sample of financially healthy regulated electric utilities.
30 First, I identified electric utility companies that have publicly traded common
31 stock and an investment grade credit rating. I used the electric utilities identified

1 by *Value Line* as the primary sampling frame from which to select companies
2 comparable to OG&E. Then, I excluded all companies actively involved in a
3 merger. The common stock value of a company involved in a merger will be
4 affected by investors' evaluation of the merger rather than just its utility
5 operations, so it would not make a good proxy for OG&E. Next, I selected firms
6 that have not reduced or eliminated their dividend since 2002. Companies that
7 have failed to maintain dividends are likely to be under some financial stress. This
8 means that they would not be a good standard for determining the cost of capital
9 of a financially healthy utility in current markets. I removed those utilities for
10 which *Value Line* is forecasting zero or negative earnings growth. Again, this
11 criterion helps assure that my analysis focuses on healthy utilities. I further
12 narrowed the group by focusing on companies that have market capitalization
13 greater than \$2 billion and less than \$8 billion. The size of a company may affect
14 its costs of operations and the market cost of capital, and this criterion identifies
15 companies with similar characteristics to OG&E. Finally, companies may have
16 investments in non-electric utility enterprises. In order to assure that the
17 companies identified as electric utilities are principally in the electric utility
18 business, I excluded any company that earned less than 60 percent of its operating
19 income from electric utility operations. Using these criteria, I selected a group of
20 electric utilities similar to OG&E in key respects.

21
22 **Q. When you applied these selection criteria, what utilities did you identify that**
23 **were comparable to OG&E?**

24 A. Using the above criteria, I selected DPL, Inc., Northeast Utilities, NStar, Pepco
25 Holdings, Pinnacle West, SCANA Corp, and Wisconsin Energy Corporation.

26
27 **Q. You indicated that you used *Value Line* as the data source in your analysis.**
28 **Why did you use *Value Line*?**

29 A. I used *Value Line* because it is a respected, readily available source of relevant
30 financial information to investors and is very likely to influence investors'
31 decisions. After all, it is the investors' perceptions of the value of a utility's

1 common stock that we are trying to determine, and this is a source that is likely to
2 be a determinant in that evaluation. In addition, *Value Line* is an independent
3 provider of financial information to the investment community. It does not take
4 positions in the securities, or act as an underwriter of the securities, that it reviews
5 and sells to subscribers.

6
7 Q. **Are you sponsoring any exhibits with your testimony?**

8 A. Yes. I am sponsoring Exhibit DAM-1, which consists of Schedules DAM-1
9 through DAM-27.

10
11 Q. **Did you or someone under your direct supervision prepare this exhibit?**

12 A. Yes.

13
14 IV. CURRENT MARKET CONDITIONS

15 Q. **In general terms, can you explain the current market conditions and the
16 current influences on the financial markets?**

17 A. Yes. Midway through the first quarter of 2009, the U.S. economy remains in a
18 severe recession characterized by declining GDP, increasing unemployment,
19 decreasing home values, financially strapped consumers, and financial market
20 turmoil. Analysts expect U.S. Gross Domestic Product, (GDP) will contract at a
21 5.5 percent annual rate in the first quarter of 2009 after contracting at a 3.8
22 percent annual rate in the fourth quarter of 2008. Unemployment increased to 7.6
23 percent in January 2009. This is the highest level since 1992, and some analysts
24 expect the unemployment rate to peak around 10 percent before improving.
25 Consumers are facing high debt loads, falling stock prices, increasing
26 unemployment, and depreciating home values. Home prices continue to
27 depreciate, now at a 22 percent annual rate, and the inventory of unsold homes is
28 near a twelve month supply for both new and existing homes.

29 Against the decline in economic activity, the financial markets are
30 characterized by a flight-to-quality for the safety of Treasury securities, higher

1 debt costs of private corporations, including utilities, and significantly decreased
2 corporate equity values.

3
4 **Q. What are some important developments in the financial markets during this**
5 **recent period?**

6 A. For over a year, the credit and financial markets have been in turmoil, and the
7 federal government has responded with extraordinary monetary and fiscal policies
8 to address unprecedented financial and economic conditions. Most recently, the
9 new administration has proposed an approximately \$800 billion economic
10 stimulus plan and a bank rescue package which includes a proposal to create an
11 “aggregator” or “bad bank” that would relieve banks of their bad debt, or so-
12 called “toxic” assets. However, Wall Street greeted the bank rescue plan
13 presented by Treasury Secretary Geithner on February 10th with a nearly 400
14 point decline in the Dow Jones Industrial average.

15
16 **Q. How much has the value of common equity declined during this market**
17 **turmoil?**

18 A. The S&P 500 index is down 50 percent from its high in October 2007 and the
19 S&P Electric Utility index is down approximately 35 percent from its high in
20 January 2008. Importantly, all other things being equal, the less an investor is
21 willing to pay for a share of stock, the higher the cost of common equity.

22
23 **Q. What are some of the broad federal policy responses that have been**
24 **implemented to deal with the collapse of the financial markets?**

25 A. The federal monetary and financial responses have been bold, varied and
26 extraordinary. I have set forth some of the key policy responses to the financial
27 market crisis that have been implemented since September 1, 2008 in Schedule
28 DAM-1.

29
30 **Q. Why are these financial market developments important to the rate of return**
31 **in this proceeding?**

1 A. Beginning in the early fall of 2008, the primary issues in the capital markets
2 became accessibility to capital as well as the cost of capital. Although today's
3 capital market may be accessible to high quality investors, the cost of capital is
4 much higher than the costs prevailing prior to the fall of 2008. The cost of utility
5 debt instruments has increased, and the values of common equities have not
6 recovered. Current financial markets indicate an overall increase in the cost of
7 capital for corporate America including utilities.

8

9 Q. **Have the federal policies been successful to date?**

10 A. One should put the policies in the context of former Secretary of the U.S.
11 Treasury, Henry Paulson's statement that the actions he proposed were necessary
12 to "save the free-market system." The extraordinarily historic actions taken by the
13 Fed and the U.S. Treasury appear to have stabilized the financial markets to some
14 degree, but the equity markets have continued to decline. Moreover, the length
15 and breadth of the current recession are still indeterminate, and the past and
16 proposed monetary and fiscal policies will undoubtedly have unpredictable
17 consequences. For example, the extraordinary monetary expansion associated
18 with these monetary policies raises the specter of future inflationary pressures.
19 Federal Reserve assets that provide reserves supporting the money supply more
20 than doubled in just 16 weeks, and the federal fiscal and monetary policy
21 announcements indicate that this expansion of reserves will continue. At some
22 point in the future, the Fed will need to perform a balancing act between monetary
23 stimulus to avoid economic contraction, and the need to quell future inflationary
24 threats with monetary tightening and increasing interest rates. Also, recent fiscal
25 policies which are at unprecedented levels of federal funding, and the associated
26 fiscal deficits they engender, can exacerbate this problem in the longer term. In
27 the nearer-term, high long-term borrowing rates for non-financial corporations
28 and deeply depressed stock prices reflect investor concerns regarding the current
29 situation, and this increases the cost of both debt and common equity.

1 Q. **How have these market conditions affected the interest rates on corporate**
2 **bonds and U. S. Treasuries?**

3 A. During this market turmoil, a “flight-to-quality” has lowered the yields on
4 Treasury securities to historically low levels. At the same time, corporate bond
5 rates have increased, jumping sharply during the fall of 2008. I have illustrated
6 the recent changed relationship between the yields of Treasuries securities and
7 corporate bonds in Schedule DAM-2. Because Treasury rates and corporate rates
8 moved in opposite directions, the spread between corporate bonds and 30-year
9 Treasury bonds nearly tripled over the past year. The current yield on 90-day
10 Treasury bills is near zero, the yield on 10-year Treasuries is 2.77 percent, and the
11 yield on 30-year Treasuries is 3.48 percent. In contrast, the average yield on Baa
12 corporate bonds as of February 9th was approximately 8.2 percent and the yield
13 on Baa utility bonds was 7.86 percent.

14 As a summary of utility industry consequences of these market conditions, Fitch
15 Ratings stated in a December 22, 2008 report, as follows:

16 Higher cost capital and tight credit availability will nag U.S. power and
17 gas utilities in 2009, and maybe longer... the ratings of utilities operating
18 in states with relatively low authorized [return on equity] and significant
19 regulatory lag are more likely to suffer credit deterioration.¹

20 That is, long-term corporate bond rates, which are competitive securities for
21 utility common stock and relevant standards for applying a test for the *Hope*
22 standard, have risen despite the sharp decline in Treasury yields.

23

24 Q. **Can you put the recent higher returns on corporate bond rates into a longer-**
25 **term perspective?**

26 A. Yes. As stated previously, the yield on Baa-rated corporate bonds is
27 approximately 8.20 percent. This rate is a very reliable benchmark of current
28 market conditions for corporate securities while Treasury yields are subject to
29 heavy influences of government monetary and fiscal policies and the flight-to-
30 quality. I have illustrated in Schedule DAM-3 that current corporate bond rates
31 are again at levels similar to those experienced in the late 1980’s or early 1990’s.

¹ Fitch Ratings, “U.S. Utilities, Power and Gas 2009 Outlook,” December 22, 2008.

1 Q. **Why is the relationship between the current cost of debt and the cost of**
2 **utilities' common stock important in this proceeding?**

3 A. Common stock is of higher risk and higher cost than debt instruments, which
4 require contractual interest payments and repayment of principal. An equity risk
5 premium return over the cost of a utility's debt is a measure of the cost of a
6 utility's common stock. Thus, the rising cost of corporate debt puts upward
7 pressure on the cost of common equity and reveals current higher common equity
8 costs.

9
10 Q. **You noted that the benchmark Baa corporate bond rate has returned to**
11 **levels similar to the end of the 1980's. Were returns to common equity higher**
12 **during those periods?**

13 A. Yes, they were. As one would expect, investors require a higher return as they
14 take on the added risk of common equities as compared to debt instruments. That
15 is true today just as it was true for the returns on common equities of electric
16 utilities during the late 1980's and early 1990's.

17
18 Q. **Was the differential between the allowed returns on common equities of**
19 **utilities and corporate bond rates higher during that period than they are**
20 **presently?**

21 A. As I have illustrated in Schedule DAM-4, the differential between the Baa
22 corporate rate and the average allowed return has been approximately four percent
23 since 2003. Allowed ROEs lag shifts in the corporate bond rates, but one can
24 expect them to rise with higher bond rates.

25

26

V. ALLOWED RETURN OBJECTIVE

27 Q. **Please explain the standard that you used to develop a recommended allowed**
28 **return for OG&E in this proceeding.**

29 A. I developed this recommended allowed return in a manner that is consistent with
30 my understanding of the concept of a "fair rate of return" on invested capital,
31 which is a return which complies with the United States Supreme Court decision

1 in *Bluefield Water Works and Improvement Company vs. Public Service*
2 *Commission, 262 U.S. 679 (1923) ("Bluefield")*, as further modified in *Federal*
3 *Power Commission vs. Hope Natural Gas Company, 320 U.S. 591 (1944)*
4 *("Hope")*. As an economist, I believe that a rate of return is "fair", if it provides
5 earnings to investors similar to returns on alternative investments in companies of
6 equivalent risk. Such a return will be sufficient to enable the company to
7 compensate investors for assumed risk, attract capital, operate successfully, and
8 maintain its financial integrity. As an economist, I also have concluded that this
9 standard implies that utilities, as a regulated single supplier, do not face the same
10 market influences as firms in more competitive markets. A single utility is likely
11 to exist in a market because of economies of scale and scope in providing retail
12 utility service and this market structure is the common economic rationale for
13 regulation.

14 VI. CAPITAL STRUCTURE

15
16 **Q. What capital structure is appropriate for OG&E in this proceeding?**

17 **A.** The capital structure for ratemaking as proposed by the Company, and which I
18 have adopted as appropriate for this proceeding, is the following: long-term debt
19 is \$1,545,250,000 or 45.86 percent, and common equity is \$1,824,359,077 or
20 54.14 percent. The total capital is \$3,369,609,077. I show this capital structure
21 which is appropriate for ratemaking in this proceeding for OG&E in Schedule
22 DAM-5.

23
24 **Q. Did you evaluate OG&E'S capital structure for ratemaking and compare it**
25 **to the capital structures of the comparable electric utilities?**

26 **A.** Yes. OG&E's common equity ratio for ratemaking of 54.14 percent is
27 comparable to the common equity ratios of electric utilities in current markets,
28 especially in light of the pressure of market conditions. In this environment, many
29 electric utilities will increase their common equity ratios to maintain a more
30 conservative capital structure. It is important for utilities to move toward more
31 conservative capital structures to maintain financial flexibility during times of

1 stress in the financial markets. This is particularly true as utilities face increasing
2 infrastructure and environmental capital needs. Currently, according to *Value*
3 *Line*, the average for the comparable electric utilities is 46.5 percent, with
4 increases expected in the common equity ratios for every one of these utilities
5 except Pinnacle West. I show this comparison among all of these utilities in
6 Schedule DAM-6.

7
8 VII. COST OF DEBT AND OTHER CAPITAL COMPONENTS

9 Q. **What is OG&E's cost of long-term debt that is appropriate for ratemaking in**
10 **this proceeding?**

11 A. As provided by the Company, the calculation of the embedded cost of long-term
12 debt that is appropriate for OG&E in this proceeding is 6.56 percent.

13
14 VIII. FINANCIAL RISK

15 Q. **You mentioned financial risk as a factor that you studied in your analysis of**
16 **OG&E. What did you mean by the term "financial risk?"**

17 A. Because the payment of interest on debt takes precedence over returns to common
18 stock, common stock investors necessarily incur the risk that a company will not
19 have sufficient funds to provide the expected returns from dividends and capital
20 gains. Therefore, the common equity ratio is a direct measure of the anticipated of
21 financial risk perceived by investors. This is a measure of the level of debt that
22 has prior claim on a company's funds from operations. As I noted previously,
23 OG&E's common equity ratio is in line with the common equities of the
24 comparable electric utilities.

25
26 Q. **Is the common equity ratio the only measure of financial risk that investors**
27 **are likely to use in evaluating a common stock investment?**

28 A. No. Analysts are likely to be interested in other direct measures such as Flow of
29 Funds from Operations that would include such factors as cash from depreciation,
30 but the common equity ratio is a direct measure that influences the funds available
31 to common stock. I studied, for example, other measures that reflect financial risk

1 such as bond ratings and *Value Line's* "Financial Strength" rating. *Value Line*
2 ranks OGE Energy as an A in Financial Strength; *Value Line* ranks the
3 comparable electric utilities all between A and B in Financial Strength. S&P
4 assigned both OG&E and OGE Energy a credit rating of BBB+. The comparable
5 companies all have S&P bond ratings between BBB- and A+. Schedule DAM-7
6 shows these comparisons.

7
8 IX. BUSINESS RISK

9 Q. **You also mentioned business risk. What is "business risk" for an electric**
10 **utility?**

11 A. Business risk is the exposure of investors' anticipated returns to the uncertainties
12 of a company's day-to-day business activities. Optimally, utilities will recover all
13 costs in rates. However, when incurred costs are not completely recovered, or
14 recovered timely, that reduces company earnings and investors view this as a
15 regulatory business risk. Examples of exposed cost recovery for utilities may
16 occur in recovering fuel cost, capital expenditures, storm damage expenses, and
17 other operating and maintenance expenses. Other business risks result from
18 unanticipated business events, such as declines in customer demand that reduces
19 forecasted sales levels. In those cases, the utility will fail to recover the revenues
20 anticipated in the rate design.

21
22 Q. **Were you able to assess the business risk of OG&E?**

23 A. Yes. Although investors' perceptions of business risk are virtually impossible to
24 measure directly, financial publications report analysts' views of these risks. As
25 risk assessment from reputable publications is available to and sought by
26 investors, it will influence investment decisions. Consequently, I considered
27 business risks of comparable companies and OGE Energy reported in the trade
28 press.

1 Q. **What published measures of business risk did you review in your analysis?**

2 A. I reviewed the *Value Line* rankings of “Safety” and “Timeliness.” Although these
3 two measures are both broader than just business risk, business risks undoubtedly
4 have a significant influence on these rankings. For example, *Value Line* defines its
5 “Safety” ranking as a measurement of the potential risk associated with individual
6 common stocks. *Value Line* defines “Timeliness” as a measure of a stock’s
7 probable performance in the forthcoming year relative to the overall market. In
8 addition, I reviewed analysts’ descriptions of business risk of the comparable
9 companies and OG&E that are available to investors.

10

11 Q. **How did those measures for OGE Energy compare to similar measures of the
12 comparable companies?**

13 A. The comparable companies have an average Safety rank of 2.3, with a rank of 1
14 being the highest out of 5 possible categories. By comparison, OGE Energy has a
15 Safety Rank of 2. Each of the comparable companies has a Timeliness rank of 3,
16 as does OGE Energy. For interpreting these rankings, one can consider a 3 as
17 representing the average for all the securities in the market. I show this
18 comparison in Schedule DAM-8.

19

20 Q. **What have you identified as relevant business risks facing the comparable
21 electric utilities and OG&E?**

22 A. Among the business risks perceived by investors that commonly face electric
23 utilities are the timely recovery of such operating expenses as fuel expenditures
24 and expenses associated with storm damage. In general, investors probably
25 perceive OG&E’s risks in this area similar to other electric utilities. Another
26 common business risk is the perceived threat to a utility’s expected returns
27 because of uncertain cost recovery associated with a large capital expenditure
28 program. From these references, I concluded that OG&E faces the usual business
29 risks, which are familiar to investors in electric utilities in today’s markets.

1

2

X. FINANCIAL STATISTICS

3

Q. **You said that you reviewed certain financial statistics. What financial statistics of the companies that you studied did you review?**

4

5

A. I reviewed some key financial statistics for the comparable companies as well as OGE Energy. These statistics include recent and expected returns on equity, dividends paid and payout ratios, levels of cash flows and price earnings (P/E) ratios.

6

7

8

9

10

Q. **What are the current common stock earnings estimates for the comparable electric utilities and OGE Energy?**

11

12

A. The common equity returns for these comparable companies is reported by *Value Line*, which I illustrated in Schedule DAM-9. The estimated average return on common stock equity for 2008 for the comparable companies is 12.1 percent. The forecasted return on common equity for the comparable companies in 2009 is 11.9 percent.

13

14

15

16

17

18

Q. **You reviewed the dividend payments of the comparable companies and OGE Energy. What did your review show?**

19

20

A. Schedule DAM-10 shows that the declared dividends of OGE Energy have grown only slightly over the last five years. Most of the comparable electric utilities had slightly higher growth in declared dividends.

21

22

23

24

Q. **What did you determine about the recent dividend payout on common stock policies of these companies?**

25

26

A. On the average, these companies have shown a stable dividend payout over this period. Schedule DAM-11 shows that *Value Line* estimates the average payout ratio of the comparable electric utilities at 56.6 percent in 2008, which is consistent with the payout ratios that I have observed in this industry recently.

27

28

29

1 Q. **What did your review of the cash flow of the comparable companies and**
2 **OGE Energy show?**

3 A. As I show in Schedule DAM-12, OGE Energy's ratio of current Enterprise Value,
4 which is market value of the companies' securities, to cash flow as measured by
5 Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) shows
6 OGE Energy is squarely in the middle of the ratios of the comparable companies.
7 This is another measure showing that the comparable companies are good proxies
8 for OG&E in this analysis. I also compared the Cash from Operating Activities to
9 Capital Expenditure ratios in Schedule DAM-13. As this schedule indicates,
10 OG&E has a low ratio of 34 percent in contrast to each of the comparable electric
11 utilities that have higher cash to capital expenditure ratios. This suggests that
12 OG&E may have greater need to access the financial markets to meet capital
13 expenditure requirements than these comparable electric utilities.

14

15 Q. **What did your review of the price-earnings ratios of the comparable**
16 **companies show?**

17 A. According to *Value Line* data, the average P/E ratio of the comparable electric
18 utilities is currently 12.3. This P/E ratio is consistent with other recent reviews of
19 P/E ratios of electric utilities that I have performed. I believe that this indicates
20 that the market valuations of the earnings of these companies are consistent with
21 the valuations of other electric utilities in today's markets. I have illustrated this
22 calculation in Schedule DAM-14. This schedule also shows OGE Energy to have
23 a slightly lower current P/E ratio of 10.7.

24

25 XI. MARKET MEASUREMENTS OF THE COST OF COMMON EQUITY

26 Q. **You stated previously that you estimated the cost of common stock of OG&E**
27 **using the DCF and CAPM methods. Could you please explain?**

28 A. I used the DCF and the CAPM methods to estimate the cost of common stock in
29 my analysis. I applied each of these methods, which are the most common
30 methods used in regulatory proceedings, to estimate the costs of common stock
31 for OG&E by estimating the cost of common stock for each of the comparable

1 electric utilities. I then compared the results among these various companies. For
2 each of these two methods, I assessed their underlying assumptions and their
3 analytical strengths and weaknesses. Subsequently, I evaluated the results from
4 these analyses in the context of current market conditions and the relative risks.

6 XII. DISCOUNTED CASH FLOW METHOD

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

9 A. The following formula expresses the DCF calculation of an investor's required
10 rate of return:

$$11 \quad K = D/P + g$$

12
13 Where: K = cost of common equity
14 D = dividend per share
15 P = price per share and
16 g = rate of growth of dividends, or alternatively, common
17 stock earnings.

18
19 In this expression, "K" is the capitalization rate required to convert the
20 stream of future returns into a current value. "D" is the current level of dividends
21 paid to the common stock holders. "P" is the valuation of the common stock by
22 the investors reflected by recent market prices. Consequently, the ratio "D/P" is
23 the current dividend yield on an investment in the company's common stock. The
24 "g" is the growth rate anticipated by the investor.

25
26 **Q. You mentioned the underlying assumptions of the cost of capital models.**
27 **What assumptions underlying the DCF method are important when**
28 **estimating the cost of common stock equity in practice?**

29 A. I believe one can identify the following important underlying assumptions
30 associated with the basic annually compounded DCF model:

- 31 1. Investors are risk averse. That is, for a given return, investors will
32 seek the alternative with the lowest amount of risk. In other words,
33 the greater the risk that investors attribute to a given investment,
34 the greater the return they require from that investment.

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2. The discount rate must exceed the growth rate, i.e. K , in the stated expression, must exceed g . The mathematics associated with the derivation of the basic annually compounded DCF model requires this assumption.
3. The payout and the price earnings ratios remain constant.
4. Expected cash flows consist of dividends and the future sale price of the stock. The sales price in any period will equal the present value of the dividends and the sales price expected after that period including any liquidating dividend. Consequently, the sales price in any period is equal to the present value of all expected future dividends.
5. Dividends are paid annually.
6. There is no external financing.

As noted in these assumptions, expected cash flows consist of dividends and the future sale price of common stock. Common stock earnings are the critical common denominator because earnings make paying dividends possible, while retained earnings provide for future growth in stock value.

XIII. STRENGTHS OF THE DCF

Q. You stated that you reviewed the strengths and weaknesses of the techniques you used. Can you identify the key strengths of the DCF that you think are important to your analysis?

A. The DCF method is theoretically sound, and this is its greatest strength. It relates an investor's expected return in the form of dividends and capital gains to the value that an investor is willing to pay for those returns. The DCF implies that an investor is willing to pay a market price that is equal to the present value of an anticipated stream of earnings. This relationship theoretically reveals the opportunity cost of investors' funds. In this way, the DCF relates known market price information and the company's dividend and earnings performance to determine the value that investors place on anticipated returns. A practical advantage of the DCF, as a cost of capital tool in a ratemaking proceeding, is that

1 regulatory analysts commonly use it, and participants in proceedings generally
2 understand it.

3
4 **Q. Is this estimate of the cost of common equity consistent with the regulatory
5 objective of setting an allowed return equal to the returns of equivalent risk?**

6 **A.** Yes. The DCF develops an estimate of the marginal cost of investing in a given
7 utility, but this may not be sufficient to attract capital in subsequent markets. It is
8 consistent with the principle of setting a return equal to returns of equivalent risk
9 at the margin, but this cost of capital level is not necessarily sufficient to assure
10 that a return at this level will attract and maintain capital even in the near term.

11
12 XIV. WEAKNESSES OF THE DCF

13 **Q. What weaknesses of the DCF may be important to know when it is used in a
14 ratemaking proceeding?**

15 **A.** A DCF analysis may have either conceptual or data problems or both. As to the
16 conceptual problems, analysts may misinterpret and consequently misapply the
17 DCF because they do not understand the limits of the analysis. For example, a
18 common conceptual problem is the use of historical growth rates in DCF
19 calculations. This will occur, for example, when these rates are not accurate
20 estimates of investors' expectations of the future returns. Likewise, using
21 dividend growth rates mechanically in a DCF formulation can be misleading if
22 investors are purchasing and selling a stock because of anticipated changes in
23 earnings and potential capital gains. That is, if an assumption (such as dividends
24 being the sole source of value expectations of an investor) is not accurate, then
25 analysts will err if they do not recognize this.

26 Also, as I stated previously, the DCF method calculates the marginal, or
27 incremental, cost of common stock equity of a company. If analysts do not
28 recognize the theoretical significance of this calculation, they may misapply the
29 results of their calculations. As a marginal cost estimate, the DCF produces an
30 estimate of the minimal return necessary to attract or maintain investment funds to
31 a company's common stock.

1 Q. **From a practical standpoint, why is the marginal cost nature of the DCF**
2 **significant in a regulatory setting?**

3 A. If a DCF-based cost of common equity, even if realistically developed, becomes
4 the allowed return for a regulated utility, this will not provide enough earnings so
5 the realized return will be sufficient to attract and maintain capital. Analysts,
6 interpreting the results of the DCF calculations, may not recognize this.
7 Consequently, the DCF-based calculations may be misleading. In fact, this
8 misunderstanding of the DCF results can virtually assure that a regulated
9 company will not have the opportunity to earn its allowed return.

10

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

13 A. Yes. Regulatory commissions have recognized the difficulties of relying on the
14 raw, unadjusted DCF calculations. In one such example, a regulatory commission
15 recognized that the assumptions underlying the DCF model rarely, if ever, hold
16 true.² This commission stated that an "...unadjusted DCF result is almost always
17 well below what any informed financial analyst would regard as defensible and
18 therefore requires an upward adjustment based largely on the expert witness'
19 judgment."³

20

21 Q. **In addition to an adjustment based on "expert" judgment, in your**
22 **experience, are you aware of regulators and analysts attempting to**
23 **compensate for the marginal cost nature of the DCF?**

24 A. Yes. Both regulators and analysts have often applied compensating adjustments
25 for the marginal cost nature of the DCF adjustment, and they do so in a variety of
26 ways. Although these various adjustments may differ greatly in their approaches,
27 each addresses the inadequacy of the marginal cost estimates of the cost of capital
28 in some manner. For example, I have observed such practices as applying a

² 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.

³ *Ibid*, *In re Indiana Michigan Power Company*, 116 PUR4th 1, 17 (Ind. 1990).

1 “flotation” adjustment, a “market pressure” adjustment or an adjustment to
2 common equity to reflect the market values of debt and equity.

3
4 Q. **You said that a flotation adjustment is one way that analysts address the
5 marginal cost nature of the DCF. Can you explain why this is the case?**

6 A. Analysts apply a flotation adjustment because the market-based DCF estimate of
7 the cost of capital does not account for the costs of issuing common stock. That is,
8 the market-based DCF does not incorporate the unavoidable costs incurred when
9 issuing securities, such as legal fees, investment banker fees and the publication
10 costs of a prospectus. The flotation adjustment attempts to raise the market-
11 measured cost of capital, which is the return required to attract the marginal
12 investor, to the same level as the true cost of capital of the utility.

13
14 Q. **Did you apply a flotation adjustment in your DCF analysis?**

15 A. No, I did not.

16
17 Q. **If a utility incurs the costs of flotation that reduce the level of funds received
18 from a stock issuance, why did you not apply such an adjustment?**

19 A. Although the costs of flotation are inescapable and real, I believe it is an adequate
20 recognition of the marginal cost nature of the DCF, which also recognizes the
21 potential impact of flotation costs, to focus on the higher end of the various DCF
22 results. In my opinion, this normally provides appropriate compensation to attract
23 and maintain investment in a utility’s common stock, and it also avoids trying to
24 exact a level of implied precision from the DCF methodology that is not realistic.

25
26 Q. **What is a “market pressure” adjustment?**

27 A. A market pressure adjustment is compensation for the impact of a common stock
28 issuance on the prices of that common stock. Analysts apply this adjustment
29 because the DCF measured cost of common stock cannot account for the
30 prospective price impact of additional, newly issued shares. This is another

1 instance when the marginal cost of common stock measured prior to this issuance
2 will fail to capture the true cost of capital necessary to attract investors.

3
4 **Q. Are you recommending that an analyst should add a market pressure**
5 **adjustment to a DCF result when determining a recommended allowed**
6 **return?**

7 A. No. Normally, the higher end of the DCF market-based results will provide an
8 adequate return on common stock for a regulated utility, which is sufficient under
9 most market circumstances. Such a return should be adequate to compensate for
10 the impact of newly issued securities and to attract investors to newly issued
11 common stock.

12
13 **Q. You mentioned an adjustment to the cost of equity to reflect market values**
14 **for debt and equity?**

15 A. Regulatory convention dictates that an analyst should use the book values of
16 securities when establishing the capital structure of a utility for ratemaking.
17 However, some analysts adjust the cost of equity for ratemaking to compensate
18 for the difference between market value and book value. Of course, investors
19 must measure the marginal cost returns against the market values of their
20 investment. Some analysts recognize the difference between market valuation and
21 book valuation of common stock to recognize the marginal cost nature of the DCF
22 method.

23
24 **Q. Did you adjust OG&E's capital structure for the differential in market value**
25 **and book value?**

26 A. No. I did not. As in the cases of the other adjustments that analysts and regulators
27 develop largely to compensate in ratemaking for the marginal cost nature of the
28 DCF technique, again I believe that recognizing the high end of the DCF results is
29 adequate.

XV. DATA USED IN DCF ANALYSIS

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Q. What growth rate data did you use in your DCF analysis?

A. Although I reviewed several historical and forecasted financial statistics, I relied extensively on the forecasted earnings growth estimates in my DCF analysis. Forecasts of common stock earnings capture investors' expectations about future returns, and reputable analysts' forecasts help investors form their expectations and decisions to invest. The financial academic literature reports consistent findings that analysts' forecasts are superior to historical performance for determining expected growth in a DCF analysis.

Q. Please explain some of the studies that demonstrated that investors look to analysts' forecasts when making investment decisions.

A. A number of authors have addressed the merits of analysts' forecasts in a DCF analysis of the cost of capital. For example, a well-known financial textbook by Brigham and Gapenski explains why analysts' growth rate forecasts are the best source for growth measures in a DCF analysis. They state:

Analysts' growth rate forecasts are usually for five years into the future, and the rates provided represent the average growth rate over the five-year horizon. Studies have shown that analysts' forecasts represent the best source for growth for DCF cost of capital estimates.⁴

Research reported in the academic literature supports this position. For

example, Gordon, Gordon and Gould found:

...the superior performance by KFRG (forecasts of growth by security analysts) should come as no surprise. All four estimates of growth rely upon past data, but in the case of KFRG a larger body of past data is used, filtered through a group of security analysts who adjust for abnormalities that are not considered relevant for future growth.⁵

⁴ Brigham, Eugene F., Louis C. Gapenski, and Michael C. Ehrhardt, "Chapter 10: The Cost of Capital," *Financial Management Theory and Practice, Ninth Edition* (1999: Harcourt Asia, Singapore), p. 381.
⁵ 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 Q. **Have academic articles specifically addressed the use of forecasted growth**
2 **rates in DCF analyses developed for regulatory proceedings?**

3 A. Yes. Timme and Eisemann examined the effectiveness of using analysts'
4 forecasts rather than historical growth rates for determining investors'
5 expectations in rate proceedings. They concluded:

6 The results show that all financial analysts' forecasts contain a significant
7 amount of information used by investors in the determination of share
8 prices not found in the historical growth rate....The results provide
9 additional evidence that the historical growth rates are poor proxies for
10 investor expectations; hence they should not be used to estimate utilities'
11 cost of capital.⁶
12

13 Q. **You said that you relied upon other financial statistics. Did you also review**
14 **historical common stock earnings and dividend information?**

15 A. As I stated previously, I believe that the current market conditions are primary
16 determinants of current costs of capital that are relevant for measuring OG&E's
17 cost of common equity in this proceeding. Nonetheless, I also reviewed the
18 common equity earnings and dividend history of the companies studied. As I
19 stated previously, for analytical purposes and to enhance the reliability of my
20 DCF analysis, I relied principally on current market valuations reflecting current
21 market conditions and forecasted common stock earnings in my DCF analysis.
22

23 Q. **Did you observe any important relationships in your analysis of growth rates**
24 **that you used in your DCF analysis?**

25 A. Yes. OGE Energy's forecasted earnings per share growth and dividend growth are
26 both relatively low in comparison to the similar growth rates of the comparable
27 companies. I show the dividend and earnings per share growth rates in Schedule
28 DAM-15.

⁶ 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.

1 Q. **What was the source of the common stock price data that you used in your**
2 **DCF analysis?**

3 A. I used *YAHOO! Finance* as the source of market price information. I obtained
4 current prices for a recent two-week period and the high and low share prices for
5 a 52-week period. *YAHOO! Finance* is a widely-used internet portal that provides
6 electronic financial information including daily prices. The current market prices
7 reflect current market valuations. The longer time period recognizes the changing
8 market conditions over time. Although the financial markets have changed
9 significantly in the past year, looking back provided some longer-term perspective
10 to my analysis.

11

12

XVI. DCF CALCULATIONS

13 Q. **Please explain your DCF calculations.**

14 A. I developed DCF analyses based on alternative price series. These were
15 informative because of the rapidly changing market conditions and continued
16 market turmoil. I also reviewed the growth rates in returns that investors are likely
17 to perceive in the current markets and that investors are likely to associate with
18 these market prices. In one analysis, I looked at combined historical and
19 forecasted earnings per share and common stock dividend growth rates associated
20 with current and longer term prices. I illustrated the results of these DCF
21 calculations in Schedules DAM-16 and DAM-17. Because these results for OGE
22 Energy, ranging from 7.85 percent to 9.39 percent, were not meaningfully
23 different from current bond yields, they were not credible for determining the cost
24 of common equity in this proceeding. Using similar prices and growth rates on
25 earnings per share for the same periods produced results ranging from 12.67
26 percent to 14.20 percent for OGE Energy. Investors' earnings per share growth
27 expectations are more encompassing than just the dividend component, and for
28 this reason, I believe that these latter estimates are more representative of investor
29 expectations than just dividend growth. Although the market turmoil is also a
30 basis for questioning whether these results are transitory, the declining market
31 prices indicate the continued wariness of risk averse common equity investors,

1 and these market-measured costs of common equity are imperatives when
2 considering the relevant returns for this proceeding. I have shown these results in
3 Schedules DAM-18 and DAM-19. The range of results of these four different
4 estimates demonstrates the sensitivity of the DCF analysis to data assumptions,
5 and the potential volatility of the method. This also shows the importance of
6 carefully evaluating the DCF results in the context of current market conditions.

7
8 **Q. You explained that earnings per share growth rate in the DCF analysis was**
9 **more “encompassing”. Are there other considerations in a DCF analysis that**
10 **you believe are important assumptions regarding returns growth rates?**

11 **A.** Yes. Investors’ perceptions of returns are important, and as I stated previously,
12 analysts’ forecasts are available to investors and are likely to influence their
13 evaluation. Therefore, I also developed DCF analyses using analysts’ earnings
14 forecasts. As I stated previously, the higher end of the DCF results should be
15 sufficient compensation for the marginal cost nature of the method. These
16 relevant cost of common equity estimates for OGE Energy were 11.77 percent to
17 13.31 percent. The average higher end cost of common equity estimates for the
18 comparable companies were 14.14 percent and 15.25 percent. I have illustrated
19 these results in Schedules DAM-20 and DAM-21.

20 21 XVII. THE CAPM METHODOLOGY

22 **Q. Please explain how you used the Capital Asset Pricing Model in your**
23 **analysis?**

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

$$31 \quad K = R_F + \beta (R_M - R_F)$$

1 Q. **What practical, analytical problems may affect the CAPM estimate of the**
2 **cost of common equity using the CAPM method?**

3 A. The CAPM has several practical analytical problems. First, the calculations for a
4 company are sensitive to the beta used in the CAPM analysis. This beta is a single
5 market-volatility measure of risk, so, consequently, the CAPM will not
6 incorporate any risks not included in this measure. Also, a number of analysts
7 have shown that the CAPM overestimates the cost of capital of companies with
8 betas greater than one and underestimates the cost of capital of companies with
9 betas less than one. In utility regulation, this underestimation is important because
10 most utilities have betas less than one and the method is likely to underestimate
11 the cost of capital. The *Value Line* betas for the comparable electric utilities range
12 between 0.65 and 0.75. As a consequence, the CAPM results in this analysis are
13 likely to underestimate the cost of common equity of each of the comparable
14 electric utilities. Additionally, a number of academic studies reported a size bias
15 of the CAPM methodology. For this reason also, the CAPM is likely to
16 underestimate the cost of capital of smaller companies.

17
18 Q. **You mentioned academic studies that report empirical measures show that**
19 **CAPM will underestimate the cost of capital of smaller companies. Is that a**
20 **problem in this case?**

21 A. Yes. The small firm bias can be important in determining the cost of capital for
22 smaller utilities, and OG&E and the comparable electric utilities that I studied in
23 this proceeding are smaller companies.

24
25 Q. **Can you explain how you applied the CAPM methodology that you used in**
26 **your analysis?**

27 A. I applied two complimentary CAPM approaches to estimate the cost of capital of
28 OG&E. One of these methods examines the historical risk premium of common
29 stock over high grade corporate bonds. The other integrates the risk premium of
30 common stocks to long-term government bonds in recent markets. This second
31 method requires an adjustment for the size bias due to company size.

1 Q. **One of the CAPM methods that you developed used high grade government**
2 **bonds as representative of the market rates. Why did you use this method?**

3 A. The Federal Reserve uses short-term Treasuries as a monetary policy vehicle, and
4 the government market actions preclude an accurate, unbiased measurement of
5 market valuations. As noted earlier, the government securities are subject to the
6 risk of changing Fed policies. The government securities also have been directly
7 influenced by the “flight-to-quality” in the current volatile markets. Corporate
8 bonds are a step removed from these direct federal policy influences and more
9 representative of market-measured, benchmark measures for a risk premium
10 analysis.

11
12 Q. **You discussed size bias in the CAPM analysis. Can you explain the findings**
13 **of some of these studies of size bias of the CAPM?**

14 A. R. W. Banz⁷ and M. R. Reinganum⁸, in the 1980s, pointed out the size bias
15 resulting in an underestimation of the cost of capital of smaller firms. Reinganum
16 examined the relationship between the size of the firm and its price-earnings ratio;
17 he found that small firms experienced average returns greater than those of large
18 firms that had equivalent risk as measured by the beta. Of course, the beta is the
19 distinguishing measure of risk in the CAPM. Banz confirmed that beta does not
20 explain all of the returns associated with smaller companies; hence, the CAPM
21 would understate their costs of common equity. In the same time frame, Fama and
22 French confirmed that the Banz analysis consistently rejected the central CAPM
23 hypothesis that beta sufficed to explain the expected return of investors.⁹

24
25 Q. **What did you mean when you said that the CAPM method requires an**
26 **adjustment?**

⁷ Banz, R.W., “The Relationship Between Return and Market Value of Common Stock,” *Journal of Financial Economics*, March 1981, pp. 3-18.
⁸ Reinganum, M. R., “Misspecification of Capital Asset Pricing: Empirical Anomalies Based on Earnings, Yields, and Market Values,” *Journal of Financial Economics*, March 1981, pp. 19-46.
⁹ Fama, Eugene F., and Kenneth R. French, “The CAPM is Wanted, Dead or Alive,” *The Journal of Finance*, Vol. LI, No. 5, pp. 1947-1958.

1 A. Although repeated studies showed that the CAPM method possesses a bias that
2 understates the expected returns of small companies, this remained only an
3 empirical observation without a clear remedy. However, Ibbotson Associates,
4 which is the common source of data for the risk premium used in CAPM
5 analyses, has developed an adjustment for this bias. Ibbotson Associates discusses
6 the problem as follows:

7 One of the most remarkable discoveries of modern finance is that of the
8 relationship between firm size and return. The relationship cuts across the
9 entire size spectrum but is most evident among smaller companies, which
10 have higher returns on average than larger ones. Many studies have looked
11 at the effect of firm size on return.¹⁰
12

13 To account for this empirical bias against smaller companies, Ibbotson
14 Associates has prescribed quantitative adjustments to the CAPM. It publishes this
15 in the same data source used by many analysts to estimate the risk premium in
16 their CAPM analyses.

17
18 **Q. Did you apply the adjustment recommended by Ibbotson Associates in your
19 analysis?**

20 A. Yes. In my CAPM analysis, I followed the method recommended by Ibbotson
21 Associates to compensate for this inherent data bias. This adjustment was
22 appropriate for the CAPM analysis of all of the comparable companies as well as
23 OGE Energy.
24

25 **Q. Can you verify that the size bias adjustment that you applied in this CAPM
26 analysis apply to regulated utilities?**

27 A. Yes. Ibbotson calculated a measured adjustment specifically for traditional
28 regulated utilities. In fact, Ibbotson Associates used an electric utility as an
29 example to illustrate how to apply the size premium when developing a CAPM
30 analysis. I have included a page from that publication that shows this illustration
31 as my Schedule DAM-22.

¹⁰ Chapter 7: Firm Size and Return, "Ibbotson Associates' Stocks, Bonds, Bills, and Inflation: 2008 Yearbook Valuation Edition," edited by James Harrington, p. 129.

1 Q. **To your knowledge, have any regulatory commissions recognized that**
2 **smaller regulated companies have risks that justify higher returns to**
3 **compensate for these risks?**

4 A. Yes. Of course, I am not aware of all instances in which regulatory bodies may
5 have taken size of firm into account in setting an allowed return or rates.
6 However, in one instance, the Minnesota Public Utilities Commission specifically
7 recognized the adjustment to the CAPM proposed by Ibbotson in an Interstate
8 Power and Light Company case. The Commission observed:

9 ...the Commission concurs with the Administrative Law Judge in his
10 conclusion that, whatever the merits and applicability of the Ibbotson
11 study, for purposes of this case, it is reasonable to accept its principal
12 conclusion – that size of a firm is a factor in determining risk and return.¹¹
13

14 I am also aware that the Pennsylvania Public Utility Commission in Rulemaking
15 Proceeding 00061398 specifically applied a size adjustment and the Indiana
16 Utility Regulatory Commission in Cause No. 40382 applied a size adjustment to
17 the return of a small natural gas utility.

18

19 XVIII. CAPM CALCULATIONS

20 Q. **What was the nature of your CAPM analysis?**

21 A. As I stated previously, I used two different CAPM analyses. Based on slightly
22 different assumptions, they provide complementary results when taken together.
23 Because they provide a longer term perspective, these results are less volatile than
24 the DCF calculations.

25

26 Q. **Can you explain the two CAPM methods that you used in your analysis?**

27 A. One of these methods recognizes the risk associated with size of company, and, as
28 I stated previously, I applied the compensation method recommended by Ibbotson
29 Associates. Using this method produced an average CAPM result of 9.71 percent
30 of OGE Energy and averaged 9.35 percent for the comparable companies. As in
31 the case in some of the DCF results, these returns are so close to the yield of

1 corporate bonds, that they probably are not relevant for determining the cost of
2 common equity in the current volatile markets. I have illustrated these
3 calculations in Schedule DAM-23.

4
5 **Q. Could you determine why the results of this CAPM method are so close to**
6 **current corporate bond yields?**

7 A. Yes, this low common cost calculation results primarily from the currently
8 extremely low "Risk Free Rate" which I used in this analysis. This rate was 3.46
9 percent for current 20-Treasury bonds. This rate is inordinately low because of
10 Federal Reserve policy actions lowering yields on government securities and the
11 flight-to-capital driving down Treasury rates. For this reason, this CAPM method
12 is not as reliable a method in the current market as a method not impacted by Fed
13 policies.

14
15 **Q. What was the result of your other CAPM analysis?**

16 A. As Schedule DAM-24 shows, the OGE Energy CAPM result was 11.43 percent
17 and for the comparable electric utilities averaged 11.00 percent. This method
18 recognizes the long-term risk premium between corporate bonds and electric
19 utility common equities. It does not require any recognition of the size bias.

20
21 **Q. Was this second CAPM method directly influenced by the Federal Reserve**
22 **policies as was the other method?**

23 A. No. An advantage of this second method is that it estimates the risk premium
24 between corporate bonds, which are less affected by federal policies than the U. S.
25 Treasuries, and common equities. In current markets, this method is a more
26 reliable estimate of the cost of common equity.

¹¹ *In the Matter of the Petition of Interstate Power and Light Company for Authority to Increase its Electric Rates in Minnesota*, Docket No. E-001/GR-03-767, p. 12.

1 XIX. SUMMARY OF MARKET-BASED ANALYSES

2 Q. **How would you summarize the results of your market-based financial**
3 **models?**

4 A. Schedule DAM-25 shows the quantitative estimates of the cost of common equity
5 that I considered most relevant. However, one also needs to consider qualitative
6 elements that form the backdrop for the current capital environment and interpret
7 these results. The volatility in the financial markets is important, and the market-
8 based DCF and CAPM methods produce wide ranging results. The aggressive
9 Federal Reserve policies have reduced U. S. Treasury bond rates, but not the more
10 important corporate rates. Equity markets continue to decline.

11
12 Q. **Can you recap some factors that stood out as particularly important during**
13 **your analysis and recommendation of an allowed return for OG&E?**

14 A. The recent financial market collapse and its slow recovery are very significant
15 determinants of the cost of capital of electric utilities and OG&E. Market values
16 have continued to decline since the first of the year as U. S. investors respond
17 unfavorably to current conditions and proposed federal stimulus programs.
18 Further, the recession deepened and equity markets in Europe and Asia also
19 continued to decline. With declining market valuations, my recommended
20 allowed return of 12.25 percent is a reasonable return in light of prevailing risks
21 and corporate debt costs. Furthermore, when compared to the upper range of DCF
22 estimates impacted by market valuations, this recommendation is moderate.

23
24 Q. **Given these market conditions, what were your findings using market-based**
25 **techniques for estimating the cost of common equity, and how did they affect**
26 **your recommended return?**

27 A. Given the recent market volatility, the market based results were wide ranging.
28 The most relevant DCF results for OGE Energy were 13.31 percent and 14.20
29 percent. The most relevant DCF results for the comparable companies were 12.45
30 percent and 15.25 percent. These DCF results reflect the market responses of risk-
31 averse investors fleeing common equities in favor of U. S. Treasuries. The

1 relevant longer perspective CAPM results were 11.43 percent for OGE Energy
2 and 11.00 percent for the comparable electric utilities.

3 The forecasts for continued market volatility and increasing long-term
4 corporate capital costs suggest that a return toward the midpoint of these wide-
5 ranging results is consistent with current actual returns and is prudent. In this way,
6 an evaluation of the necessary competitive returns to attract investment funds
7 from similar opportunities the current markets is an important analytical step. In
8 2008, the comparable electric utilities actual return on common equity was 12.1
9 percent.

10 11 XX. RECOMMENDED ALLOWED RETURN

12 Q. **What is your recommended allowed return on common equity for OG&E in
13 this proceeding?**

14 A. I am recommending an allowed return on common equity for OG&E of 12.25
15 percent. This is the midpoint of the range of 12.0 percent to 12.5 percent which
16 the current actual returns and market returns center upon.

17
18 Q. **At your recommended allowed return on common equity, cost of debt, and
19 capital structure, what is your recommended allowed return on total capital?**

20 A. My recommended allowed return on total capital is 9.64 percent. I have illustrated
21 this return in Schedule DAM-26.

22 23 XXI. FINANCIAL INTEGRITY TEST

24 Q. **How did you test the adequacy of your recommended allowed return?**

25 A. As a test of financial integrity of my recommended allowed return, I calculated
26 the After-Tax Interest Coverage ratio at my recommended allowed return range
27 for OG&E. Then I compared that coverage level to the after-tax coverages of the
28 comparable companies.

1 Q. **What was the result of this comparison of After-Tax Interest Coverage?**

2 A. I show this comparison in Schedule DAM-27. OG&E's After-Tax Interest
3 coverage is 3.21 times at my recommended allowed return on common equity of
4 12.25 percent. The After-Tax Interest Coverage of the comparable companies
5 ranges from a low of 2.11 times to 4.38 times. This range encompasses the
6 coverage of OG&E at my recommended range and shows that my
7 recommendation is reasonable in current markets, especially in light of current
8 markets and the emergence of more conservative capital structures. Furthermore,
9 a four percent risk differential, as noted previously, over the current
10 approximately eight percent Baa corporate bond rate is consistent with my
11 recommended allowed return of 12.25 percent. This further confirms the
12 reasonableness of my recommended allowed return in current markets.

13

14 Q. **Does this conclude your direct testimony?**

15 A. Yes, it does.

Oklahoma Gas & Electric Company

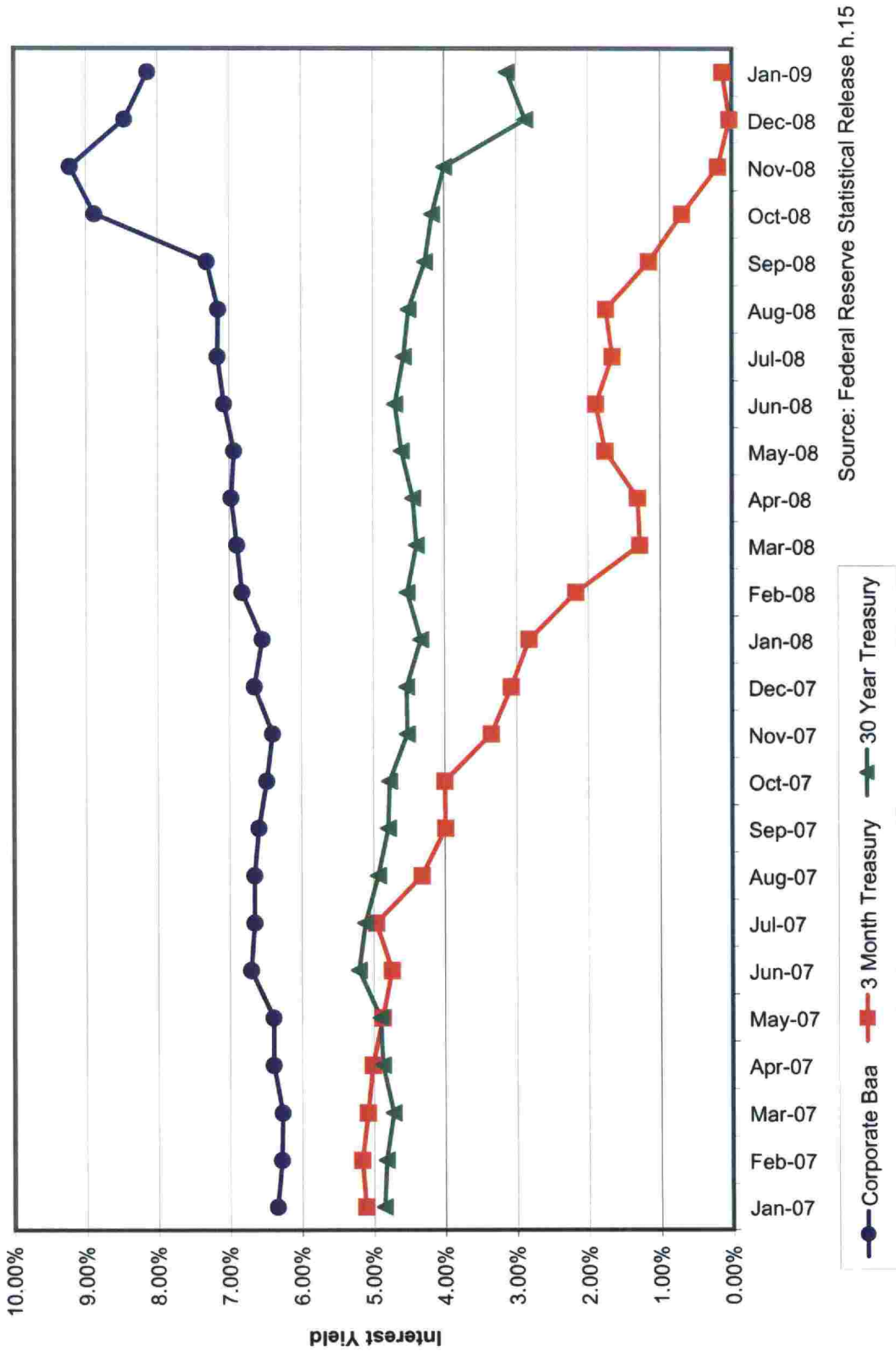
LIST OF SCHEDULES

SCHEDULE DAM-1	Federal Reserve Actions Timeline
SCHEDULE DAM-2	Chart of Historical Interest Rate Trends
SCHEDULE DAM-3	Chart of Baa Corporate Bond Yields
SCHEDULE DAM-4	Chart of Allowed ROEs and Baa-rated Yields
SCHEDULE DAM-5	Capital Structure as of December 31, 2008
SCHEDULE DAM-6	Comparison of Common Equity Ratios
SCHEDULE DAM-7	Comparison of Value Line and Standard and Poor's Credit Ratings
SCHEDULE DAM-8	Comparison of Value Line's Safety and Timeliness Rank
SCHEDULE DAM-9	Comparison of Returns on Common Equity
SCHEDULE DAM-10	Comparison of Dividends Per Share
SCHEDULE DAM-11	Comparison of Dividend Payout Ratios
SCHEDULE DAM-12	Comparison of Enterprise Value to EBITDA
SCHEDULE DAM-13	Comparison of Adjusted Cash Flow
SCHEDULE DAM-14	Comparison of Average Annual Price / Earnings Ratios
SCHEDULE DAM-15	Discounted Cash Flow Growth Rate Summary
SCHEDULE DAM-16	Dividend Growth Rate Discounted Cash Flow Using Current Share Prices
SCHEDULE DAM-17	Dividend Growth Rate Discounted Cash Flow Using 52-Week Share Prices
SCHEDULE DAM-18	Earnings Growth Rate Discounted Cash Flow Using Current Share Prices
SCHEDULE DAM-19	Earning Growth Rate Discounted Cash Flow Using 52- Week Share Prices
SCHEDULE DAM-20	Projected Growth Rate Discounted Cash Flow Using Current Share Prices
SCHEDULE DAM-21	Projected Growth Rate Discounted Cash Flow Using 52-Week Share Prices
SCHEDULE DAM-22	Page 60 from Ibbotson SBBI 2008 Yearbook Valuation Edition
SCHEDULE DAM-23	Size Adjusted Capital Asset Pricing Model
SCHEDULE DAM-24	Historical Capital Asset Pricing Model
SCHEDULE DAM-25	Summary of Financial Models' Analysis
SCHEDULE DAM-26	Proposed Cost of Capital
SCHEDULE DAM-27	Comparison of After-Tax Times Interest Earned Ratios

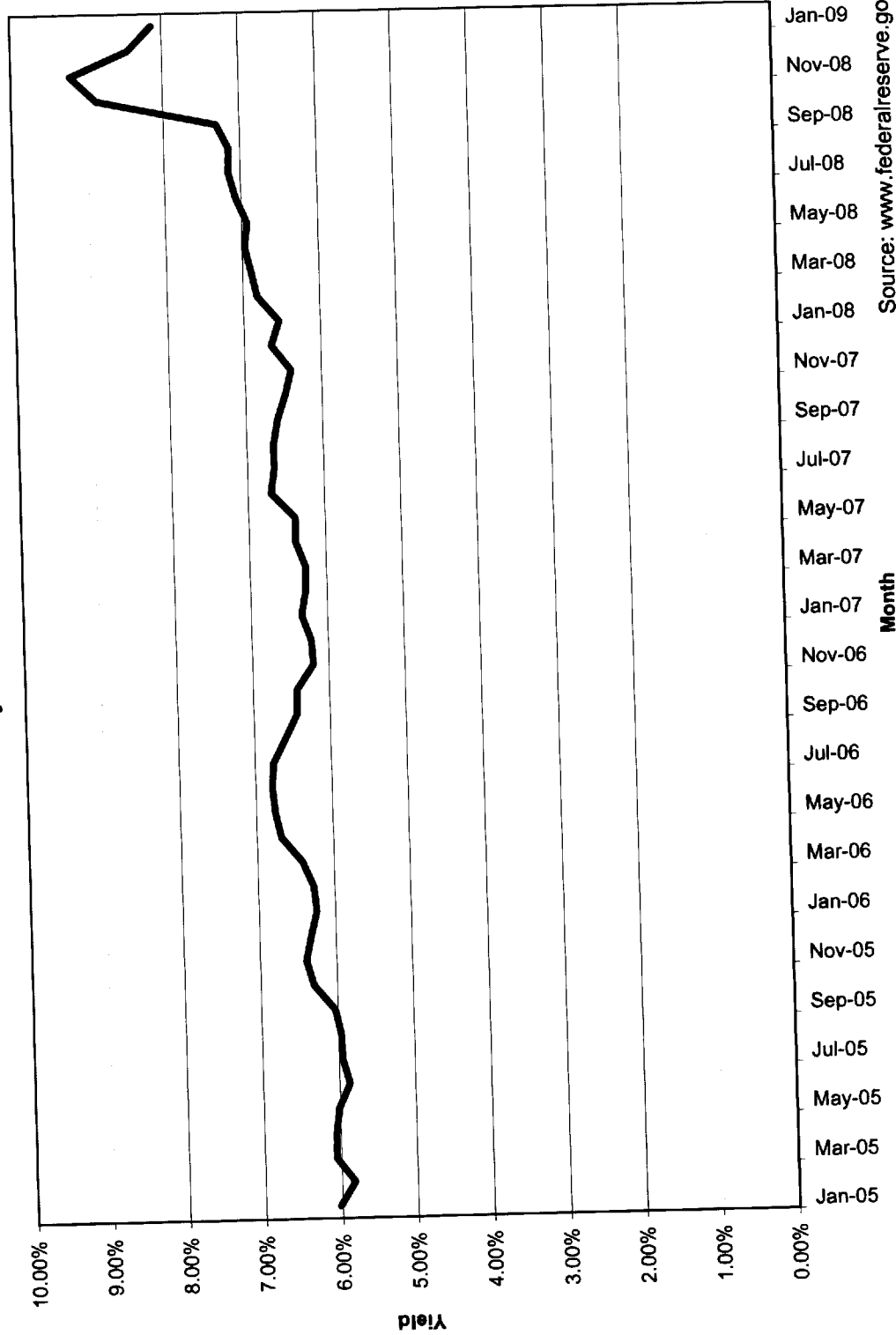
Oklahoma Gas & Electric Company
Federal Reserve Actions
Timeline

- On September 7th, through unprecedented interventions, the federal government effectively nationalized Fannie Mae and Freddie Mac in an attempt to strengthen the housing market and stabilize the financial system.
- On September 14th, the Federal Reserve announced initiatives to provide financial support and liquidity to the markets by expanding the collateral eligible for the Primary Dealer Credit Facility and the Term Securities Lending Facility.
- On September 16th, the Federal Reserve authorized the Federal Reserve Bank of New York to lend up to \$85 billion to AIG, so it could sell certain parts of its businesses in an orderly fashion with less disruption to the economy. The amount for AIG was later increased by an additional \$65 billion.
- On September 18th and 19th, the Federal Reserve ("Fed") announced programs to inject hundreds of billions of dollars of liquidity into the financial system to alleviate pressures in the term funding markets.
- On September 21st, the Fed approved applications to allow Goldman Sachs and Morgan Stanley, both investment banks, to become bank holding companies.
- On September 22nd, the Fed announced the approval of a policy statement regarding "investments in banks and bank holding companies, minority interests, and control" for purposes of the Bank Holding Company Act.
- On September 25th, the Federal Deposit Insurance Corporation (FDIC) seized Washington Mutual Inc. (WaMu), the nation's largest savings and loan institution, and sold its assets to J.P. Morgan. This was the largest bank seizure in U.S. history.
- On October 6th, the Fed announced it will pay interest on depository institutions' required and excess reserves and announced further substantial increases in the Term Auction Facility auctions. It also announced an exemption to allow limited bank purchases of assets from money market mutual funds.
- On October 8th, the Federal Open Market Committee ("FOMC") announced an emergency reduction in the federal funds rate of 50 basis points to 1.5 percent, coordinated with other central banks. The Board of Governors of the Federal Reserve approved a cut of 50 basis points in the discount rate to 1.75 percent. It was the first time in history that the FOMC coordinated a rate cut with other central banks.
- On October 29th, the FOMC lowered the federal funds rate an additional 50 basis points to 1.0 percent, and the Board of Governors lowered the discount rate an additional 50 basis points to 1.25 percent.
- On November 23rd, the U.S. Treasury, the Federal Reserve, and the FDIC issued a joint statement announcing an agreement to provide Citigroup with protection against unusually large losses on \$306 billion of loans and securities backed by residential and commercial real estate and other such assets.
- On November 25th, the Fed announced approval for American Express Company and American Express Travel Related Services Company, Inc. to become bank holding companies.
- On November 25th, the Fed announced the creation of the Term Asset-Backed Securities Loan Facility under which the Federal Reserve Bank of New York will lend up to \$200 billion to facilitate the issuance of asset-backed securities collateralized by student loans, auto loans, credit card loans, and loan guarantees by the Small Business Administration.
- On November 26th, the Fed announced approval for Bank of America to acquire Merrill Lynch & Company.
- On December 16th, the FOMC lowered the target range for the federal funds rate to zero to 0.25 percent. The Board of Governors decreased the discount rate 75 basis points to 0.50 percent.
- On December 24th, the Fed announced approval for GMAC LLC and IB Finance, both of Detroit, Michigan, to become bank holding companies.
- On December 30th, the Federal Reserve announced it would begin purchasing mortgage-backed securities issued by Fannie Mae, Freddie Mac and Ginnie Mae to support the mortgage and housing markets.

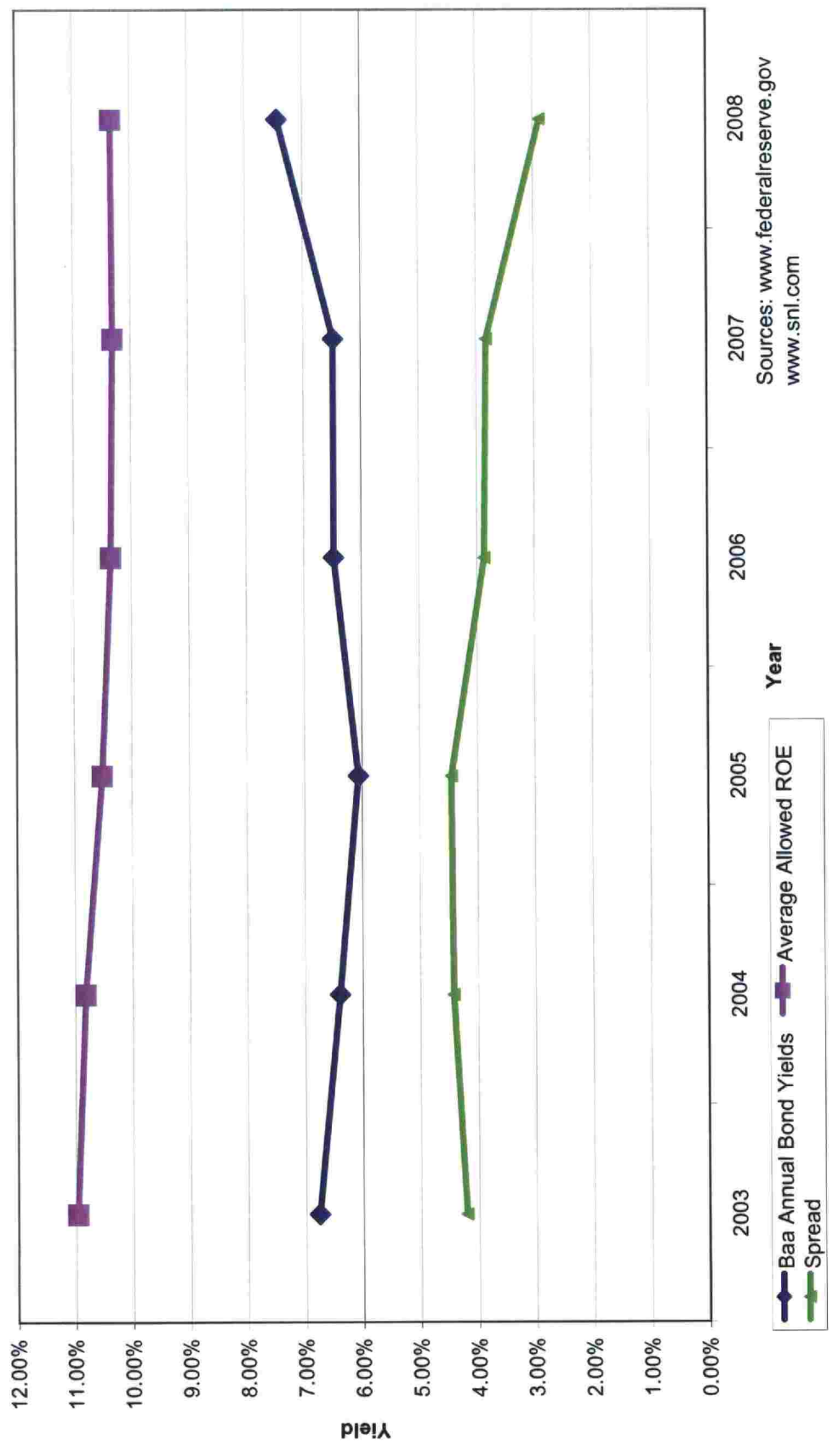
Oklahoma Gas & Electric Company
Historical Interest Rate Trends



**Oklahoma Gas & Electric Company
Baa Corporate Bond Yields
January 2005 to January 2009**



Oklahoma Gas & Electric
 Comparison of Allowed ROEs
 to Annual Baa Corporate Bond Yields
 2003 to 2008



Sources: www.federalreserve.gov
www.snl.com

Oklahoma Gas & Electric Company

Proposed Capital Structure

Pro Forma as of December 31, 2008

Item	Amount	Share
Long-Term Debt	\$1,545,250,000	45.86%
Common Equity	\$1,824,359,077	54.14%
Totals	\$3,369,609,077	100.00%

Source: Oklahoma Gas & Electric Company Work Papers

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of Common Equity Ratios

Company	2005	2006	2007	2008	2009E	Forecast '11-'13
OGE Energy Corp.	50.5%	54.4%	55.6%	47.0%	50.5%	46.5%
DPL, Inc.	37.9%	31.1%	35.8%	44.0%	45.5%	49.0%
Northeast Utilities	35.1%	39.7%	39.2%	38.0%	40.0%	45.5%
Nstar	38.6%	39.7%	40.1%	39.5%	49.5%	50.0%
Pepco Holdings	42.3%	45.1%	45.9%	44.5%	45.0%	46.5%
Pinnacle West	56.8%	51.6%	53.0%	53.0%	52.5%	52.5%
SCANA Corp.	46.6%	47.2%	49.7%	43.5%	45.0%	45.5%
Wisconsin Energy	46.7%	48.2%	49.2%	48.0%	48.0%	50.5%
Comparable Companies' Averages	43.4%	43.2%	44.7%	44.4%	46.5%	48.5%

Source: Value Line Investment Survey

Oklahoma Gas & Electric Company
Comparable Electric Companies
Comparison of Financial Strength and Bond Ratings

Company	Value Line Financial Strength	S&P Rating
OGE Energy Corp. Oklahoma Gas & Electric Company	A	BBB+ BBB+
DPL, Inc.	B++	BBB
Northeast Utilities	B+	BBB
Nstar	A	A+
Pepco Holdings	B	BBB
Pinnacle West	A	BBB-
SCANA Corp.	A	A-
Wisconsin Energy	B++	BBB+

Sources: *Value Line Investment Survey*
www.standardandpoors.com

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of Value Line's Safety and Timeliness Rank

	Safety Rank	Timeliness Rank
OGE Energy Corp.	2	3
DPL, Inc.	3	3
Northeast Utilities	3	3
Nstar	1	3
Pepco Holdings	3	3
Pinnacle West	2	3
SCANA Corp.	2	3
Wisconsin Energy	2	3
Comparable Companies' Average	2.3	3.0

Source: *Value Line Investment Survey*

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of Returns on Common Equity

	2005	2006	2007	2008	2009E	Forecast '11-'13
OGE Energy Corp.	12.1%	14.1%	14.5%	12.5%	11.5%	11.5%
DPL, Inc.	11.9%	17.5%	24.2%	23.5%	23.5%	20.0%
Northeast Utilities	5.1%	4.3%	8.4%	9.5%	9.0%	9.0%
Nstar	12.8%	13.1%	13.0%	13.5%	13.5%	14.5%
Pepco Holdings	7.7%	7.0%	7.4%	9.0%	9.0%	10.0%
Pinnacle West	6.5%	9.2%	8.5%	8.0%	7.0%	7.5%
SCANA Corp.	11.8%	10.5%	10.8%	11.0%	10.5%	10.5%
Wisconsin Energy	11.3%	10.8%	10.9%	10.5%	10.5%	12.5%
Comparable Companies' Averages	9.6%	10.3%	11.9%	12.1%	11.9%	12.0%

Source: Value Line Investment Survey

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of Declared Dividends

	2004	2005	2006	2007	2008	Past 5-Year Growth Rate
OGE Energy Corp.	1.33	1.33	1.34	1.37	1.40	0.0%
DPL, Inc.	0.96	0.96	1.00	1.04	1.10	1.0%
Northeast Utilities	0.63	0.68	0.73	0.78	0.83	9.5%
Nstar	1.13	0.87	1.54	1.33	1.43	3.5%
Pepco Holdings	1.00	1.00	1.04	1.04	1.12	0.0%
Pinnacle West	1.83	1.93	2.03	2.10	2.10	5.5%
SCANA Corp.	1.46	1.56	1.68	1.76	1.84	6.5%
Wisconsin Energy	0.83	0.88	0.92	1.00	1.08	-1.0%
Comparable Companies' Averages	1.12	1.13	1.28	1.29	1.36	3.6%

Source: Value Line Investment Survey

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of Dividend Payout Ratios

	2005	2006	2007	2008	2009E	Forecast '11-'13
OGE Energy Corp.	72%	53%	51%	57%	59%	53%
DPL, Inc.	93%	90%	53%	52%	53%	57%
Northeast Utilities	72%	94%	50%	46%	47%	48%
Nstar	64%	63%	63%	63%	63%	61%
Pepco Holdings	69%	78%	68%	59%	67%	59%
Pinnacle West	85%	63%	70%	75%	80%	74%
SCANA Corp.	56%	65%	64%	64%	64%	61%
Wisconsin Energy	34%	35%	35%	37%	43%	45%
Comparable Companies' Averages	67.6%	69.7%	57.6%	56.6%	59.6%	58%

Source: Value Line Investment Survey

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of Enterprise Value to EBITDA Ratios

Company	Ratio
OGE Energy	7.1
DPL Inc.	7.3
Northeast Utilities	7.0
NSTAR	7.1
Pepco Holdings, Inc.	7.8
Pinnacle West Capital Corporation	5.9
SCANA Corporation	7.4
Wisconsin Energy Corporation	9.2
Average	7.4

Source: SNL Financial, LLC 02/10/09

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of Adjusted Cash Flow from Operating Activities to Capital Expenditures Ratios

Company	Adjusted Cash Flow From Operating Activities	Capital Expenditures	Ratios
Oklahoma Gas & Electric Company	\$277.0	\$813.2	34%
DPL Inc.	\$365.4	\$269.9	135%
Northeast Utilities	\$745.4	\$1,316.4	57%
NSTAR	\$701.8	\$422.2	166%
Pepco Holdings, Inc.	\$723.3	\$761.3	95%
Pinnacle West Capital Corporation	\$962.2	\$875.0	110%
SCANA Corporation	\$726.0	\$927.0	78%
Wisconsin Energy Corporation	\$737.0	\$1,137.1	65%
Average			101%

Note: Values in \$ Millions and for the Last Twelve Months

Source: SNL Financial, LLC on 02/10/09

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of Average Annual Price-Earnings Ratios

Company	2004	2005	2006	2007	Current	Five Year Average
OGE Energy Corp.	14.1	14.9	13.7	13.8	10.7	13.4
DPL, Inc.	11.2	26.9	26.6	16.0	10.1	18.2
Northeast Utilities	20.8	19.8	27.1	18.7	12.0	19.7
Nstar	14.0	15.5	15.9	16.6	14.5	15.3
Pepco Holdings	13.6	14.9	18.1	18.2	9.4	14.8
Pinnacle West	15.8	19.2	13.7	14.9	13.9	15.5
SCANA Corp.	13.6	14.4	15.4	15.0	11.9	14.1
Wisconsin Energy	17.5	14.5	16.0	16.5	14.5	15.8
Comparable Companies' Averages	15.2	17.9	19.0	16.6	12.3	16.2

Source: Value Line Investment Survey

Oklahoma Gas & Electric Company

Comparable Electric Companies

Discounted Cash Flow Growth Rate Summary

	2003 TO 2012 Estimate			Value Line			Five Year Historical			Projections		
	EPS	DPS	Book Value	EPS	Book Value	Value Line	EPS	DPS	Book Value	Value Line	DPS	EPS
OGE Energy Corp.	6.9%	2.1%	7.3%	8.5%	0.0%	5.5%	4.5%	3.0%	6.0%	6.0%	3.0%	6.0%
DPL	7.7%	3.9%	5.9%	-1.0%	1.0%	2.5%	11.0%	5.0%	10.3%	5.0%	5.0%	10.3%
Northeast Utilities	8.5%	7.4%	4.3%	8.5%	9.5%	2.5%	12.0%	7.0%	8.3%	7.0%	7.0%	8.3%
Nstar	6.3%	6.0%	5.6%	3.5%	3.5%	4.0%	7.5%	7.0%	6.0%	7.0%	7.0%	6.0%
Peppo Holdings	6.5%	7.9%	4.6%	-4.5%	0.0%	1.0%	13.0%	15.0%	4.7%	15.0%	15.0%	4.7%
Pinnacle West	1.9%	2.7%	2.6%	-2.5%	5.5%	3.5%	1.0%	1.5%	4.3%	1.5%	1.5%	4.3%
Scana Corp.	3.7%	4.8%	5.2%	4.0%	6.5%	4.0%	4.5%	4.0%	5.2%	4.0%	4.0%	5.2%
Wisconsin Energy	7.9%	10.3%	6.6%	9.0%	-1.0%	7.0%	8.0%	13.0%	9.1%	13.0%	13.0%	9.1%
Comparable Companies' Averages	6.07%	6.13%	4.95%	2.43%	3.57%	3.50%	8.14%	7.50%	6.85%	7.50%	7.50%	6.85%

Sources:
 Value Line Investment Survey
 Yahoo! Finance

Oklahoma Gas & Electric Company

Comparable Electric Companies

Dividend Growth Rate DCF Using Current Share Prices

	Share Prices		Current Dividend	Current Yields		2002-04 DPS	2011-13E DPS	Growth Rate	Cost of Capital	
	Low	High		Low	High				Low	High
OGE Energy Corp.	24.77	25.49	1.43	5.61%	5.77%	1.33	1.60	2.07%	7.69%	7.85%
DPL	21.37	21.96	1.16	5.28%	5.43%	0.95	1.34	3.94%	9.22%	9.37%
Northeast Utilities	23.21	23.89	0.88	3.68%	3.79%	0.58	1.10	7.37%	11.05%	11.16%
Nstar	33.84	34.97	1.53	4.38%	4.52%	1.10	1.85	5.98%	10.36%	10.50%
Peppo Holdings	17.07	17.59	1.30	7.39%	7.62%	0.81	1.60	7.91%	15.30%	15.52%
Pinnacle West	32.02	32.83	2.10	6.40%	6.56%	1.73	2.20	2.71%	9.10%	9.27%
Scana Corp.	33.52	34.38	1.92	5.58%	5.73%	1.38	2.10	4.78%	10.36%	10.50%
Wisconsin Energy	41.81	42.97	1.35	3.14%	3.23%	0.81	1.95	10.25%	13.40%	13.48%
Comparable Companies' Averages	28.98	29.80	1.46	5.12%	5.27%	1.05	1.73	6.13%	11.26%	11.40%

Sources:
Value Line Investment Survey
 Yahoo! Finance

Oklahoma Gas & Electric Company

Comparable Electric Companies

Dividend Growth Rate DCF Using 52-Week Share Prices

	Share Prices		2009 Dividend	52 Week Yields		2002-04 DPS	2011-13E DPS	Growth Rate	Cost of Capital	
	Low	High		Low	High				Low	High
OGE Energy Corp.	19.56	34.86	1.43	4.10%	7.31%	1.33	1.60	2.07%	6.18%	9.39%
DPL	18.52	28.89	1.16	4.02%	6.26%	0.95	1.34	3.94%	7.95%	10.20%
Northeast Utilities	17.16	28.33	0.88	3.11%	5.13%	0.58	1.10	7.37%	10.48%	12.50%
Nstar	25.67	40.00	1.53	3.83%	5.96%	1.10	1.85	5.98%	9.81%	11.94%
Pepco Holdings	15.27	27.39	1.30	4.75%	8.51%	0.81	1.60	7.91%	12.65%	16.42%
Pinnacle West	26.27	37.95	2.10	5.53%	7.99%	1.73	2.20	2.71%	8.24%	10.70%
Scana Corp.	27.75	44.06	1.92	4.36%	6.92%	1.38	2.10	4.78%	9.13%	11.69%
Wisconsin Energy	34.89	48.75	1.35	2.77%	3.87%	0.81	1.95	10.25%	13.02%	14.12%
Comparable Companies' Averages	23.65	36.48	1.46	4.05%	6.38%	1.05	1.73	6.13%	10.18%	12.51%

Sources:

Value Line Investment Survey
Yahoo! Finance

Oklahoma Gas & Electric Company

Comparable Electric Companies

Earnings Growth Rate DCF Using Current Share Prices

	Share Prices		Current Dividend	Current Yields		2002-04 EPS	2011-13E EPS	Growth Rate	Cost of Capital	
	Low	High		Low	High				Low	High
OGE Energy Corp.	24.77	25.49	1.43	5.61%	5.77%	1.65	3.00	6.89%	12.50%	12.67%
DPL	21.37	21.96	1.16	5.28%	5.43%	1.21	2.35	7.69%	12.97%	13.12%
Northeast Utilities	23.21	23.89	0.88	3.68%	3.79%	1.08	2.25	8.53%	12.22%	12.33%
Nstar	33.84	34.97	1.53	4.38%	4.52%	1.73	3.00	6.31%	10.68%	10.83%
Pepco Holdings	17.07	17.59	1.30	7.39%	7.62%	1.53	2.70	6.49%	13.88%	14.10%
Pinnacle West	32.02	32.83	2.10	6.40%	6.56%	2.54	3.00	1.85%	8.25%	8.41%
Scana Corp.	33.52	34.38	1.92	5.58%	5.73%	2.52	3.50	3.73%	9.32%	9.46%
Wisconsin Energy	41.81	42.97	1.35	3.14%	3.23%	2.14	4.25	7.90%	11.04%	11.13%
Comparable Companies' Averages	28.98	29.80	1.46	5.12%	5.27%	1.82	3.01	6.07%	11.19%	11.34%

Sources:

Value Line Investment Survey

Yahoo! Finance

Oklahoma Gas & Electric Company

Comparable Electric Companies

Earnings Growth Rate DCF Using 52-Week Share Prices

	Share Prices		2009 Dividend	52 Week Yields		2002-04 EPS	2011-13E EPS	Growth Rate	Cost of Capital	
	Low	High		Low	High				Low	High
OGE Energy Corp.	19.56	34.86	1.43	4.10%	7.31%	1.65	3.00	6.89%	10.99%	14.20%
DPL	18.52	28.89	1.16	4.02%	6.26%	1.21	2.35	7.69%	11.70%	13.95%
Northeast Utilities	17.16	28.33	0.88	3.11%	5.13%	1.08	2.25	8.53%	11.64%	13.66%
Nstar	25.67	40.00	1.53	3.83%	5.96%	1.73	3.00	6.31%	10.13%	12.27%
Pepco Holdings	15.27	27.39	1.30	4.75%	8.51%	1.53	2.70	6.49%	11.23%	15.00%
Pinnacle West	26.27	37.95	2.10	5.53%	7.99%	2.54	3.00	1.85%	7.39%	9.85%
Scana Corp.	27.75	44.06	1.92	4.36%	6.92%	2.52	3.50	3.73%	8.09%	10.65%
Wisconsin Energy	34.89	48.75	1.35	2.77%	3.87%	2.14	4.25	7.90%	10.67%	11.77%
Comparable Companies' Averages	23.65	36.48	1.46	4.05%	6.38%	1.82	3.01	6.07%	10.12%	12.45%

Sources:

Value Line Investment Survey
Yahoo! Finance

Oklahoma Gas & Electric Company

Comparable Electric Companies

Projected Growth Rate DCF Using Current Share Prices

	Share Prices		Current Dividend	Current Yields		EPS Estimates		Cost of Capital	
	Low	High		Low	High	Value Line	Yahoo!	Low	High
OGE Energy Corp.	24.77	25.49	1.43	5.61%	5.77%	4.50%	6.00%	10.11%	11.77%
DPL	21.37	21.96	1.16	5.28%	5.43%	11.00%	10.33%	15.61%	16.43%
Northeast Utilities	23.21	23.89	0.88	3.68%	3.79%	12.00%	8.32%	12.00%	15.79%
Nstar	33.84	34.97	1.53	4.38%	4.52%	7.50%	6.00%	10.38%	12.02%
Pepco Holdings	17.07	17.59	1.30	7.39%	7.62%	13.00%	4.67%	12.06%	20.62%
Pinnacle West	32.02	32.83	2.10	6.40%	6.56%	1.00%	4.33%	7.40%	10.89%
Scana Corp.	33.52	34.38	1.92	5.58%	5.73%	4.50%	5.15%	10.08%	10.88%
Wisconsin Energy	41.81	42.97	1.35	3.14%	3.23%	8.00%	9.13%	11.14%	12.36%
Comparable Companies' Averages	28.98	29.80	1.46	5.12%	5.27%	8.14%	6.85%	11.24%	14.14%

Sources:

Value Line Investment Survey

Yahoo! Finance

Oklahoma Gas & Electric Company

Comparable Electric Companies

Projected Growth Rate DCF Using 52-Week Share Prices

	Share Prices		2009 Dividend	52 Week Yields		EPS Estimates		Cost of Capital	
	Low	High		Low	High	Value Line	Yahoo!	Low	High
OGE Energy Corp.	19.56	34.86	1.43	4.10%	7.31%	4.50%	6.00%	6.60%	13.31%
DPL	18.52	28.89	1.16	4.02%	6.26%	11.00%	10.33%	14.35%	17.26%
Northeast Utilities	17.16	28.33	0.88	3.11%	5.13%	12.00%	8.32%	11.43%	17.13%
Nstar	25.67	40.00	1.53	3.83%	5.96%	7.50%	6.00%	9.83%	13.46%
Peppo Holdings	15.27	27.39	1.30	4.75%	8.51%	13.00%	4.67%	9.42%	21.51%
Pinnacle West	26.27	37.95	2.10	5.53%	7.99%	1.00%	4.33%	6.53%	12.32%
Scana Corp.	27.75	44.06	1.92	4.36%	6.92%	4.50%	5.15%	8.86%	12.07%
Wisconsin Energy	34.89	48.75	1.35	2.77%	3.87%	8.00%	9.13%	10.77%	13.00%
Comparable Companies' Averages	23.65	36.48	1.46	4.05%	6.38%	8.14%	6.85%	10.17%	15.25%

Sources:

Value Line Investment Survey

Yahoo! Finance

Should the yield on a Treasury bond or a Treasury strip be used to represent the riskless rate? In most cases the yield on a Treasury coupon bond is most appropriate. If the asset being measured spins off cash periodically, the Treasury bond most closely replicates this characteristic. On the other hand, if the asset being measured provides a single payoff at the end of a specified term, the yield on a Treasury Strip would be more appropriate.

CAPM Modified for Firm Size

One of the important characteristics not necessarily captured by the Capital Asset Pricing Model is what is known as the size effect. This is discussed in detail in Chapter 7. The need for this premium when using the CAPM arises because, even after adjusting for the systematic (beta) risk of small stocks, they outperform large stocks. The betas for small companies tend to be greater than those for large companies; however, these higher betas do not account for all of the risks faced by those who invest in small companies.² This premium can be added directly to the results obtained using the CAPM:

$$k_s = r_f + (\beta_s \times \text{ERP}) + \text{SP}_s$$

where all of the variables are as given in the previous section on the CAPM, and SP_s is the appropriate size premium based on the firm's equity market capitalization. The market capitalization of company s will determine the relevant size premium: mid-cap, low-cap, or micro-cap.

Suppose we wish to calculate the cost of equity for a small electric utility company. To better account for both the industry risk and the firm size, we wish to use the modified CAPM approach. The company has a market capitalization of \$135 million and falls within the micro-cap size group. Assume that the beta of the company is 0.53. The key variables for calculating the cost of equity using this size-premium-adjusted CAPM are:

Risk-free rate	= 4.5 percent
Expected equity risk premium	= 7.1 percent
The appropriate size premium	= 3.7 percent

Using the modified CAPM equation, the cost of equity for the electric utility company is:

$$k_s = r_f + (\beta_s \times \text{ERP}) + \text{SP}_s = 4.5\% + (0.53 \times 7.1\%) + 3.7\% = 12.0\%$$

The beta-adjusted size premium is the most appropriate for use with this model. Please note that the size premia commonly referred to in this publication are the beta-adjusted size premia, unless stated otherwise. The non-beta-adjusted size premia already account for the added return generally attributed to the higher betas of small companies. The non-beta-adjusted size premium makes the assumption that the beta of the company is the same as that of the small stock portfolio. If the non-beta-adjusted

² In general, small company betas are expected to be higher than large company betas. This, however, does not hold for all time periods. Chapter 6 discusses in more detail the measurement of beta for small stocks.

Oklahoma Gas & Electric Company

Comparable Electric Companies

Size Adjusted Capital Asset Pricing Model

	Risk Free Return	Beta	Equity Risk Premium	Adjusted Equity Risk Premium	Size Premium	Cost of Equity
OGE Energy Corp.	3.46%	0.75	7.10%	5.33%	0.92%	9.71%
DPL	3.46%	0.65	7.10%	4.62%	0.92%	9.00%
Northeast Utilities	3.46%	0.75	7.10%	5.33%	0.92%	9.71%
Nstar	3.46%	0.70	7.10%	4.97%	0.92%	9.35%
Pepco Holdings	3.46%	0.75	7.10%	5.33%	0.92%	9.71%
Pinnacle West	3.46%	0.70	7.10%	4.97%	0.92%	9.35%
Scana Corp.	3.46%	0.70	7.10%	4.97%	0.92%	9.35%
Wisconsin Energy	3.46%	0.65	7.10%	4.62%	0.92%	9.00%
Comparable Companies' Average	3.46%	0.70	7.10%	4.97%	0.92%	9.35%

Sources :

Value Line Investment Survey
 Ibbotson Associates 2008 SBI Yearbook: Valuation Edition
 Federal Reserve Statistical Release

Oklahoma Gas & Electric Company

Comparable Electric Companies

Historical Capital Asset Pricing Model

	Market Total Returns	Long-Term Corporate Bonds Return	Risk Premium	Beta	Adjusted Risk Premium	Aaa Corporate Bonds Return	Cost of Equity
OGE Energy Corp.	14.70%	6.20%	8.50%	0.75	6.38%	5.05%	11.43%
DPL	14.70%	6.20%	8.50%	0.65	5.53%	5.05%	10.58%
Northeast Utilities	14.70%	6.20%	8.50%	0.75	6.38%	5.05%	11.43%
Nstar	14.70%	6.20%	8.50%	0.70	5.95%	5.05%	11.00%
Pepco Holdings	14.70%	6.20%	8.50%	0.75	6.38%	5.05%	11.43%
Pinnacle West	14.70%	6.20%	8.50%	0.70	5.95%	5.05%	11.00%
Scana Corp.	14.70%	6.20%	8.50%	0.70	5.95%	5.05%	11.00%
Wisconsin Energy	14.70%	6.20%	8.50%	0.65	5.53%	5.05%	10.58%
Comparable Companies' Average	14.70%	6.20%	8.50%	0.70	5.95%	5.05%	11.00%

Sources :

Value Line Investment Survey
 Ibbotson Associates 2008 SBI Yearbook: Valuation Edition
 Federal Reserve Statistical Release

Oklahoma Gas & Electric Company
Comparable Electric Companies
Summary of Financial Analysis

Method	OGE Energy Corp.		Comparable Electric Companies	
	Low	High	Low	High
Capital Asset Pricing Model	9.71%	11.43%	9.35%	11.00%
Earnings Growth DCF Analysis	10.99%	14.20%	10.12%	12.45%
Projected Growth DCF Analysis	8.60%	13.31%	10.17%	15.25%

Oklahoma Gas & Electric Company

Proposed Cost of Capital

Pro Forma as of December 31, 2008

Item	Amount	Share	Embedded Cost	Weighted Cost
Long-Term Debt	\$1,545,250,000	45.86%	6.56%	3.01%
Common Equity	\$1,824,359,077	54.14%	12.25%	6.63%
Totals	\$3,369,609,077	100.00%		9.64%

Source: Oklahoma Gas & Electric Company Work Papers

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of After-Tax Times Interest Earned Ratios

Oklahoma Gas & Electric Company	@12.25% ROE	3.21
DPL Inc.		4.38
Northeast Utilities		2.11
Nstar		2.46
Pepco Holdings		2.36
Pinnacle West		2.50
Scana Corp.		2.53
Wisconsin Energy		2.64
Comparable Companies' Average		2.71

Source : Value Line Investment Survey